

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from ____ to ____

Commission File No. 1-11596

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

(Exact name of registrant as specified in its charter)

Delaware
*State or other jurisdiction
of incorporation or organization*

**8302 Dunwoody Place, #250,
Atlanta, GA**
(Address of principal executive offices)

58-1954497
*(IRS Employer
Identification Number)*

30350
(Zip Code)

(770) 587-9898
(Registrant's telephone number)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class
Common Stock, \$.001 Par Value

Name of each exchange on which registered
NASDAQ Capital Markets

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes No

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes No

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit and post such files).
Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained to the best of the Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated Filer Non-accelerated Filer Smaller reporting company Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial standards provided pursuant to Section 13(a) of the Exchange Act

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act).
Yes No

The aggregate market value of the Registrant's voting and non-voting common equity held by nonaffiliates of the Registrant computed by reference to the closing sale price of such stock as reported by NASDAQ as of the last business day of the most recently completed second fiscal quarter (June 30, 2018), was approximately \$49,793,255. For the purposes of this calculation, all directors and executive officers of the Registrant (as indicated in Item 12) have been deemed to be affiliates. Such determination should not be deemed an admission that such directors and executive officers, are, in fact, affiliates of the Registrant. The Company's Common Stock is listed on the NASDAQ Capital Markets.

As of February 15, 2019, there were 11,961,537 shares of the registrant's Common Stock, \$.001 par value, outstanding.

Documents incorporated by reference: None

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

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PART I

ITEM 1. BUSINESS

Company Overview and Principal Products and Services

Perma-Fix Environmental Services, Inc. (the Company, which may be referred to as we, us, or our), a Delaware corporation incorporated in December, 1990, is an environmental and environmental technology know-how company.

We have grown through acquisitions and internal growth. Our goal is to continue to focus on the safe and efficient operation of our three waste treatment facilities and on-site activities, identify and pursue strategic acquisitions to expand our market base, and conduct research and development (“R&D”) of innovative technologies to solve complex waste management challenges providing increased value to our clients. The Company continues to focus on expansion into both commercial and international markets to supplement government spending in the USA, from which a significant portion of the Company’s revenue is derived. This includes new services, new customers and increased market share in our current markets.

Additionally, our goal is for our majority-owned subsidiary, Perma-Fix Medical S.A. and its wholly-owned subsidiary, Perma-Fix Medical Corporation (“PFM Corporation” – a Delaware corporation) (together known as “PF Medical” or our “Medical Segment”), to raise the necessary capital or to partner with others willing to finance its activities, to continue its R&D activities in order to pursue commercialization of its medical isotope production technology (see “Medical Segment” below for further information in connection with this segment).

Segment Information and Foreign and Domestic Operations and Sales

The Company has three reportable segments. In accordance with Financial Accounting Standards Board (“FASB”) ASC 280, “Segment Reporting”, we define an operating segment as:

- a business activity from which we may earn revenue and incur expenses;
- whose operating results are regularly reviewed by the chief operating decision maker (“CODM”) to make decisions about resources to be allocated and assess its performance; and
- for which discrete financial information is available.

TREATMENT SEGMENT reporting includes:

- nuclear, low-level radioactive, mixed (waste containing both hazardous and low-level radioactive waste), hazardous and non-hazardous waste treatment, processing and disposal services primarily through three uniquely licensed (Nuclear Regulatory Commission or state equivalent) and permitted (U.S. Environmental Protection Agency (“EPA”) or state equivalent) treatment and storage facilities held by the following subsidiaries: Perma-Fix of Florida, Inc. (“PFF”), Diversified Scientific Services, Inc., (“DSSI”), and Perma-Fix Northwest Richland, Inc. (“PFNWR”). The presence of nuclear and low-level radioactive constituents within the waste streams processed by this segment creates different and unique operational, processing and permitting/licensing requirements; and
- R&D activities to identify, develop and implement innovative waste processing techniques for problematic waste streams.

The Company has completed the physical on-site closure and decommissioning activities at its East Tennessee Materials and Energy Corporation (“M&EC”) facility (within our Treatment Segment and in closure status) in accordance with M&EC’s license and permit requirements, with final closure of the facility subject to completion of final surveys and regulatory approvals. The Company continues to transition operational capabilities to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals.

For 2018, the Treatment Segment accounted for \$36,271,000, or 73.2%, of total revenue, as compared to \$37,750,000, or 75.9%, of total revenue for 2017. Treatment Segment revenues for 2018 and 2017 included revenues of \$155,000 and \$6,312,000 for the M&EC subsidiary, which is in closure status as discussed above. See “– Dependence Upon a Single or Few Customers” for further details and a discussion as to our Segments’ contracts with domestic government clients or with others as a subcontractor to government clients.

SERVICES SEGMENT, which includes:

- Technical services, which include:
 - o professional radiological measurement and site survey of large government and commercial installations using advanced methods, technology and engineering;
 - o integrated Occupational Safety and Health services including industrial hygiene (“IH”) assessments; hazardous materials surveys, e.g., exposure monitoring; lead and asbestos management/abatement oversight; indoor air quality evaluations; health risk and exposure assessments; health & safety plan/program development, compliance auditing and training services; and Occupational Safety and Health Administration (“OSHA”) citation assistance;
 - o global technical services providing consulting, engineering, project management, waste management, environmental, and decontamination and decommissioning field, technical, and management personnel and services to commercial and government customers; and
 - o on-site waste management services to commercial and governmental customers.
- Nuclear services, which include:
 - o technology-based services including engineering, decontamination and decommissioning (“D&D”), specialty services, logistics, transportation, processing and disposal;
 - o remediation of nuclear licensed and federal facilities and the remediation cleanup of nuclear legacy sites. Such services capability includes: project investigation; radiological engineering; partial and total plant D&D; facility decontamination, dismantling, demolition, and planning; site restoration; logistics; transportation; and emergency response; and
- A company owned equipment calibration and maintenance laboratory that services, maintains, calibrates, and sources (i.e., rental) health physics, IH and customized nuclear, environmental, and occupational safety and health (“NEOSH”) instrumentation.
- A company owned gamma spectroscopy laboratory for the analysis of oil and gas industry solids and liquids.

For 2018, the Services Segment accounted for \$13,268,000, or 26.8%, of total revenue, as compared to \$12,019,000, or 24.1%, of total revenue for 2017. See “ – Dependence Upon a Single or Few Customers” for further details and a discussion as to our Segments’ contracts with domestic government clients or with others as a subcontractor to government clients.

MEDICAL SEGMENT reporting includes: R&D costs for the new medical isotope production technology from our majority-owned Polish subsidiary (of which we own approximately 60.5% at December 31, 2018), PF Medical. The Medical Segment has not generated any revenue as it remains in the R&D stage. R&D costs consist primarily of employee salaries and benefits, laboratory costs, third party fees, and other related costs associated with the development of new technology. As previously disclosed, our Medical Segment ceased a substantial portion of its R&D activities for the new medical isotope production technology due to the need for substantial capital to fund such activities. We anticipate that our Medical Segment will not restart its full scale R&D activities until it obtains the necessary funding or partners with others willing to provide the necessary funding.

Our Treatment and Services Segments provide services to research institutions, commercial companies, public utilities, and governmental agencies (domestic and foreign), including the U.S. Department of Energy (“DOE”) and U.S. Department of Defense (“DOD”). The distribution channels for our services are through direct sales to customers or via intermediaries.

Our corporate office is located at 8302 Dunwoody Place, Suite 250, Atlanta, Georgia 30350.

Foreign Revenue

Our consolidated revenue for 2018 and 2017 included approximately \$98,000, or 0.2%, and \$84,000, or 0.2%, respectively, from United Kingdom customers (including revenues generated by our United Kingdom subsidiary, Perma-Fix UK Limited (“PF UK Limited”)).

Our consolidated revenue for 2018 and 2017 included approximately \$1,140,000, or 2.3%, and \$1,073,000, or 2.2%, respectively, from Canadian customers (including revenues generated by our Perma-Fix of Canada, Inc. (“PF Canada”) subsidiary).

Importance of Patents, Trademarks and Proprietary Technology

We do not believe we are dependent on any particular trademark in order to operate our business or any significant segment thereof. We have received registration to May 2022 and December 2020, for the service marks “Perma-Fix Environmental Services” and “Perma-Fix”, respectively. We also have registration to April 2024 and April 2032 for two service marks for PF Canada. In addition, we have received registration to January 2027 for a service mark for our Safety and Ecology Corporation” or “SEC”.

We are active in the R&D of technologies that allow us to address certain of our customers’ environmental needs. To date, we have fifteen active patents and the filing of several applications for which patents are pending. These fifteen active patents have remaining lives ranging from approximately one to seventeen years. These active patents include a U.S and two international patent for new technology for the production of radiological isotopes for certain types of medical applications; and which have been licensed to PFM Corporation. These patents are effective through November 2035.

Permits and Licenses

Waste management service companies are subject to extensive, evolving and increasingly stringent federal, state, and local environmental laws and regulations. Such federal, state and local environmental laws and regulations govern our activities regarding the treatment, storage, processing, disposal and transportation of hazardous, non-hazardous and radioactive wastes, and require us to obtain and maintain permits, licenses and/or approvals in order to conduct our waste activities. We are dependent on our permits and licenses discussed below in order to operate our businesses. Failure to obtain and maintain our permits or approvals would have a material adverse effect on us, our operations, and financial condition. The permits and licenses have terms ranging from one to ten years, and provided that we maintain a reasonable level of compliance, renew with minimal effort, and cost. We believe that these permit and license requirements represent a potential barrier to entry for possible competitors.

PFF, located in Gainesville, Florida, operates its hazardous, mixed and low-level radioactive waste activities under a Resource Conservation and Recovery Act (“RCRA”) Part B permit, Toxic Substances Control Act (“TSCA”) authorization, Restricted RX Drug Distributor-Destruction license, and a radioactive materials license issued by the State of Florida.

DSSI, located in Kingston, Tennessee, conducts mixed and low-level radioactive waste storage and treatment activities under RCRA Part B permits and a radioactive materials license issued by the State of Tennessee Department of Environment and Conservation. Co-regulated TSCA Polychlorinated Biphenyl (“PCB”) wastes are also managed for PCB destruction under EPA Approval.

PFNWR, located in Richland, Washington, operates a low-level radioactive waste processing facility as well as a mixed waste processing facility. Radioactive material processing is authorized under radioactive materials licenses issued by the State of Washington and mixed waste processing is additionally authorized under a RCRA Part B permit with TSCA authorization issued jointly by the State of Washington and the EPA.

As previously discussed, our M&EC facility, located in Oak Ridge, is in closure status, with final closure of the facility subject to completion of final surveys and regulatory approval. The Company had previously fully impaired the permit value at our M&EC subsidiary. The permits at M&EC will be terminated upon completion of requirements pursuant to M&EC’s closure plan.

The combination of a RCRA Part B hazardous waste permit, TSCA authorization, and a radioactive materials license, as held by our Treatment Segment are very difficult to obtain for a single facility and make these facilities unique.

We believe that the permitting and licensing requirements, and the cost to obtain such permits, are barriers to the entry of hazardous waste and radioactive and mixed waste activities as presently operated by our waste treatment subsidiaries. If the permit requirements for hazardous waste treatment, storage, and disposal (“TSD”) activities and/or the licensing requirements for the handling of low level radioactive matters are eliminated or if such licenses or permits were made less rigorous to obtain, we believe such would allow companies to enter into these markets and provide greater competition.

Backlog

The Treatment Segment of our Company maintains a backlog of stored waste, which represents waste that has not been processed. The backlog is principally a result of the timing and complexity of the waste being brought into the facilities and the selling price per container. At December 31, 2018, our Treatment Segment had a backlog of approximately \$11,104,000, as compared to approximately \$7,666,000 at December 31, 2017. Additionally, the time it takes to process waste from the time it arrives may increase due to the types and complexities of the waste we are currently receiving. We typically process our backlog during periods of low waste receipts, which historically has been in the first or fourth quarters.

Dependence Upon a Single or Few Customers

Our Treatment and Services Segments have significant relationships with the federal government, and continue to enter into contracts, directly as the prime contractor or indirectly for others as a subcontractor, with the federal government. The contracts that we are a party to with the federal government or with others as a subcontractor to the federal government generally provide that the government may terminate or renegotiate the contracts on 30 days notice, at the government’s election. Our inability to continue under existing contracts that we have with the federal government (directly or indirectly as a subcontractor) could have a material adverse effect on our operations and financial condition.

We performed services relating to waste generated by domestic government clients (includes U.S federal, state and local), either directly as a prime contractor or indirectly as a subcontractor to government entities, representing approximately \$34,811,000, or 70.3%, of our total revenue during 2018, as compared to \$37,019,000, or 74.4%, of our total revenue during 2017.

As our revenues are project/event based where the completion of one contract with a specific customer may be replaced by another contract with a different customer from year to year, we do not believe the loss of one specific customer from one year to the next will generally have a material adverse effect on our operations and financial condition.

Competitive Conditions

The Treatment Segment’s largest competitor is EnergySolutions (“ES”) which operates treatment facilities in Oak Ridge, TN and Erwin, TN and a disposal facility for low level radioactive waste in Clive, UT. Waste Control Specialists (“WCS”), which has licensed disposal capabilities for low level radioactive waste in Andrews, TX, is also a competitor in the treatment market with increasing market share. We now have two options for disposal of treated nuclear waste and thus mitigate prior risk of ES providing the only outlet for disposal. The Treatment Segment treats and disposes of DOE generated wastes largely at DOE owned sites. Smaller competitors are also present in the market place; however, we believe they do not present a significant challenge at this time. Our Treatment Segment currently solicits business primarily on a North America basis with both government and commercial clients; however, we continue to focus on emerging international markets for additional work.

Our Services Segment is engaged in highly competitive businesses in which a number of our government contracts and some of our commercial contracts are awarded through competitive bidding processes. The extent of such competition varies according to the industries and markets in which our customers operate as well as the geographic areas in which we operate. The degree and type of competition we face is also often influenced by the project specification being bid on and the different specialty skill sets of each bidder for which our Services Segment competes, especially projects subject to the governmental bid process. We also have the ability to prime federal government small business procurements (small business set asides). Based on past experience, we believe that large businesses are more willing to team with small businesses in order to be part of these often substantial procurements. There are a number of qualified small businesses in our market that will provide intense competition that may provide a challenge to our ability to maintain strong growth rates and acceptable profit margins. For international business there are additional competitors, many from within the country the work is to be performed, making winning work in foreign countries more challenging. If our Services Segment is unable to meet these competitive challenges, it could lose market share and experience an overall reduction in its profits.

Certain Environmental Expenditures and Potential Environmental Liabilities

Environmental Liabilities

We have three remediation projects, which are currently in progress at our Perma-Fix of Dayton, Inc. (“PFD”), Perma-Fix of Memphis, Inc. (“PFM”), and Perma-Fix South Georgia, Inc. (“PFSG”) subsidiaries, which are all included within our discontinued operations. These remediation projects principally entail the removal/remediation of contaminated soil and, in most cases, the remediation of surrounding ground water. These remediation activities are closely reviewed and monitored by the applicable state regulators.

At December 31, 2018, we had total accrued environmental remediation liabilities of \$887,000, of which \$50,000 are recorded as a current liability, an increase of \$16,000 from the December 31, 2017 balance of \$871,000. The net increase presents an increase of approximately \$50,000 made to the reserve at our PFD subsidiary due to reassessment of the remediation reserve and payments of approximately \$34,000 on remediation projects for our PFD and PFSG subsidiaries.

No insurance or third party recovery was taken into account in determining our cost estimates or reserves.

The nature of our business exposes us to significant cost to comply with governmental environmental laws, rules and regulations and risk of liability for damages. Such potential liability could involve, for example, claims for cleanup costs, personal injury or damage to the environment in cases where we are held responsible for the release of hazardous materials; claims of employees, customers or third parties for personal injury or property damage occurring in the course of our operations; and claims alleging negligence or professional errors or omissions in the planning or performance of our services. In addition, we could be deemed a responsible party for the costs of required cleanup of properties, which may be contaminated by hazardous substances generated or transported by us to a site we selected, including properties owned or leased by us. We could also be subject to fines and civil penalties in connection with violations of regulatory requirements.

Research and Development (“R&D”)

Innovation and technical know-how by our operations is very important to the success of our business. Our goal is to discover, develop and bring to market innovative ways to process waste that address unmet environmental needs. We conduct research internally, and also through collaborations with other third parties. The majority of our research activities are performed as we receive new and unique waste to treat. Our competitors also devote resources to R&D and many such competitors have greater resources at their disposal than we do. As previously discussed, our Medical Segment has ceased a substantial portion of its R&D activities due to the need for substantial capital to fund such activities. We continue to explore ways to raise this capital. We anticipate that our Medical Segment will not restart its full scale R&D activities until it obtains the necessary funding or find a partner willing to fund its R&D activities. During 2018 and 2017, we incurred approximately \$1,370,000 and \$1,595,000, respectively, in R&D activities, of which approximately \$811,000 and \$1,141,000, respectively, were spent by our Medical Segment for the R&D of its medical isotope production technology.

Number of Employees

In our service-driven business, our employees are vital to our success. We believe we have good relationships with our employees. At December 31, 2018, we employed approximately 258 employees, of whom 249 are full-time employees and 9 are part-time/temporary employees.

Governmental Regulation

Environmental companies, such as us, and their customers are subject to extensive and evolving environmental laws and regulations by a number of federal, state and local environmental, safety and health agencies, the principal of which being the EPA. These laws and regulations largely contribute to the demand for our services. Although our customers remain responsible by law for their environmental problems, we must also comply with the requirements of those laws applicable to our services. We cannot predict the extent to which our operations may be affected by future enforcement policies as applied to existing laws or by the enactment of new environmental laws and regulations. Moreover, any predictions regarding possible liability are further complicated by the fact that under current environmental laws we could be jointly and severally liable for certain activities of third parties over whom we have little or no control. Although we believe that we are currently in substantial compliance with applicable laws and regulations, we could be subject to fines, penalties or other liabilities or could be adversely affected by existing or subsequently enacted laws or regulations. The principal environmental laws affecting our customers and us are briefly discussed below.

The Resource Conservation and Recovery Act of 1976, as amended (“RCRA”)

RCRA and its associated regulations establish a strict and comprehensive permitting and regulatory program applicable to companies, such as us, that treat, store or dispose of hazardous waste. The EPA has promulgated regulations under RCRA for new and existing treatment, storage and disposal facilities including incinerators, storage and treatment tanks, storage containers, storage and treatment surface impoundments, waste piles and landfills. Every facility that treats, stores or disposes of hazardous waste must obtain a RCRA permit or must obtain interim status from the EPA, or a state agency, which has been authorized by the EPA to administer its program, and must comply with certain operating, financial responsibility and closure requirements.

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (“CERCLA,” also referred to as the “Superfund Act”)

CERCLA governs the cleanup of sites at which hazardous substances are located or at which hazardous substances have been released or are threatened to be released into the environment. CERCLA authorizes the EPA to compel responsible parties to clean up sites and provides for punitive damages for noncompliance. CERCLA imposes joint and several liabilities for the costs of clean up and damages to natural resources.

Health and Safety Regulations

The operation of our environmental activities is subject to the requirements of the OSHA and comparable state laws. Regulations promulgated under OSHA by the Department of Labor require employers of persons in the transportation and environmental industries, including independent contractors, to implement hazard communications, work practices and personnel protection programs in order to protect employees from equipment safety hazards and exposure to hazardous chemicals.

Atomic Energy Act

The Atomic Energy Act of 1954 governs the safe handling and use of Source, Special Nuclear and Byproduct materials in the U.S. and its territories. This act authorized the Atomic Energy Commission (now the Nuclear Regulatory Commission “USNRC”) to enter into “Agreements with states to carry out those regulatory functions in those respective states except for Nuclear Power Plants and federal facilities like the VA hospitals and the DOE operations.” The State of Florida (with the USNRC oversight), Office of Radiation Control, regulates the permitting and radiological program of the PFF facility, and the State of Tennessee (with the USNRC oversight), Tennessee Department of Radiological Health, regulates permitting and the radiological program of the DSSI and M&EC facilities. The State of Washington (with the USNRC oversight) Department of Health, regulates permitting and the radiological operations of the PFNWR facility.

Other Laws

Our activities are subject to other federal environmental protection and similar laws, including, without limitation, the Clean Water Act, the Clean Air Act, the Hazardous Materials Transportation Act and the TSCA. Many states have also adopted laws for the protection of the environment which may affect us, including laws governing the generation, handling, transportation and disposition of hazardous substances and laws governing the investigation and cleanup of, and liability for, contaminated sites. Some of these state provisions are broader and more stringent than existing federal law and regulations. Our failure to conform our services to the requirements of any of these other applicable federal or state laws could subject us to substantial liabilities which could have a material adverse effect on us, our operations and financial condition. In addition to various federal, state and local environmental regulations, our hazardous waste transportation activities are regulated by the U.S. Department of Transportation, the Interstate Commerce Commission and transportation regulatory bodies in the states in which we operate. We cannot predict the extent to which we may be affected by any law or rule that may be enacted or enforced in the future, or any new or different interpretations of existing laws or rules.

ITEM 1A. RISK FACTORS

The following are certain risk factors that could affect our business, financial performance, and results of operations. These risk factors should be considered in connection with evaluating the forward-looking statements contained in this Form 10-K, as the forward-looking statements are based on current expectations, and actual results and conditions could differ materially from the current expectations. Investing in our securities involves a high degree of risk, and before making an investment decision, you should carefully consider these risk factors as well as other information we include or incorporate by reference in the other reports we file with the Securities and Exchange Commission (the "Commission").

Risks Relating to our Operations

Failure to maintain our financial assurance coverage that we are required to have in order to operate our permitted treatment, storage and disposal facilities could have a material adverse effect on us.

We maintain finite risk insurance policies and bonding mechanisms which provide financial assurance to the applicable states for our permitted facilities in the event of unforeseen closure of those facilities. We are required to provide and to maintain financial assurance that guarantees to the state that in the event of closure, our permitted facilities will be closed in accordance with the regulations. In the event that we are unable to obtain or maintain our financial assurance coverage for any reason, this could materially impact our operations and our permits which we are required to have in order to operate our treatment, storage, and disposal facilities.

If we cannot maintain adequate insurance coverage, we will be unable to continue certain operations.

Our business exposes us to various risks, including claims for causing damage to property and injuries to persons that may involve allegations of negligence or professional errors or omissions in the performance of our services. Such claims could be substantial. We believe that our insurance coverage is presently adequate and similar to, or greater than, the coverage maintained by other companies in the industry of our size. If we are unable to obtain adequate or required insurance coverage in the future, or if our insurance is not available at affordable rates, we would violate our permit conditions and other requirements of the environmental laws, rules, and regulations under which we operate. Such violations would render us unable to continue certain of our operations. These events would have a material adverse effect on our financial condition.

The inability to maintain existing government contracts or win new government contracts over an extended period could have a material adverse effect on our operations and adversely affect our future revenues.

A material amount of our Treatment and Services Segments' revenues are generated through various government contracts or subcontracts involving specifically the U.S. government. Our revenues from governmental contracts and subcontracts relating to domestic governmental facilities within our segments were approximately \$34,811,000, or 70.3%, and \$37,019,000, or 74.4%, of our consolidated operating revenues for 2018 and 2017, respectively. Most of our government contracts or our subcontracts granted under government contracts are awarded through a regulated competitive bidding process. Some government contracts are awarded to multiple competitors, which increase overall competition and pricing pressure and may require us to make sustained post-award efforts to realize revenues under these government contracts. All contracts with, or subcontracts involving, the federal government are terminable, or subject to renegotiation, by the applicable governmental agency on 30 days notice, at the option of the governmental agency. If we fail to maintain or replace these relationships, or if a material contract is terminated or renegotiated in a manner that is materially adverse to us, our revenues and future operations could be materially adversely affected.

Our existing and future customers may reduce or halt their spending on hazardous waste and nuclear services with outside vendors, including us.

A variety of factors may cause our existing or future customers (including the federal government) to reduce or halt their spending on hazardous waste and nuclear services from outside vendors, including us. These factors include, but are not limited to:

- accidents, terrorism, natural disasters or other incidents occurring at nuclear facilities or involving shipments of nuclear materials;
- failure of the federal government to approve necessary budgets, or to reduce the amount of the budget necessary, to fund remediation of DOE and DOD sites;
- civic opposition to or changes in government policies regarding nuclear operations;
- a reduction in demand for nuclear generating capacity; or
- failure to perform under existing contracts, directly or indirectly, with the federal government.

These events could result in or cause the federal government to terminate or cancel its existing contracts involving us to treat, store or dispose of contaminated waste and/or to perform remediation projects, at one or more of the federal sites since all contracts with, or subcontracts involving, the federal government are terminable upon or subject to renegotiation at the option of the government on 30 days notice. These events also could adversely affect us to the extent that they result in the reduction or elimination of contractual requirements, lower demand for nuclear services, burdensome regulation, disruptions of shipments or production, increased operational costs or difficulties or increased liability for actual or threatened property damage or personal injury.

Economic downturns and/or reductions in government funding could have a material negative impact on our businesses.

Demand for our services has been, and we expect that demand will continue to be, subject to significant fluctuations due to a variety of factors beyond our control, including economic conditions, reductions in the budget for spending to remediate federal sites due to numerous reasons, including, without limitation, the substantial deficits that the federal government has and is continuing to incur. During economic downturns and large budget deficits that the federal government and many states are experiencing, the ability of private and government entities to spend on waste services, including nuclear services, may decline significantly. Our operations depend, in large part, upon governmental funding, particularly funding levels at the DOE. Significant reductions in the level of governmental funding (for example, the annual budget of the DOE) or specifically mandated levels for different programs that are important to our business could have a material adverse impact on our business, financial position, results of operations and cash flows.

The loss of one or a few customers could have an adverse effect on us.

One or a few governmental customers or governmental related customers have in the past, and may in the future, account for a significant portion of our revenue in any one year or over a period of several consecutive years. Because customers generally contract with us for specific projects, we may lose these significant customers from year to year as their projects with us are completed. Our inability to replace the business with other similar significant projects could have an adverse effect on our business and results of operations.

As a government contractor, we are subject to extensive government regulation, and our failure to comply with applicable regulations could subject us to penalties that may restrict our ability to conduct our business.

Our governmental contracts, which are primarily with the DOE or subcontracts relating to DOE sites, are a significant part of our business. Allowable costs under U.S. government contracts are subject to audit by the U.S. government. If these audits result in determinations that costs claimed as reimbursable are not allowed costs or were not allocated in accordance with applicable regulations, we could be required to reimburse the U.S. government for amounts previously received.

Governmental contracts or subcontracts involving governmental facilities are often subject to specific procurement regulations, contract provisions and a variety of other requirements relating to the formation, administration, performance and accounting of these contracts. Many of these contracts include express or implied certifications of compliance with applicable regulations and contractual provisions. If we fail to comply with any regulations, requirements or statutes, our existing governmental contracts or subcontracts involving governmental facilities could be terminated or we could be suspended from government contracting or subcontracting. If one or more of our governmental contracts or subcontracts are terminated for any reason, or if we are suspended or debarred from government work, we could suffer a significant reduction in expected revenues and profits. Furthermore, as a result of our governmental contracts or subcontracts involving governmental facilities, claims for civil or criminal fraud may be brought by the government or violations of these regulations, requirements or statutes.

We are a holding company and depend, in large part, on receiving funds from our subsidiaries to fund our indebtedness.

Because we are a holding company and operations are conducted through our subsidiaries, our ability to meet our obligations depends, in large part, on the operating performance and cash flows of our subsidiaries.

Loss of certain key personnel could have a material adverse effect on us.

Our success depends on the contributions of our key management, environmental and engineering personnel. Our future success depends on our ability to retain and expand our staff of qualified personnel, including environmental specialists and technicians, sales personnel, and engineers. Without qualified personnel, we may incur delays in rendering our services or be unable to render certain services. We cannot be certain that we will be successful in our efforts to attract and retain qualified personnel as their availability is limited due to the demand for hazardous waste management services and the highly competitive nature of the hazardous waste management industry. We do not maintain key person insurance on any of our employees, officers, or directors.

Changes in environmental regulations and enforcement policies could subject us to additional liability and adversely affect our ability to continue certain operations.

We cannot predict the extent to which our operations may be affected by future governmental enforcement policies as applied to existing laws, by changes to current environmental laws and regulations, or by the enactment of new environmental laws and regulations. Any predictions regarding possible liability under such laws are complicated further by current environmental laws which provide that we could be liable, jointly and severally, for certain activities of third parties over whom we have limited or no control.

Our Treatment Segment has limited end disposal sites to utilize to dispose of its waste which could significantly impact our results of operations.

Our Treatment Segment has limited options available for disposal of its nuclear waste. Currently, there are only two disposal sites, each site having different owners, for our low level radioactive waste we receive from non-governmental sites, allowing us to take advantage of the pricing competition between the two sites. If either of these disposal sites ceases to accept waste or closes for any reason or refuses to accept the waste of our Treatment Segment, for any reason, we would be limited to only the one remaining site to dispose of our nuclear waste. With only one end disposal site to dispose of our waste, we could be subject to significantly increased costs which could negatively impact our results of operations.

Our businesses subject us to substantial potential environmental liability.

Our business of rendering services in connection with management of waste, including certain types of hazardous waste, low-level radioactive waste, and mixed waste (waste containing both hazardous and low-level radioactive waste), subjects us to risks of liability for damages. Such liability could involve, without limitation:

- claims for clean-up costs, personal injury or damage to the environment in cases in which we are held responsible for the release of hazardous or radioactive materials;

- claims of employees, customers, or third parties for personal injury or property damage occurring in the course of our operations; and
- claims alleging negligence or professional errors or omissions in the planning or performance of our services.

Our operations are subject to numerous environmental laws and regulations. We have in the past, and could in the future, be subject to substantial fines, penalties, and sanctions for violations of environmental laws and substantial expenditures as a responsible party for the cost of remediating any property which may be contaminated by hazardous substances generated by us and disposed at such property, or transported by us to a site selected by us, including properties we own or lease.

As our operations expand, we may be subject to increased litigation, which could have a negative impact on our future financial results.

Our operations are highly regulated and we are subject to numerous laws and regulations regarding procedures for waste treatment, storage, recycling, transportation, and disposal activities, all of which may provide the basis for litigation against us. In recent years, the waste treatment industry has experienced a significant increase in so-called "toxic-tort" litigation as those injured by contamination seek to recover for personal injuries or property damage. We believe that, as our operations and activities expand, there will be a similar increase in the potential for litigation alleging that we have violated environmental laws or regulations or are responsible for contamination or pollution caused by our normal operations, negligence or other misconduct, or for accidents, which occur in the course of our business activities. Such litigation, if significant and not adequately insured against, could adversely affect our financial condition and our ability to fund our operations. Protracted litigation would likely cause us to spend significant amounts of our time, effort, and money. This could prevent our management from focusing on our operations and expansion.

Our operations are subject to seasonal factors, which cause our revenues to fluctuate.

We have historically experienced reduced revenues and losses during the first and fourth quarters of our fiscal years due to a seasonal slowdown in operations from poor weather conditions, overall reduced activities during these periods resulting from holiday periods, and finalization of government budgets during the fourth quarter of each year. During our second and third fiscal quarters there has historically been an increase in revenues and operating profits. If we do not continue to have increased revenues and profitability during the second and third fiscal quarters, this could have a material adverse effect on our results of operations and liquidity.

If environmental regulation or enforcement is relaxed, the demand for our services will decrease.

The demand for our services is substantially dependent upon the public's concern with, and the continuation and proliferation of, the laws and regulations governing the treatment, storage, recycling, and disposal of hazardous, non-hazardous, and low-level radioactive waste. A decrease in the level of public concern, the repeal or modification of these laws, or any significant relaxation of regulations relating to the treatment, storage, recycling, and disposal of hazardous waste and low-level radioactive waste would significantly reduce the demand for our services and could have a material adverse effect on our operations and financial condition. We are not aware of any current federal or state government or agency efforts in which a moratorium or limitation has been, or will be, placed upon the creation of new hazardous or radioactive waste regulations that would have a material adverse effect on us; however, no assurance can be made that such a moratorium or limitation will not be implemented in the future.

We and our customers operate in a politically sensitive environment, and the public perception of nuclear power and radioactive materials can affect our customers and us.

We and our customers operate in a politically sensitive environment. Opposition by third parties to particular projects can limit the handling and disposal of radioactive materials. Adverse public reaction to developments in the disposal of radioactive materials, including any high profile incident involving the discharge of radioactive materials, could directly affect our customers and indirectly affect our business. Adverse public reaction also could lead to increased regulation or outright prohibition, limitations on the activities of our customers, more onerous operating requirements or other conditions that could have a material adverse impact on our customers' and our business.

We may be exposed to certain regulatory and financial risks related to climate change

Climate change is receiving ever increasing attention from scientists and legislators alike. The debate is ongoing as to the extent to which our climate is changing, the potential causes of this change and its potential impacts. Some attribute global warming to increased levels of greenhouse gases, including carbon dioxide, which has led to significant legislative and regulatory efforts to limit greenhouse gas emissions.

Presently there are no federally mandated greenhouse gas reduction requirements in the United States. However, there are a number of legislative and regulatory proposals to address greenhouse gas emissions, which are in various phases of discussion or implementation. The outcome of federal and state actions to address global climate change could result in a variety of regulatory programs including potential new regulations. Any adoption by federal or state governments mandating a substantial reduction in greenhouse gas emissions could increase costs associated with our operations. Until the timing, scope and extent of any future regulation becomes known, we cannot predict the effect on our financial position, operating results and cash flows.

We may not be successful in winning new business mandates from our government and commercial customers or international customers.

We must be successful in winning mandates from our government, commercial customers and international customers to replace revenues from projects that we have completed or that are nearing completion and to increase our revenues. Our business and operating results can be adversely affected by the size and timing of a single material contract.

The elimination or any modification of the Price-Anderson Acts indemnification authority could have adverse consequences for our business.

The Atomic Energy Act of 1954, as amended, or the AEA, comprehensively regulates the manufacture, use, and storage of radioactive materials. The Price-Anderson Act (“PAA”) supports the nuclear services industry by offering broad indemnification to DOE contractors for liabilities arising out of nuclear incidents at DOE nuclear facilities. That indemnification protects DOE prime contractor, but also similar companies that work under contract or subcontract for a DOE prime contract or transporting radioactive material to or from a site. The indemnification authority of the DOE under the PAA was extended through 2025 by the Energy Policy Act of 2005.

Under certain conditions, the PAA’s indemnification provisions may not apply to our processing of radioactive waste at governmental facilities, and may not apply to liabilities that we might incur while performing services as a contractor for the DOE and the nuclear energy industry. If an incident or evacuation is not covered under PAA indemnification, we could be held liable for damages, regardless of fault, which could have an adverse effect on our results of operations and financial condition. If such indemnification authority is not applicable in the future, our business could be adversely affected if the owners and operators of new facilities fail to retain our services in the absence of commercial adequate insurance and indemnification.

We are engaged in highly competitive businesses and typically must bid against other competitors to obtain major contracts.

We are engaged in highly competitive business in which most of our government contracts and some of our commercial contracts are awarded through competitive bidding processes. We compete with national and regional firms with nuclear and/or hazardous waste services practices, as well as small or local contractors. Some of our competitors have greater financial and other resources than we do, which can give them a competitive advantage. In addition, even if we are qualified to work on a new government contract, we might not be awarded the contract because of existing government policies designed to protect certain types of businesses and under-represented minority contractors. Although we believe we have the ability to certify and bid government contract as a small business, there are a number of qualified small businesses in our market that will provide intense competition. For international business, which we continue to focus on, there are additional competitors, many from within the country the work is to be performed, making winning work in foreign countries more challenging. Competition places downward pressure on our contract prices and profit margins. If we are unable to meet these competitive challenges, we could lose market share and experience on overall reduction in our profits.

Our failure to maintain our safety record could have an adverse effect on our business.

Our safety record is critical to our reputation. In addition, many of our government and commercial customers require that we maintain certain specified safety record guidelines to be eligible to bid for contracts with these customers. Furthermore, contract terms may provide for automatic termination in the event that our safety record fails to adhere to agreed-upon guidelines during performance of the contract. As a result, our failure to maintain our safety record could have a material adverse effect on our business, financial condition and results of operations.

We may be unable to utilize loss carryforwards in the future.

We have approximately \$21,277,000 and \$76,312,000 in net operating loss carryforwards for federal and state income tax purposes, respectively, which will expire in various amounts starting in 2021 if not used against future federal and state income tax liabilities, respectively. Our net loss carryforwards are subject to various limitations. Our ability to use the net loss carryforwards depends on whether we are able to generate sufficient income in the future years. Further, our net loss carryforwards have not been audited or approved by the Internal Revenue Service.

If any of our permits, other intangible assets, and tangible assets becomes impaired, we may be required to record significant charges to earnings.

Under accounting principles generally accepted in the United States ("U.S. GAAP"), we review our intangible and tangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Our permits are tested for impairment at least annually. Factors that may be considered a change in circumstances, indicating that the carrying value of our permit, other intangible assets, and tangible assets may not be recoverable, include a decline in stock price and market capitalization, reduced future cash flow estimates, and slower growth rates in our industry. We may be required, in the future, to record impairment charges in our financial statements, in which any impairment of our permit, other intangible assets, and tangible assets is determined. Such impairment charges could negatively impact our results of operations.

We bear the risk of cost overruns in fixed-price contracts. We may experience reduced profits or, in some cases, losses under these contracts if costs increase above our estimates.

Our revenues may be earned under contracts that are fixed-price in nature. Fixed-price contracts expose us to a number of risks not inherent in cost-reimbursable contracts. Under fixed price and guaranteed maximum-price contracts, contract prices are established in part on cost and scheduling estimates which are based on a number of assumptions, including assumptions about future economic conditions, prices and availability of labor, equipment and materials, and other exigencies. If these estimates prove inaccurate, or if circumstances change such as unanticipated technical problems, difficulties in obtaining permits or approvals, changes in laws or labor conditions, weather delays, cost of raw materials or our suppliers' or subcontractors' inability to perform, cost overruns may occur and we could experience reduced profits or, in some cases, a loss for that project. Errors or ambiguities as to contract specifications can also lead to cost-overruns.

Adequate bonding is necessary for us to win certain types of new work and support facility closure requirements.

We are often required to provide performance bonds to customers under fixed-price contracts, primarily within our Services Segment. These surety instruments indemnify the customer if we fail to perform our obligations under the contract. If a bond is required for a particular project and we are unable to obtain it due to insufficient liquidity or other reasons, we may not be able to pursue that project. In addition, we provide bonds to support financial assurance in the event of facility closure pursuant to state requirements. We currently have a bonding facility but, the issuance of bonds under that facility is at the surety's sole discretion. Moreover, due to events that affect the insurance and bonding markets generally, bonding may be more difficult to obtain in the future or may only be available at significant additional cost. There can be no assurance that bonds will continue to be available to us on reasonable terms. Our inability to obtain adequate bonding and, as a result, to bid on new work could have a material adverse effect on our business, financial condition and results of operations.

Failure to maintain effective internal control over financial reporting or failure to remediate a material weakness in internal control over financial reporting could have a material adverse effect on our business, operating results, and stock price.

Maintaining effective internal control over financial reporting is necessary for us to produce reliable financial reports and is important in helping to prevent financial fraud. If we are unable to maintain adequate internal controls, our business and operating results could be harmed. We are required to satisfy the requirements of Section 404(a) of Sarbanes Oxley and the related rules of the Commission, which require, among other things, management to assess annually the effectiveness of our internal control over financial reporting. If we are unable to maintain adequate internal control over financial reporting or effectively remediate any material weakness identified in internal control over financial reporting, there is a reasonable possibility that a misstatement of our annual or interim financial statements will not be prevented or detected in a timely manner. If we cannot produce reliable financial reports, investors could lose confidence in our reported financial information, the market price of our common stock could decline significantly, and our business, financial condition, and reputation could be harmed.

Systems failures, interruptions or breaches of security and other cyber security risks could have an adverse effect on our financial condition and results of operations.

We are subject to certain operational risks to our information systems. Because of efforts on the part of computer hackers and cyberterrorists to breach data security of companies, we face risk associated with potential failures to adequately protect critical corporate, customer and employee data. As part of our business, we develop and retain confidential data about us and our customers, including the U.S. government. We also rely on the services of a variety of vendors to meet our data processing and communications needs.

Despite our implemented security measures and established policies, we cannot be certain that all of our systems are entirely free from vulnerability to attack or other technological difficulties or failures or failures on the part of our employees to follow our established security measures and policies. Information security risks have increased significantly. Our technologies, systems, and networks may become the target of cyber-attacks, computer viruses, malicious code, or information security breaches that could result in the unauthorized release, gathering, monitoring, misuse, loss or destruction of our or our customers' confidential, proprietary and other information and the disruption of our business operations. A security breach could adversely impact our customer relationships, reputation and operation and result in violations of applicable privacy and other laws, financial loss to us or to our customers or to our employees, and litigation exposure. While we maintain a system of internal controls and procedures, any breach, attack, or failure as discussed above could have a material adverse impact on our business, financial condition, and results of operations or liquidity.

There is also an increasing attention on the importance of cybersecurity relating to infrastructure. This creates the potential for future developments in regulations relating to cybersecurity that may adversely impact us, our customers and how we offer our services to our customers.

Risks Relating to our Intellectual Property

If we cannot maintain our governmental permits or cannot obtain required permits, we may not be able to continue or expand our operations.

We are a nuclear services and waste management company. Our business is subject to extensive, evolving, and increasingly stringent federal, state, and local environmental laws and regulations. Such federal, state, and local environmental laws and regulations govern our activities regarding the treatment, storage, recycling, disposal, and transportation of hazardous and non-hazardous waste and low-level radioactive waste. We must obtain and maintain permits or licenses to conduct these activities in compliance with such laws and regulations. Failure to obtain and maintain the required permits or licenses would have a material adverse effect on our operations and financial condition. If any of our facilities are unable to maintain currently held permits or licenses or obtain any additional permits or licenses which may be required to conduct its operations, we may not be able to continue those operations at these facilities, which could have a material adverse effect on us.

We believe our proprietary technology is important to us.

We believe that it is important that we maintain our proprietary technologies. There can be no assurance that the steps taken by us to protect our proprietary technologies will be adequate to prevent misappropriation of these technologies by third parties. Misappropriation of our proprietary technology could have an adverse effect on our operations and financial condition. Changes to current environmental laws and regulations also could limit the use of our proprietary technology.

Risks Relating to our Financial Position and Need for Financing

Breach of any of the covenants in our credit facility could result in a default, triggering repayment of outstanding debt under the credit facility.

Our credit facility with our bank contains financial covenants. A breach of any of these covenants could result in a default under our credit facility triggering our lender to immediately require the repayment of all outstanding debt under our credit facility and terminate all commitments to extend further credit. Our fixed charge coverage ratio fell below the minimum quarterly requirement under our credit facility in the fourth quarter of 2018; however, we have obtained a waiver for this non-compliance from our lender. Additionally, our lender also has provided certain amendments to our fixed charge coverage ratio requirements for 2019 which will enable us to meet our quarterly fixed charge coverage ratio requirements. If we fail to meet any of our financial covenants going forward, including the minimum quarterly fixed charge coverage ratio requirement, and our lender does not further waive the non-compliance or further revise our covenant requirement so that we are in compliance, our lender could accelerate the payment of our borrowings under our credit facility. In such event, we may not have sufficient liquidity to repay our debt under our credit facility and other indebtedness.

Our debt and borrowing availability under our credit facility could adversely affect our operations.

At December 31, 2018, our aggregate consolidated debt was approximately \$3,302,000. Our Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated October 31, 2011, as subsequently amended (“Revised Loan Agreement”) provides for a total credit facility commitment of approximately \$18,100,000, consisting of a \$12,000,000 revolving line of credit and a term loan of \$6,100,000. The maximum we can borrow under the revolving part of the credit facility is based on a percentage of the amount of our eligible receivables outstanding at any one time reduced by outstanding standby letters of credit and any borrowing reduction that our lender may impose from time to time. At December 31, 2018, we had borrowings under the revolving part of our credit facility of approximately \$639,000 and borrowing availability of up to an additional \$2,368,000. A lack of positive operating results could have material adverse consequences on our ability to operate our business. Our ability to make principal and interest payments, to refinance indebtedness, and borrow under our credit facility will depend on both our and our subsidiaries’ future operating performance and cash flow. Prevailing economic conditions, interest rate levels, and financial, competitive, business, and other factors affect us. Many of these factors are beyond our control.

Our indebtedness could limit our financial and operating activities, and adversely affect our ability to incur additional debt to fund future needs.

As a result of our indebtedness, we could, among other things, be:

- required to dedicate a substantial portion of our cash flow to the payment of principal and interest, thereby reducing the funds available for operations and future business opportunities;
- make it more difficult for us to satisfy our obligations;
- limit our ability to borrow additional money if needed for other purposes, including working capital, capital expenditures, debt service requirements, acquisitions and general corporate or other purposes, on satisfactory terms or at all;
- limit our ability to adjust to changing economic, business and competitive conditions;
- place us at a competitive disadvantage with competitors who may have less indebtedness or greater access to financing;
- make us more vulnerable to an increase in interest rates, a downturn in our operating performance or a decline in general economic conditions; and

- make us more susceptible to changes in credit ratings, which could impact our ability to obtain financing in the future and increase the cost of such financing.

Any of the foregoing could adversely impact our operating results, financial condition, and liquidity. Our ability to continue our operations depends on our ability to generate profitable operations or complete equity or debt financings to increase our capital.

Risks Relating to our Common Stock

Issuance of substantial amounts of our Common Stock could depress our stock price.

Any sales of substantial amounts of our Common Stock in the public market could cause an adverse effect on the market price of our Common Stock and could impair our ability to raise capital through the sale of additional equity securities. The issuance of our Common Stock will result in the dilution in the percentage membership interest of our stockholders and the dilution in ownership value. At December 31, 2018, we had 11,936,573 shares of Common Stock outstanding.

In addition, at December 31, 2018, we had outstanding options to purchase 616,000 shares of our Common Stock at exercise prices ranging from \$2.79 to \$13.35 per share. Further, our preferred share rights plan, if triggered, could result in the issuance of a substantial amount of our Common Stock. The existence of this quantity of rights to purchase our Common Stock under the preferred share rights plan could result in a significant dilution in the percentage ownership interest of our stockholders and the dilution in ownership value. Future sales of the shares issuable could also depress the market price of our Common Stock.

We do not intend to pay dividends on our Common Stock in the foreseeable future.

Since our inception, we have not paid cash dividends on our Common Stock, and we do not anticipate paying any cash dividends in the foreseeable future. Our credit facility prohibits us from paying cash dividends on our Common Stock without prior approval from our lender.

The price of our Common Stock may fluctuate significantly, which may make it difficult for our stockholders to resell our Common Stock when a stockholder wants or at prices a stockholder finds attractive.

The price of our Common Stock on the NASDAQ Capital Markets constantly changes. We expect that the market price of our Common Stock will continue to fluctuate. This may make it difficult for our stockholders to resell the Common Stock when a stockholder wants or at prices a stockholder finds attractive.

Future issuance of our Common Stock could adversely affect the price of our Common Stock, our ability to raise funds in new stock offerings and could dilute the percentage ownership of our common stockholders.

Future sales of substantial amounts of our Common Stock or equity-related securities in the public market, or the perception that such sales or conversions could occur, could adversely affect prevailing trading prices of our Common Stock and could dilute the value of Common Stock held by our existing stockholders. No prediction can be made as to the effect, if any, that future sales of shares of our Common Stock or the availability of shares of our Common Stock for future sale will have on the trading price of our Common Stock. Such future sales or conversions could also significantly reduce the percentage ownership of our common stockholders.

Delaware law, certain of our charter provisions, our stock option plans, outstanding warrants and our Preferred Stock may inhibit a change of control under circumstances that could give you an opportunity to realize a premium over prevailing market prices.

We are a Delaware corporation governed, in part, by the provisions of Section 203 of the General Corporation Law of Delaware, an anti-takeover law. In general, Section 203 prohibits a Delaware public corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. As a result of Section 203, potential acquirers may be discouraged from attempting to effect acquisition transactions with us, thereby possibly depriving our security holders of certain opportunities to sell, or otherwise dispose of, such securities at above-market prices pursuant to such transactions. Further, certain of our option plans provide for the immediate acceleration of, and removal of restrictions from, options and other awards under such plans upon a “change of control” (as defined in the respective plans). Such provisions may also have the result of discouraging acquisition of us.

We have authorized and unissued 17,439,785 (which include shares issuable under outstanding options to purchase 616,000 shares of our Common Stock) shares of our Common Stock and 2,000,000 shares of our Preferred Stock as of December 31, 2018 (which includes 50,000 shares of our Preferred Stock reserved for issuance under our new preferred share rights plan discussed below). These unissued shares could be used by our management to make it more difficult for, and thereby discourage an attempt to acquire control of us.

Our Preferred Share Rights Plan may adversely affect our stockholders.

In May 2018, the Company adopted a new Preferred Share Purchase Rights Plan (“Rights Plan”) to replace a 2008 rights plan which expired on May 2, 2018 (“Expiring Rights Plan”). As part of the Rights Plan, the Company’s Board of Directors (“Board”) declared a dividend distribution of one Preferred Share Purchase Right (“Right”) on each outstanding share of the Company’s Common Stock to stockholders of record on May 12, 2018. The new Rights Plan is designed to assure that all of the Company’s shareholders receive fair and equal treatment in the event of any proposed takeover of the Company and to guard against partial tender abusive tactics to gain control of the Company.

In general, the Rights under the Rights Plan will be exercisable only if a person or group acquires beneficial ownership of 15% or more of the Company’s Common Stock or announces a tender or exchange offer, the consummation of which would result in ownership by a person or group of 15% or more of the Common Stock (with certain exceptions). Each Right under the Rights Plan (other than the Rights owned by such acquiring person or members of such group which are void) will entitle shareholders to buy one one-thousandth of a share of a new series of participating preferred stock at an exercise price of \$20.00. Each one one-thousandth of a share of such new preferred stock purchasable upon exercise of a Right has economic terms designed to approximate the value of one share of Common Stock. Shareholders who have beneficial ownership of 15% or more at the adoption of the new Rights Plan are grandfathered in, but may not acquire additional shares without triggering the new Rights Plan.

If the Company is acquired in a merger or other business combination transaction, each Right will entitle its holder (other than Rights owned by such acquiring person or members of such group which are void) to purchase, at the Right’s then current exercise price, a number of the acquiring company’s common shares having a market value at the time of twice the Right’s exercise price.

In addition, if a person or group (with certain exceptions) acquires 15% or more of the Company’s outstanding Common Stock, each Right will entitle its holder (other than the Rights owned by such acquiring person or members of such group which are void) to purchase, in lieu of preferred stock, at the Right’s then current exercise price, a number of shares of the Company’s Common Stock having a market value of twice the Right’s exercise price.

Following the acquisition by a person or group of beneficial ownership of 15% or more of the Company’s outstanding Common Stock (with certain exceptions), and prior to an acquisition of 50% or more of the Company’s Common Stock by such person or group, the Company’s Board may, at its option, exchange the Rights (other than Rights owned by such acquiring person or members of such group) in whole or in part, for shares of the Company’s Common Stock at an exchange ratio of one share of Common Stock (or one one-thousandth of a share of the new series of participating preferred stock) per Right.

Prior to the acquisition by a person or group of beneficial ownership of 15% or more of the Company’s Common Stock (with certain exceptions), the Rights are redeemable for \$0.001 per Right at the option of the Board of Directors.

The Rights Plan is to terminate the earliest of (1) close of business on May 2, 2019, (2) the time at which the Rights are redeemed, (3) the time at which the Rights are exchange, or (4) closing of any merger or acquisition of the Company which has been approved by the Board of Directors prior to any person becoming such an acquiring person.

The Rights will cause substantial dilution to a person or group that attempts to acquire us on terms not approved by our Board. The Rights should not interfere with any merger or other business combination approved by our Board.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not Applicable.

ITEM 2. PROPERTIES

Our principal executive office is in Atlanta, Georgia. Our Business Center is located in Oak Ridge, Tennessee. Our Treatment Segment facilities are located in Gainesville, Florida; Kingston, Tennessee; and Richland, Washington. Our Services Segment maintains offices as noted below, which are all leased properties. We maintain properties in Valdosta, Georgia and Memphis, Tennessee, which are all non-operational and are included within our discontinued operations.

The properties where three of our facilities operate on (Kingston, Tennessee; Gainesville, Florida; and Richland, Washington) are held by our senior lender as collateral for our credit facility. The Company currently leases properties in the following locations:

<u>Location</u>	<u>Square Footage</u>	<u>Expiration of Lease</u>
Oak Ridge, TN (Business Center)	14,932	May 1, 2022
Oak Ridge, TN (SEC)	5,000	September 30, 2019
Blaydon On Tyne, England (PF UK Limited)	1,000	Monthly
New Brighton, PA (SEC)	3,558	June 30, 2022
Newport, KY (SEC)	1,566	Monthly
Friendly, WV (SEC)	320	Monthly
Pembroke, Ontario, Canada (SEC)	800	Monthly
Atlanta, GA (Corporate)	6,499	February 28, 2021

We believe that the above facilities currently provide adequate capacity for our operations and that additional facilities are readily available in the regions in which we operate, which could support and supplement our existing facilities.

Our M&EC facility (within our Treatment Segment), located in Oak Ridge, TN, is currently in closure status. The lease for the facility expired on March 31, 2019.

ITEM 3. LEGAL PROCEEDINGS

In the normal course of conducting our business, we may become involved in litigation or be subject to local, state and federal agency (government) proceedings. We are not a party to any litigation or governmental proceeding, which our management believes could result in any judgments or fines that would have a material adverse effect on our financial position, liquidity or results of future operations.

ITEM 4. MINE SAFETY DISCLOSURE

Not Applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Our Common Stock is traded on the NASDAQ Capital Markets ("NASDAQ") under the symbol "PESI." The following table sets forth the high and low market trade prices quoted for the Common Stock during the periods shown. The source of such quotations and information is the NASDAQ online trading history reports.

		2018		2017	
		Low	High	Low	High
Common Stock	1 st Quarter	\$ 3.29	\$ 4.26	\$ 2.85	\$ 4.00
	2 nd Quarter	4.10	5.15	2.95	3.85
	3 rd Quarter	4.05	5.00	3.25	4.30
	4 th Quarter	1.90	4.57	3.40	4.05

At February 15, 2019, there were approximately 191 stockholders of record of our Common Stock, including brokerage firms and/or clearing houses holding shares of our Common Stock for their clientele (with each brokerage house and/or clearing house being considered as one holder). However, we have been advised that the total number of beneficial stockholders at February 15, 2019 was approximately 2,045.

Since our inception, we have not paid any cash dividends on our Common Stock and have no dividend policy. Our Revised Loan Agreement prohibits us from paying any cash dividends on our Common Stock without prior approval from our lender. We do not anticipate paying cash dividends on our outstanding Common Stock in the foreseeable future.

There were no purchases made by us or on behalf of us or any of our affiliated members of shares of our Common Stock during 2018.

On May 30, 2018, the Company completed an exchange offer of the Series B Preferred Stock of its wholly-owned subsidiary, M&EC, resulting in the issuance of 134,994 unregistered shares of the Company's Common Stock in a private placement pursuant to an exemption from registration under the Securities Act of 1933, as amended (the "Act"). See Note 8 "Series B Preferred Stock" in Part II, Item 8, "Financial Statements and Supplementary Data" for the issuance of the 134,994 shares which is incorporated herein by reference.

In May 2018, we adopted a new preferred share rights plan (the "Rights Plan"), which is designed to protect us against certain creeping acquisitions, open market purchases, and certain mergers and other combinations with acquiring companies. The Rights Plan terminates at the earliest of (1) close of business on May 2, 2019, (2) the time at which the Rights are redeemed, (3) the time at which the Rights are exchange, or (4) closing of any merger or acquisition of the Company approved by the Board prior to any person becoming acquiring person.

See Item 1A. - Risk Factors – "Our Preferred Share Rights Plan may adversely affect our stockholders" as to further discussion relating to the terms of our new Rights Plan in addition to its termination date.

See Note 6 "Capital Stock, Stock Plans, Warrants, and Stock Based Compensation" in Part II, Item 8, "Financial Statements and Supplementary Data" and "Equity Compensation Plan" in Part III, Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholders Matter" for securities authorized for issuance under equity compensation plans which are incorporated herein by reference.

ITEM 6. SELECTED FINANCIAL DATA

Not required under Regulation S-K for smaller reporting companies.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Certain statements contained within this "Management's Discussion and Analysis of Financial Condition and Results of Operations" ("MD&A") may be deemed "forward-looking statements" within the meaning of Section 27A of the Act, and Section 21E of the Securities Exchange Act of 1934, as amended (collectively, the "Private Securities Litigation Reform Act of 1995"). See "Special Note regarding Forward-Looking Statements" contained in this report.

Management's discussion and analysis is based, among other things, upon our audited consolidated financial statements and includes our accounts, the accounts of our wholly-owned subsidiaries and the accounts of our majority-owned Polish subsidiary, after elimination of all significant intercompany balances and transactions.

The following discussion and analysis should be read in conjunction with our consolidated financial statements and the notes thereto included in Item 8 of this report.

Review

Revenue decreased \$230,000, or 0.5%, to \$49,539,000 for the twelve months ended December 31, 2018 from \$49,769,000 for the corresponding period of 2017. Treatment Segment revenue decreased approximately \$1,479,000, or 3.9%, to \$36,271,000 from \$37,750,000. Our East Tennessee Materials and Energy Corporation ("M&EC") facility, which is currently in closure status, had revenues of approximately \$155,000 in 2018 as compared to \$6,312,000 in the corresponding period of 2017; however, revenues from our remaining Treatment Segment facilities increased by approximately \$4,678,000 as we continue to transition operational capabilities from our M&EC facility to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals. Our Treatment Segment revenues were also negatively impacted by delays in waste shipments which were not received until late in the fourth quarter of 2018, which we believe should have a positive effect for us in the first half of 2019. Treatment Segment backlog increased approximately \$3,438,000, or 44.8%, to \$11,104,000 at December 31, 2018 from \$7,666,000 at December 31, 2017. Services Segment revenue increased approximately \$1,249,000, or 10.4%, to \$13,268,000 for the twelve months ended December 31, 2018 from \$12,019,000 for the corresponding period of 2017.

Total gross profit decreased \$159,000, or 1.8%, for the year ended December 31, 2018 as compared to the corresponding period of 2017. Our gross profit for the years ended December 31, 2018 and 2017 included an additional \$3,323,000 and \$1,400,000, respectively, in closure costs recorded in our Treatment Segment in connection with the closure of our M&EC facility. Total SG&A expenses decreased by \$360,000, or 3.2%, for the year ended 2018 as compared to the year ended 2017.

Net losses from continuing operations for the year ended December 31, 2018 and 2017 included tax benefits of \$1,235,000 and \$1,695,000, respectively, recorded resulting from the Tax Cuts and Jobs Act of 2017 (the "TCJA") enacted into law on December 22, 2017 (see "Income Taxes" in this MD&A for a discussion of the tax benefits recorded). During the second quarter of 2018, we recorded a net gain of \$1,596,000 in connection with the exchange offer of our Common Stock for M&EC's outstanding Series B Preferred Stock as discussed in this MD&A (see "M&EC Series B Preferred Stock").

We had a working capital deficit of approximately \$6,753,000 at December 31, 2018, as compared to working capital deficit of \$2,268,000 at December 31, 2017 (see "Liquidity and Capital Resources—Operating Activities" within this Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") for a discussion as to our working capital deficit and improvement made to our working capital deficit subsequent to December 31, 2018 and further improvements we expect to our working capital deficit subsequent to the filing of this report).

Business Environment and Outlook

Our Treatment and Services Segments' business continues to be heavily dependent on services that we provide to governmental clients directly as the contractor or indirectly as a subcontractor. We believe demand for our services will continue to be subject to fluctuations due to a variety of factors beyond our control, including the current economic conditions and the manner in which the government will be required to spend funding to remediate federal sites. In addition, our governmental contracts and subcontracts relating to activities at governmental sites are generally subject to termination or renegotiation on 30 days notice at the government's option. Significant reductions in the level of governmental funding or specifically mandated levels for different programs that are important to our business could have a material adverse impact on our business, financial position, results of operations and cash flows. As previously disclosed, our Medical Segment (which has not generated any revenues to date) substantially reduced its research and development ("R&D") activities due to the need for capital to fund such activities. Our Medical Segment continues to seek various sources in order to raise this capital or partners willing to provide the funding for its R&D activities. We anticipate that our Medical Segment R&D activities will be limited until the necessary capital is obtained through its own credit facility or additional equity raise or obtaining partners willing to provide funding for its R&D activities. If the Medical Segment is unable to raise the necessary capital, the Medical Segment could be required to further reduce, delay or eliminate its R&D program.

We are continually reviewing operating costs and are committed to further reducing operating costs to bring them in line with revenue levels, when needed. We continue to focus on expansion into both commercial and international markets to increase revenues in our Treatment and Services Segments to offset the uncertainties of government spending in the United States of America. See "Liquidity and Capital Resources" below for further discussion of our liquidity.

Results of Operations

The reporting of financial results and pertinent discussions are tailored to our three reportable segments: The Treatment Segment ("Treatment"), the Services Segment ("Services"), and the Medical Segment ("Medical"). Our Medical Segment has not generated any revenue and all costs incurred are included within R&D:

Summary - Years Ended December 31, 2018 and 2017

Below are the results of continuing operations for years ended December 31, 2018 and 2017 (amounts in thousands):

(Consolidated)	2018	%	2017	%
Net revenues	\$ 49,539	100.0	\$ 49,769	100.0
Cost of goods sold	41,078	82.9	41,149	82.7
Gross profit	8,461	17.1	8,620	17.3
Selling, general and administrative	10,741	21.7	11,101	22.3
Research and development	1,370	2.8	1,595	3.2
Gain on disposal of property and equipment	(46)	(.1)	(12)	—
Impairment loss on tangible assets	—	—	672	1.3
Loss from operations	(3,604)	(7.3)	(4,736)	(9.5)
Interest income	295	.6	140	.3
Interest expense	(251)	(.5)	(315)	(.6)
Interest expense – financing fees	(38)	(.1)	(35)	(.1)
Net gain on exchange offer of Series B Preferred Stock	1,596	3.2	—	—
Other	(8)	—	123	.2
Loss from continuing operations before taxes	(2,010)	(4.1)	(4,823)	(9.7)
Income tax benefit	(936)	(1.9)	(1,285)	(2.6)
Loss from continuing operations	\$ (1,074)	(2.2)	\$ (3,538)	(7.1)

Revenue

Consolidated revenues decreased \$230,000 for the year ended December 31, 2018 compared to the year ended December 31, 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change	% Change
Treatment						
Government waste	\$ 23,701	47.8	\$ 27,925	56.1	\$ (4,224)	(15.1)
Hazardous/non-hazardous ⁽¹⁾	5,656	11.4	4,855	9.8	801	16.5
Other nuclear waste	6,914	14.0	4,970	10.0	1,944	39.1
Total	36,271	73.2	37,750	75.9	(1,479)	(3.9)
Services						
Nuclear	10,424	21.1	9,186	18.4	1,238	13.5
Technical	2,844	5.7	2,833	5.7	11	0.4
Total	13,268	26.8	12,019	24.1	1,249	10.4
Total	\$ 49,539	100.0	\$ 49,769	100.0	\$ (230)	(0.5)

¹⁾ Includes wastes generated by government clients of \$1,594,000 and \$31,000 for the twelve months ended December 31, 2018 and the corresponding period of 2017, respectively.

Treatment Segment revenue decreased \$1,479,000, or 3.9 %, for the year ended December 31, 2018 over the same period in 2017. The revenue decrease was primarily due to lower revenue generated from government clients due to lower volume and lower averaged price waste resulting from waste mix. Other nuclear waste increased by approximately \$1,944,000, or 39.1%, primarily due to higher waste volume and higher averaged price waste. Revenue for our M&EC subsidiary (in closure status) decreased approximately \$6,157,000 for the twelve months ended December 31, 2018 as compared to the corresponding period of 2017 (\$155,000 in the twelve months of 2018 as compared to \$6,312,000 in the twelve months of 2017); however, our remaining Treatment Segment facilities had a total increase in revenue of approximately \$4,678,000 in the twelve months of 2018, as compared to the corresponding period of 2017 as we continue to transition operational capabilities from our M&EC subsidiary to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals. Services Segment revenue increased by \$1,249,000, or 10.4%, for year ended December 31, 2018 over the same period in 2017. Our Services Segment revenues are project based; as such, the scope, duration and completion of each project vary. As a result, our Services Segment revenues are subject to differences relating to timing and project value.

Cost of Goods Sold

Cost of goods sold decreased \$71,000 for the year ended December 31, 2018, as compared to the year ended December 31, 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change
Treatment	\$ 29,074	80.2	\$ 29,834	79.0	\$ (760)
Services	12,004	90.5	11,315	94.1	689
Total	\$ 41,078	82.9	\$ 41,149	82.7	\$ (71)

Cost of goods sold for the Treatment Segment decreased by \$760,000, or approximately 2.5%. Treatment Segment costs of goods sold for the year ended December 31, 2018 and 2017 included additional closure costs recorded in the amount of approximately \$3,323,000 and \$1,400,000, respectively, for our M&EC facility due to changes in estimated future closure costs in connection with the closure of the facility. Excluding the closure costs in both periods, Treatment Segment costs decreased \$2,683,000, or 9.4%. Total Treatment Segment's variable costs decreased by approximately \$1,214,000 primarily in disposal, transportation and material and supplies costs. Treatment Segment overall fixed costs were lower by approximately \$1,469,000 resulting from the following: depreciation expense was lower by approximately \$2,281,000 as the tangible assets at our M&EC facility became fully depreciated by the end of the third quarter of 2017 resulting from the pending closure of the facility; regulatory costs were lower by approximately \$63,000; maintenance expense was higher by \$21,000; salaries/payroll related/healthcare expenses were higher by \$658,000; travel expenses were higher by \$91,000; and general expenses were higher by \$105,000 in various categories. Services Segment cost of goods sold increased \$689,000, or 6.1%, primarily due to the increase in revenue as discussed above. The increase in Services Segment's cost of goods sold was primarily due to higher salaries and payroll related expenses, travel, and outside services expenses totaling approximately \$1,311,000 and higher material and supplies cost of approximately \$176,000. This overall higher cost in Services Segment's cost of goods sold was offset by lower disposal/transportation costs totaling approximately \$585,000 with the remaining lower costs in general expenses in various categories and lower depreciation expenses totaling approximately \$213,000. Included within cost of goods sold is depreciation and amortization expense of \$1,378,000 and \$3,720,000 for the twelve months ended December 31, 2018, and 2017, respectively.

Gross Profit

Gross profit for the year ended December 31, 2018 was \$159,000 lower than 2017 as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change
Treatment	\$ 7,197	19.8	\$ 7,916	21.0	\$ (719)
Services	1,264	9.5	704	5.9	560
Total	<u>\$ 8,461</u>	<u>17.1</u>	<u>\$ 8,620</u>	<u>17.3</u>	<u>\$ (159)</u>

Excluding the \$3,323,000 and \$1,400,000 in closure costs recorded in the twelve months ended December 31, 2018 and 2017, respectively, within Treatment Segment's costs of goods sold discussed above in connection with the closure of the M&EC facility, our Treatment Segment had a gross profit increase of \$1,204,000, or 12.9%, and gross margin increased to 29.0% from 24.7% primarily due to the reduction in our fixed costs (as discussed above in costs of goods sold) and revenue mix. In the Services Segment, the increases in gross profit of \$560,000, or 79.5%, and gross margin to 9.5% from 5.9% was primarily due to the increase in revenue as discussed above. Additionally, our overall Services Segment gross margin is impacted by our current projects which are competitively bid on and will therefore, have varying margin structures.

SG&A

SG&A expenses decreased \$360,000 for the year ended December 31, 2018 as compared to the corresponding period for 2017 as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change
Administrative	\$ 4,947	—	\$ 4,788	—	\$ 159
Treatment	3,740	10.3	3,316	8.8	424
Services	2,054	15.5	2,997	24.9	(943)
Total	<u>\$ 10,741</u>	<u>21.7</u>	<u>\$ 11,101</u>	<u>22.3</u>	<u>\$ (360)</u>

The decrease in total SG&A was primarily due to lower SG&A costs in the Services Segment. The decrease in Services Segment SG&A of \$943,000 was primarily due to the following: outside services expenses were lower by approximately \$120,000 resulting from fewer consulting/legal/subcontract matters; bad debt expense was lower by approximately \$394,000 as we recorded an additional \$364,000 in bad debt expense during the fourth quarter of 2017 as certain accounts receivables were determined not to be collectible at December 31, 2017; general expenses were lower by approximately \$385,000 in various categories which included a reduction in rent expense resulting from the end of our lease term for our business center office in Knoxville, Tennessee (which was not renewed with the same lessor) in the second quarter of 2018; and salaries and payroll related expense were lower by approximately \$44,000. The increase in Administrative SG&A was primarily due to the following: stock-based compensation expenses were higher by approximately \$68,000 resulting from options granted to our executive officers in July 2017 and options granted to certain of our employees in October 2017; salary/payroll related/healthcare costs were higher by approximately \$152,000; general expenses were lower by \$48,000 in various categories; and outside services expenses were lower by \$13,000 resulting from fewer consulting/business matters. Treatment SG&A expenses were higher primarily due to the following: general expenses were higher by approximately \$237,000 in various categories; travel expenses were higher by approximately \$48,000; outside services expenses were higher by \$88,000 resulting from more business/consulting matters; and bad debt expenses were higher by \$51,000. Included in SG&A expenses is depreciation and amortization expense of \$77,000 and \$83,000 for the twelve months ended December 31, 2018 and 2017, respectively.

R&D

R&D expenses decreased \$225,000 for the year ended December 31, 2018 as compared to the corresponding period of 2017 as follows:

(In thousands)	2018	2017	Change
Administrative	\$ 76	\$ 15	\$ 61
Treatment	483	439	44
Services	—	—	—
PF Medical	811	1,141	(330)
Total	\$ 1,370	\$ 1,595	\$ (225)

Research and development costs consist primarily of employee salaries and benefits, laboratory costs, third party fees, and other related costs associated with the development of new technologies and technological enhancement of new potential waste treatment processes. The decrease in R&D costs for 2018 as compared to 2017 was primarily due to reduced R&D performed by our PF Medical Segment as discussed above.

Interest Income

Interest income increased \$155,000 for the year ended December 31, 2018 as compared to the corresponding period of 2017 primarily due to higher interest earned on the finite risk sinking funds resulting from higher interest rates.

Interest Expense

The decrease in interest expense of approximately \$64,000 for the twelve months ended December 31, 2018 as compared to the corresponding period of 2017 was primarily due to lower interest expense from our declining term loan balance and lower average revolver loan balance outstanding.

Income Taxes

We had income tax benefits of \$936,000 and \$1,285,000 for continuing operations for the years ended December 31, 2018 and 2017, respectively. The Company's effective tax rates were approximately 46.6% and 26.6% for the twelve months ended December 31, 2018 and 2017, respectively. Our tax benefit for 2018 included a tax benefit of approximately \$1,235,000 recorded in 2018 resulting from the release of a portion of the valuation allowance on deferred tax assets related to indefinite-lived net operating losses generated due to the closure of our M&EC facility. Our tax benefit for 2017 included a tax benefit of approximately \$1,695,000 recorded in the fourth quarter of 2017 resulting primarily from the required re-measurement of our deferred assets and liabilities and the reversal of valuation allowance and refunding of alternative minimum tax ("AMT") credit carryforward. These tax benefits were recorded as a result of the TCJA enacted into law in December 22, 2017 (see "Critical Accounting Policies" in this section for a further discussion of the Tax Act and the tax benefits recorded).

Discontinued Operations

Our discontinued operations consist of all our subsidiaries included in our Industrial Segment which were divested in 2011 and prior, previously closed locations, and our Perma-Fix of South Georgia, Inc. ("PFSG") facility which is undergoing final closure, subject to regulatory approval of necessary plans and permits.

Our discontinued operations had no revenue for the twelve months ended December 31, 2018 and 2017. We incurred net losses of \$667,000 and \$592,000 for our discontinued operations for the twelve months ended December 31, 2018 and 2017, respectively (net of taxes of \$0 for each period). Our net loss for the year ended December 31, 2018 included an increase of approximately \$50,000 in remediation reserve recorded in the second quarter of 2018 for our Perma-Fix of Dayton ("PFD") subsidiary due to reassessment of the remediation reserve, with the remaining loss incurred primarily due to costs incurred in the administration and continued monitoring of our discontinued operations. The loss incurred for 2017 was primarily due to costs incurred in the administration and continued monitoring of our discontinued operations.

Liquidity and Capital Resources

Our cash flow requirements during 2018 were primarily financed by our operations and credit facility availability. We generated positive cash flow from our operations of approximately \$1,960,000, which included cash outlays of approximately \$5,400,000 in operating and closure spending for our M&EC facility, which is in closure status. Our cash flow requirements for the next twelve months will consist primarily of general working capital needs, scheduled principal payments on our debt obligations, remediation projects, planned capital expenditures, and remaining spending requirements in connection with the closure of our M&EC facility. We plan to fund these requirements from our operations, credit facility availability and proceeds of approximately \$2,500,000 from a loan that was consummated on April 1, 2019 (see "Financing Activities" below for further information of the agreement and note). Additionally, as a result of the M&EC facility closure, we expect to receive, by the end of the second quarter of 2019, a release of approximately \$5,000,000 of the \$15,971,000 restricted finite risk sinking funds held by American International Group ("AIG") as collateral under the financial assurance policy dated June 2003 that we currently have with AIG. The release of this finite risk sinking fund is subject to approval from AIG and the appropriate regulators, and, when released, we expect will further enhance our liquidity and improve our working capital deficit. We continue to explore all sources of increasing revenue. We are continually reviewing operating costs and are committed to further reducing operating costs to bring them in line with revenue levels, when necessary. Although there are no assurances, we believe that our cash flows from operations, our available liquidity from our credit facility and loan proceeds of \$2,500,000 received from the loan described below should be sufficient to fund our operations for the next twelve months. Additionally, the finite risk sinking funds that we expect to receive as a result of the M&EC facility closure as discussed above will provide additional funding for our operations as needed and improve our working capital. As previously disclosed, our Medical Segment substantially reduced its R&D activities due to the need for capital to fund such activities. We continue to seek various sources of potential funding for our Medical Segment. We anticipate that our Medical Segment will not resume full R&D activities until it obtains the necessary funding through obtaining its own credit facility or additional equity raise or obtaining new partners willing to fund its R&D activities. If the Medical Segment is unable to raise the necessary capital, the Medical Segment could be required to further reduce, delay or eliminate its R&D program.

The following table reflects the cash flow activity for the year ended December 31, 2018 and the corresponding period of 2017:

(In thousands)	2018	2017
Cash provided by operating activities of continuing operations	\$ 2,578	\$ 1,089
Cash used in operating activities of discontinued operations	(618)	(647)
Cash used in investing activities of continuing operations	(1,385)	(409)
Cash provided by investing activities of discontinued operations	67	69
Cash used in financing activities of continuing operations	(580)	(5,022)
Effect of exchange rate changes on cash	(20)	9
Increase (decrease) in cash and finite risk sinking fund (restricted cash)	\$ 42	\$ (4,911)

At December 31, 2018, we were in a net borrowing position (revolving credit) of approximately \$639,000. At December 31, 2017, we had cash on hand of approximately \$810,000, which reflects primarily account balances of our foreign subsidiaries totaling approximately \$806,000.

Operating Activities

Accounts receivable, net of allowances for doubtful accounts, totaled \$7,735,000 at December 31, 2018, a decrease of \$205,000 from the December 31, 2017 balance of \$7,940,000. The decrease was primarily due to timing of invoicing and timing of accounts receivable collection. We provide a variety of payment terms to our customers; therefore, our accounts receivable are impacted by these terms and the related timing of accounts receivable collections.

Accounts payable, totaled \$5,497,000 at December 31, 2018, an increase of \$1,960,000 from the December 31, 2017 balance of \$3,537,000. The increase in accounts payable was attributed to closure related expenses for our M&EC facility which are pending payment. Additionally, our accounts payable are impacted by the timing of payments as we are continually managing payment terms with our vendors to maximize our cash position throughout all segments.

Disposal/transportation accrual at December 31, 2018, totaled \$1,542,000, a decrease of \$529,000 over the December 31, 2017 balance of \$2,071,000. Our disposal accrual can vary based on revenue mix and the timing of waste shipments for final disposal. During 2018, we shipped more waste for disposal than 2017.

We had a working capital deficit of \$6,753,000 (which included working capital of our discontinued operations) at December 31, 2018 as compared to a working capital deficit of \$2,268,000 at December 31, 2017. The additional accrual of \$3,323,000 in closure costs we recorded in 2018 in connection with the closure of our M&EC facility negatively impacted our working capital. Additionally, our working capital was also negatively impacted by the increase of our unearned revenue. The loan proceeds of \$2,500,000 that we received from a loan agreement consummated on April 1, 2019 as discussed below has improved our working capital deficit. Additionally, we anticipate that cash flows to be generated from our operations and the release of the restricted finite sinking funds by AIG of \$5,000,000 which we anticipate to receive upon the closure of our M&EC facility as discussed above, will provide further improvement to our working capital deficit.

Investing Activities

During 2018, our purchases of capital equipment totaled approximately \$1,977,000, of which \$545,000 was financed, with the remaining funded from cash from operations and our credit facility. These expenditures were made primarily for our Treatment Segment. We have budgeted approximately \$1,500,000 for 2019 capital expenditures for our Treatment and Services Segments to maintain operations and regulatory compliance requirements and continued footprint expansion for one of our Treatment Segment facilities. Certain of these budgeted projects may either be delayed until later years or deferred altogether. We have traditionally incurred actual capital spending totals for a given year at less than the initial budgeted amount. We plan to fund our capital expenditures from cash from operations and/or financing. The initiation and timing of projects are also determined by financing alternatives or funds available for such capital projects.

Financing Activities

We entered into an Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated October 31, 2011 ("Amended Loan Agreement"), with PNC National Association ("PNC"), acting as agent and lender. The Amended Loan Agreement, as subsequently amended ("Revised Loan Agreement"), provides us with the following credit facility with a maturity date of March 24, 2021: (a) up to \$12,000,000 revolving credit ("revolving credit") and (b) a term loan ("term loan") of approximately \$6,100,000, which requires monthly installments of approximately \$101,600 (based on a seven-year amortization). The maximum that we can borrow under the revolving credit is based on a percentage of eligible receivables (as defined) at any one time reduced by outstanding standby letters of credit and borrowing reductions that our lender may impose from time to time.

Under the Revised Loan Agreement, we have the option of paying an annual rate of interest due on the revolving credit at prime (5.50% at December 31, 2018) plus 2% or London Inter Bank Offer Rate ("LIBOR") plus 3% and the term loan at prime plus 2.5% or LIBOR plus 3.5%.

Pursuant to the Revised Loan Agreement, we may terminate the Revised Loan Agreement, upon 90 days' prior written notice upon payment in full of our obligations under the Revised Loan Agreement. We agree to pay PNC 0.25% of the total financing if we pay off our obligations after March 23, 2018 but prior to or on March 23, 2019. No early termination fee shall apply if we pay off our obligations after March 23, 2019.

At December 31, 2018, the borrowing availability under our revolving credit was \$2,368,000, based on our eligible receivables and includes an indefinite reduction of borrowing availability of \$1,000,000 that our lender has imposed. Our borrowing availability under our revolving credit was also reduced by outstanding standby letters of credit totaling approximately \$2,648,000. Previously, our lender had imposed an indefinite reduction of borrowing availability of \$2,000,000; however, on July 26, 2018, we entered into an amendment to our Revised Loan Agreement with our lender which provided, among other things, for the release of \$1,000,000 of the \$2,000,000 reduction in borrowing availability by our lender. The release of this \$1,000,000 in borrowing availability reduction was used for working capital purposes.

On March 29, 2019, we entered into another amendment to our Revised Loan Agreement with our lender under the credit facility which provided the following:

- waived our failure to meet the minimum quarterly fixed charge coverage ratio (“FCCR”) requirement for the fourth quarter of 2018 as discussed below;
- waived the quarterly FCCR testing requirement for the first quarter of 2019;
- revised the methodology to be used in calculating the FCCR in each of the second and third quarters of 2019 (with continued requirement to maintain a minimum 1.15:1 ratio in each of the quarters);
- revised the minimum Tangible Adjusted Net Worth requirement (as defined in the Revised Loan Agreement) from \$26,000,000 to \$25,000,000;
- eliminated the LIBOR interest payment option of paying annual rate of interest due on our term loan and revolving credit until we become compliant with our FCCR requirement again. As a result of this amendment, our payment of annual rate of interest due on our term loan will be at prime plus 2.5% and prime plus 2.0% for our revolving credit;
- provided consent for the \$2,500,000 loan that we entered into with Robert Ferguson as discussed below. We are not allowed to make any principal prepayment on this loan until we receive the restricted finite risk sinking funds held as collateral by AIG under our financial assurance policy. We expect to receive this restricted funds resulting from the closure of our M&EC facility (see “Liquidity and Capital Resources” for a discussion of this expected receipt); and
- revised the annual rate used to calculate the Facility Fee (as defined in the Revised Loan Agreement) (“unused revolving credit line fee”) from 0.250% to 0.375%.

Most of the other terms of the Revised Loan Agreement remain principally unchanged. In connection with this amendment, we paid our lender a fee of \$20,000.

Our credit facility with our lender contains certain financial covenants, along with customary representations and warranties. A breach of any of these financial covenants, unless waived by our lender, could result in a default under our credit facility allowing our lender to immediately require the repayment of all outstanding debt under our credit facility and terminate all commitments to extend further credit. The following table illustrates the most significant quarterly financial covenant requirements under our credit facility at December 31, 2018.

(Dollars in thousands)	Quarterly Requirement	1st Quarter Actual	2nd Quarter Actual	3rd Quarter Actual	4th Quarter Actual
Senior Credit Facility					
Fixed charge coverage ratio	1.15:1	1.22:1	1.72:1	1.39:1	1.13:1
Minimum tangible adjusted net worth	\$ 26,000	\$ 27,038	\$ 28,364	\$ 28,686	\$ 26,133

We met our financial covenant requirements in 2018 with the exception of our minimum quarterly FCCR requirement for the fourth quarter of 2018; however, our lender waived this non-compliance as discussed above. As a result of the amendment discussed above which provides for further amendments to our quarterly FCCR requirements, we expect to meet our financial covenant requirements in the next twelve months; however, if we fail to meet any of our financial covenant requirements and our lender does not further waive the non-compliance or revise our covenant so that we are in compliance, our lender could accelerate the repayment of borrowings under our credit facility. In the event that our lender accelerates the payment of our borrowings, we may not have sufficient liquidity to repay our debt under our credit facility and other indebtedness.

On April 1, 2019, we completed a lending transaction with Robert Ferguson (the “Lender”), whereby we borrowed from the Lender the sum of \$2,500,000 pursuant to the terms of a Loan and Security Purchase Agreement and promissory note (the “Loan”). The Lender is a shareholder of the Company. The Lender also currently serves as a consultant to the Company’s PFNWR subsidiary (see “Related Party Transactions – Robert Ferguson” for further information). The proceeds from the Loan will be used for general working capital purposes. The Loan is unsecured, with a term of two years with interest payable at a fixed interest rate of 4.00% per annum. The Loan provides for monthly payments of accrued interest only during the first year of the Loan, with the first interest payment due May 1, 2019 and monthly payments of approximately \$208,333 in principal plus accrued interest starting in the second year of the Loan. The Loan also provides for prepayment of principal payments over the term of the Loan without penalty. In connection with the above Loan, the Lender entered into a Subordination Agreement with our credit facility lender, whereby the Lender agreed to subordinate payment under the Loan, and agreed that the Loan will be junior in right of payment to the credit facility in the event of default or bankruptcy or other insolvency proceeding by us. As consideration for us receiving the Loan, we issued a Warrant to the Lender to purchase up to 60,000 shares of our Common Stock at an exercise price of \$3.51, which was the closing bid price for a share of our Common Stock on NASDAQ.com immediately preceding the execution of the Loan and Warrant. The Warrant is exercisable six months from April 1, 2019 and expires on April 1, 2024. As further consideration for the Loan, we also will issue 75,000 shares of our Common Stock, to the Lender. The 75,000 shares of Common Stock and 60,000 Common Stock purchase warrant will be and was issued in a private placement that was exempt from registration under the Securities Act of 1933, as amended (the “Securities Act”) and bear a restrictive legend against resale except in a transaction registered under the Securities Act or in a transaction exempt from registration thereunder.

Upon default, the Lender will have the right to elect to receive in full and complete satisfaction of our obligations under the Loan either: (a) the cash amount equal to the sum of the unpaid principal balance owing under the loan and all accrued and unpaid interest thereon (the "Payoff Amount") or (b) upon meeting certain conditions, the number of whole shares of our Common Stock (the "Payoff Shares") determined by dividing the Payoff Amount by the dollar amount equal to the closing bid price of our Common Stock on the date immediately prior to the date of default, as reported or quoted on the primary nationally recognized exchange or automated quotation system on which our Common Stock is listed; provided however, that the dollar amount of such closing bid price shall not be less than \$3.51, the closing bid price for our Common Stock as disclosed on NASDAQ.com immediately preceding the signing of this loan agreement.

If issued, the Payoff Shares will not be registered and the Lender will not be entitled to registration rights with respect to the Payoff Shares. The aggregate number of shares, warrant shares, and Payoff Shares that are or will be issued to the Lender pursuant to the Loan, together with the aggregate shares of our Common Stock and other voting securities owned by the Lender as of the date of issuance of the Payoff Shares, shall not exceed the number of shares of our Common Stock equal to 14.9% of the number of shares of our Common Stock issued and outstanding as of the date immediately prior to the default, less the number of shares of our Common Stock owned by the Lender immediately prior to the date of such default plus the number of shares of our Common Stock that may be acquired by the Lender under warrants and/or options outstanding immediately prior to the date of such default.

We are currently evaluating the accounting treatment of this transaction and the impact to our financial statements.

M&EC Series B Preferred Stock

The 1,284,730 shares of the non-voting Series B Preferred Stock (the "Series B Preferred Stock") of our consolidated wholly-owned subsidiary, M&EC, were exchanged by us for our Common Stock in a private exchange offer exempt from registration (the "Exchange Offer"). Holders of shares of M&EC Series B Preferred Stock were entitled to receive, when, as and if declared by M&EC's Board of Directors ("Board") out of funds legally available for payment, cumulative dividends at the rate per annum of 5% per share on the liquidation preference of \$1.00 per share of Series B Preferred Stock. Dividends on the Series B Preferred Stock accrued without interest beginning one year from the date of original issuance (June 25, 2001), and was payable in cash, if, when, and as declared by M&EC Board, quarterly each year commencing on the first dividend due date following the expiration of one year from the date of original issuance. The Exchange Offer, to all 13 holders of the M&EC Series B Preferred Stock, was to exchange, in a private placement exempt from registration, for every share of Series B Preferred Stock tendered, (a) 0.1050805 shares of our newly issued common stock, par value \$.001 per share ("Common Stock"), and (b) cash in lieu of fractional shares of Common Stock that would otherwise be issuable to the tendering holder of Series B Preferred Stock, in an amount equal to such fractional share of Common Stock multiplied by the closing price per share of the Common Stock on the last trading day immediately preceding the expiration date of the Exchange Offer. The Exchange Offer for all 1,284,730 shares of Series B Preferred Stock outstanding and had an expiration date of May 30, 2018. We own 100% of the voting capital stock of M&EC. On May 30, 2018, the Exchange Offer was consummated resulting in the issuance of an aggregate 134,994 shares of our Common Stock in exchange for the 1,284,730 shares of Series B Preferred Stock and the payment of an aggregate of approximately \$29.00 in cash in lieu of the fractional shares of our Common Stock that would otherwise have been issuable to the tendering holders of the Series B Preferred Stock. The fair value of the 134,994 unregistered shares of our Common Stock issued was determined to be approximately \$648,000 which was based on the closing price of our Common Stock on May 30, 2018 of \$4.80 per share. Upon the consummation of the Exchange Offer, the previous holders of the M&EC Series B Preferred Stock forfeited all rights of a holder of Series B Preferred Shares, including the right to receive quarterly cash dividends, and the rights to the cumulative accrued and unpaid dividends with M&EC Series B Preferred Stock in the amount of approximately \$1,022,000 at May 30, 2018. The M&EC Board never declared dividends on the Series B Preferred Stock and our credit facility prohibits the payment of cash dividends without the lender's consent. After the Exchange Offer, the 1,284,730 shares of the Series B Preferred Stock acquired by us were contributed by us to M&EC and the Series B Preferred Stock is no longer outstanding. We recorded a gain of approximately \$1,596,000 in the second quarter of 2018, which was net of approximately \$63,000 in legal expenses incurred for the completion of the transaction.

The shares of our Common Stock issued in exchange for shares of M&EC's Series B Preferred Stock were issued pursuant to an exemption from registration under the Securities Act, and, as a result, were considered restricted securities when issued.

Off Balance Sheet Arrangements

We have a number of routine non-cancelable operating leases, primarily related to office space rental, office equipment rental and equipment rental for contract projects and operations at December 31, 2018, which total approximately \$1,392,000, payable as follows: \$575,000 in 2019; \$406,000 in 2020; \$308,000 in 2021; with the remaining \$103,000 in 2022.

From time to time, we are required to post standby letters of credit and various bonds to support contractual obligations to customers and other obligations, including facility closures. At December 31, 2018, the total amount of standby letters of credit outstanding totaled approximately \$2,648,000 and the total amount of bonds outstanding totaled approximately \$11,284,000. We also provide closure and post-closure requirements through a financial assurance policy for certain of our Treatment Segment facilities through AIG. At December 31, 2018, the closure and post-closure requirements for these facilities were approximately \$29,977,000.

Critical Accounting Policies

In preparing the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America ("US GAAP"), management makes estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, as well as, the reported amounts of revenues and expenses during the reporting period. We believe the following critical accounting policies affect the more significant estimates used in preparation of the consolidated financial statements:

Revenue Recognition Estimates. In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2014-09, "Revenue from Contracts with Customers" followed by a series of related accounting standard updates (collectively referred to as "Topic 606"). Topic 606 provides a single, comprehensive revenue recognition model for all contracts with customers. Under the new standard, a five-step process is utilized in order to determine revenue recognition, depicting the transfer of goods or services to a customer at an amount that reflects the consideration it expects to receive in exchange for those goods or services. We adopted Topic 606 effective January 1, 2018. The adoption of Topic 606 did not result in significant changes to our revenues within our segments. Under Topic 606, a performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account. A contract transaction price is allocated to each distinct performance obligation and recognized as revenues as the performance obligation is satisfied.

Treatment Segment Revenues:

Contracts in our Treatment Segment have a single performance obligation as the promise to receive, treat and dispose of waste is not separately identifiable in the contract and, therefore, not distinct. Performance obligations are generally satisfied over time using the input method. Under the input method, the Company uses a measure of progress divided into major phases which include receipt (generally ranging from 9.0% to 33%), treatment/processing and shipment/final disposal. As major processing phases are completed and the costs are incurred, the proportional percentage of revenue is recognized. Transaction price for Treatment Segment contracts are determined by the stated fixed rate per unit price as stipulated in the contract.

Services Segment Revenues:

Revenues for our Services Segment are generated from time and materials, cost reimbursement or fixed price arrangements:

Our primary obligation to customers in time and materials contracts relate to the provision of services to the customer at the direction of the customer. This provision of services at the request of the customer is the performance obligation, which is satisfied over time. Revenue earned from time and materials contracts is determined using the input method and is based on contractually defined billing rates applied to services performed and materials delivered.

Our primary performance obligation to customers in cost reimbursement contracts is to complete certain tasks and work streams. Each specified work stream or task within the contract is considered to be a separate performance obligation. The transaction price is calculated using an estimated cost to complete the various scope items to achieve the performance obligation as stipulated in the contract. An estimate is prepared for each individual scope item in the contract and the transaction price is allocated on a time and materials basis as services are provided. Revenue from cost reimbursement contracts is recognized over time using the input method based on costs incurred, plus a proportionate amount of fee earned.

Under fixed price contracts, the objective of the project is not attained unless all scope items within the contract are completed and all of the services promised within fixed fee contracts constitute a single performance obligation. Transaction price is estimated based upon the estimated cost to complete the overall project. Revenue from fixed price contracts is recognized over time using the output or input method. For the output method, revenue is recognized based on milestone attained on the project. For the input method, revenue is recognized based on costs incurred on the project relative to the total estimated costs of the project.

Allowance for Doubtful Accounts. The carrying amount of accounts receivable is reduced by an allowance for doubtful accounts, which is a valuation allowance that reflects management's best estimate of the amounts that are uncollectible. We regularly review all accounts receivable balances that exceed 60 days from the invoice date and, based on an assessment of current credit worthiness, estimate the portion, if any, of the balances that are uncollectible. Specific accounts that are deemed to be uncollectible are reserved at 100% of their outstanding balance. The remaining balances aged over 60 days have a percentage applied by aging category (5% for balances 61-90 days, 20% for balances 91-120 days and 40% for balances over 120 days aged), based on a historical collections patterns, that allows us to calculate the total allowance required. This analysis excludes government related receivables due to our past successful experience in their collectability. Our allowance was approximately 0.2% of revenue for 2018 and 1.3% of accounts receivable at December 31, 2018. Additionally, this allowance was approximately 1.4% of revenue for 2017 and 8.3% of accounts receivable at December 31, 2017.

Intangible Assets. Intangible assets consist primarily of the recognized value of the permits required to operate our business. We continually monitor the propriety of the carrying amount of our permits to determine whether current events and circumstances warrant adjustments to the carrying value.

Indefinite-lived intangible assets are not amortized but are reviewed for impairment annually as of October 1, or when events or changes in the business environment indicate that the carrying value may be impaired. If the fair value of the asset is less than the carrying amount, we perform a quantitative test to determine the fair value. The impairment loss, if any, is measured as the excess of the carrying value of the asset over its fair value. Significant judgments are inherent in these analyses and include assumptions for, among other factors, forecasted revenue, gross margin, growth rate, operating income, timing of expected future cash flows, and the determination of appropriate long term discount rates.

Impairment testing of our permits related to our Treatment reporting unit as of October 1, 2018 and 2017 resulted in no impairment charges.

Intangible assets that have definite useful lives are amortized using the straight-line method over the estimated useful lives (with the exception of customer relationships which are amortized using an accelerated method) and are excluded from our annual intangible asset valuation review as of October 1. We have one definite-lived permit which was excluded from our annual impairment review as noted above. The net carrying value of this one definite-lived permit at December 31, 2018 and 2017 was approximately \$7,000 and \$62,000, respectively. Intangible assets with definite useful lives are also tested for impairment whenever events or changes in circumstances indicate that the asset's carrying value may not be recoverable.

Accrued Closure Costs and Asset Retirement Obligations (“ARO”). Accrued closure costs represent our estimated environmental liability to clean up our facilities as required by our permits, in the event of closure. ASC 410, “Asset Retirement and Environmental Obligations” requires that the discounted fair value of a liability for an ARO be recognized in the period in which it is incurred with the associated ARO capitalized as part of the carrying cost of the asset. The recognition of an ARO requires that management make numerous estimates, assumptions and judgments regarding such factors as estimated probabilities, timing of settlements, material and service costs, current technology, laws and regulations, and credit adjusted risk-free rate to be used. This estimate is inflated, using an inflation rate, to the expected time at which the closure will occur, and then discounted back, using a credit adjusted risk free rate, to the present value. ARO’s are included within buildings as part of property and equipment and are depreciated over the estimated useful life of the property. In periods subsequent to initial measurement of the ARO, we must recognize period-to-period changes in the liability resulting from the passage of time and revisions to either the timing or the amount of the original estimate of undiscounted cash flow. Increases in the ARO liability due to passage of time impact net income as accretion expense and are included in cost of goods sold in the Consolidated Statements of Operations. Changes in the estimated future cash flows costs underlying the obligations (resulting from changes or expansion at the facilities) require adjustment to the ARO liability calculated and are capitalized and charged as depreciation expense, in accordance with our depreciation policy.

Accrued Environmental Liabilities. We have three remediation projects in progress (all within discontinued operations). The current and long-term accrual amounts for the projects are our best estimates based on proposed or approved processes for clean-up. The circumstances that could affect the outcome range from new technologies that are being developed every day to reduce our overall costs, to increased contamination levels that could arise as we complete remediation which could increase our costs, neither of which we anticipate at this time. In addition, significant changes in regulations could adversely or favorably affect our costs to remediate existing sites or potential future sites, which cannot be reasonably quantified (See “Environmental Contingencies” below for further information of these liabilities).

Disposal/Transportation Costs. We accrue for waste disposal based upon a physical count of the waste at each facility at the end of each accounting period. Current market prices for transportation and disposal costs are applied to the end of period waste inventories to calculate the disposal accrual. Costs are calculated using current costs for disposal, but economic trends could materially affect our actual costs for disposal. As there are limited disposal sites available to us, a change in the number of available sites or an increase or decrease in demand for the existing disposal areas could significantly affect the actual disposal costs either positively or negatively.

Stock-Based Compensation. We account for stock-based compensation in accordance with ASC 718, “Compensation – Stock Compensation.” ASC 718 requires all stock-based payments to employees, including grant of options, to be recognized in the income statement based on their fair values. We account for stock-based compensation issued to consultants in accordance with the provisions of ASC 505-50, “Equity-Based Payments to Non-Employees.” We use the Black-Scholes option-pricing model to determine the fair-value of stock-based awards which requires subjective assumptions. Assumptions used to estimate the fair value of stock-based awards include the exercise price of the award, the expected term, the expected volatility of our stock over the stock-based award’s expected term, the risk-free interest rate over the award’s expected term, and the expected annual dividend yield. We account for forfeitures when they occur.

Income Taxes. The provision for income tax is determined in accordance with ASC 740, “Income Taxes.” We are required to estimate our income taxes in each of the jurisdictions in which we operate. We record this amount as a provision or benefit for taxes. This process involves estimating our actual current tax exposure, including assessing the risks associated with tax audits, and assessing temporary differences resulting from different treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities. We assess the likelihood that our deferred tax assets will be recovered from future taxable income and, to the extent that we believe recovery is not likely, we establish a valuation allowance.

On December 22, 2017, the TCJA was signed into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017, the transition of U.S international taxation from a worldwide tax system to a territorial system, the elimination of AMT for corporations and a one-time transition tax on the mandatory deemed repatriation of foreign earnings.

As of December 31, 2018, we have completed our accounting for the tax effects of the enactment of the TCJA under the guidance of Staff Accounting Bulletin No. 118 (“SAB 118”) (issued December 22, 2017), which provides registrants an one-year measurement period to report the impact of the TCJA.

Specific to the enactment of the TCJA, we recognized a tax benefit of \$1,695,000 in the fourth quarter of 2017 which consisted of \$916,000 related to the re-measurement of deferred tax assets and liabilities, based on the rates at which they are expected to reverse in the future and \$779,000 related to the reversal of valuation allowance and refunding of AMT credit carryforwards.

An additional provision of the TJCA was to provide an indefinite carryforward period for net operating losses (“NOLs”) generated starting in 2018. Also, the law limits the utilization of these NOLs to 80% of taxable income in the year in which the NOL is utilized. We have been carrying on our balance sheet a deferred tax liability related to indefinite-lived intangible assets. A common accounting interpretation of the Tax Act provisions is that deferred tax assets related to indefinite-lived NOLs may now be used to offset indefinite-lived deferred tax liabilities, up to 80% of the amount of the liability. During 2018, we forecasted a substantial tax loss for the full year due to the closure of the M&EC facility. As a result, we released a portion of the valuation allowance against deferred tax assets equal to 80% of the deferred tax liability related to indefinite-lived intangible assets and recorded a tax benefit in the amount of approximately \$1,235,000 in accordance to the provisions of the TCJA.

The global intangible low-taxed income (“GILTI”) provisions under the TCJA require us to include in our U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary’s tangible assets. We have elected to account for GILTI tax in the period in which it is incurred, and therefore have not provided any deferred tax impacts of GILTI in our consolidated financial statements for the years ended December 31, 2017 and 2018. As our foreign subsidiaries are all in loss positions for 2018, there is no GILTI inclusion for the current year.

The base-erosion and anti-abuse tax provisions (“BEAT”) in the TCJA eliminates the deduction of certain base-erosion payments made to related foreign corporations, and imposes a minimum tax if greater than regular tax. We do not expect we will be subject to this tax due to the immaterial amounts of outbound U.S. payments and therefore have not included any tax impacts of BEAT in our consolidated financial statements for the years ended December 31, 2017 and 2018.

The TCJA imposes a one-time transition tax on previously untaxed earnings and profits of foreign subsidiaries. As of December 31, 2018, we have current and accumulated deficits in earnings and profits for all of our foreign subsidiaries. As such, we do not expect any exposure to the one-time transition tax.

As of December 31, 2018, we had net deferred tax assets of approximately \$10,479,000 (which excludes a deferred tax liability relating to goodwill and indefinite lived intangible assets) which were primarily related to federal and state net NOL carryforwards, impairment charges, and closure costs. As of December 31, 2018, we concluded that it was more likely than not that \$10,479,000 of our deferred income tax assets would not be realized, and as such, a full valuation allowance was applied against those deferred income tax assets. Our net operating losses are subject to audit by the Internal Revenue Services, and, as a result, the amounts could be reduced.

As of December 31, 2018, we have approximately \$21,277,000 and \$76,312,000 in NOL carryforwards for federal and state income tax purposes, respectively, which will expire in various amounts starting in 2021 if not used against future federal and state income tax liabilities, respectively. Our net loss carryforwards are subject to various limitations. Our ability to use the net loss carryforwards depends on whether we are able to generate sufficient income in the future years.

Known Trends and Uncertainties

Economic Conditions. Our business continues to be heavily dependent on services that we provide to governmental clients (including the U.S. Department of Energy (“DOE”) and U.S. Department of Defense (“DOD”)) directly as the prime contractor or indirectly for others as a subcontractor. We believe demand for our services will continue to be subject to fluctuations due to a variety of factors beyond our control, including the current economic conditions, the large budget deficit that the government is facing, and the manner in which the government will be required to spend funding to remediate federal sites. In addition, our governmental contracts and subcontracts relating to activities at governmental sites are generally subject to termination or renegotiation on 30 days notice at the government’s option. Significant reductions in the level of governmental funding or specifically mandated levels for different programs that are important to our business could have a material adverse impact on our business, financial position, results of operations and cash flows.

Significant Customers. Our Treatment and Services Segments have significant relationships with the federal government, and continue to enter into contracts, directly as the prime contractor or indirectly for others as a subcontractor, with the federal government. The contracts that we are a party to with the federal government or with others as a subcontractor to the federal government generally provide that the government may terminate or renegotiate the contracts on 30 days notice, at the government’s election. Our inability to continue under existing contracts that we have with the federal government (directly or indirectly as a subcontractor) could have a material adverse effect on our operations and financial condition.

We performed services relating to waste generated by domestic government clients (includes U.S federal, state and local), either directly as a prime contractor or indirectly as a subcontractor to government entities, representing approximately \$34,811,000 or 70.3% of our total revenue during 2018, as compared to \$37,019,000 or 74.4% of our total revenue during 2017.

As our revenues are project/event based where the completion of one contract with a specific customer may be replaced by another contract with a different customer from year to year, we do not believe the loss of one specific customer from one year to the next will generally have a material adverse effect on our operations and financial condition.

Contract Awards. During the latter part of March 2019, we were awarded several contracts within our Services Segment which includes remediation work for DOE locations throughout the United States. Additionally, our Services Segment has received a notice of contract award with a value of approximately \$9,000,000, which includes remediation work in Canada with an expected effective date of April 1, 2019. The contract for the Canadian remediation project has not yet been executed by the parties, and we expect that this contract will be finalized during the early part of the second quarter of 2019. The total contract value of these awards is expected to be approximately \$17,000,000 through 2019.

Environmental Contingencies

We are engaged in the waste management services segment of the pollution control industry. As a participant in the on-site treatment, storage and disposal market and the off-site treatment and services market, we are subject to rigorous federal, state and local regulations. These regulations mandate strict compliance and therefore are a cost and concern to us. Because of their integral role in providing quality environmental services, we make every reasonable attempt to maintain complete compliance with these regulations; however, even with a diligent commitment, we, along with many of our competitors, may be required to pay fines for violations or investigate and potentially remediate our waste management facilities.

We routinely use third party disposal companies, who ultimately destroy or secure landfill residual materials generated at our facilities or at a client’s site. In the past, numerous third party disposal sites have improperly managed waste and consequently require remedial action; consequently, any party utilizing these sites may be liable for some or all of the remedial costs. Despite our aggressive compliance and auditing procedures for disposal of wastes, we could further be notified, in the future, that we are a potentially responsible party (“PRP”) at a remedial action site, which could have a material adverse effect.

We have three remediation projects, which are currently in progress at our PFD, Perma-Fix of Memphis, Inc. (“PFM” – closed location), and PFSG (in closure status) subsidiaries. We divested PFD in 2008; however, the environmental liability of PFD was retained by us upon the divestiture of PFD. These remediation projects principally entail the removal/remediation of contaminated soil and, in most cases, the remediation of surrounding ground water. The remediation activities are closely reviewed and monitored by the applicable state regulators. While no assurances can be made that we will be able to do so, we expect to fund the expenses to remediate these sites from funds generated internally.

At December 31, 2018, we had total accrued environmental remediation liabilities of \$887,000, of which \$50,000 are recorded as a current liability, an increase of \$16,000 from the December 31, 2017 balance of \$871,000. The net increase presents an increase of approximately \$50,000 made to the reserve at our PFD subsidiary due to reassessment of the remediation reserve and payments of approximately \$34,000 on remediation projects for our PFD and PFSG subsidiaries.

Related Party Transactions

David Centofanti

David Centofanti serves as our Vice President of Information Systems. For such position, he received annual compensation of \$173,000 and \$168,000 for 2018 and 2017, respectively. David Centofanti is the son of Dr. Louis Centofanti, our Executive Vice President (“EVP”) of Strategic Initiatives and a Board of Director (“Board”) member. Dr. Louis Centofanti previously held the position of President and Chief Executive Office (“CEO”) until September 8, 2017. We believe the compensation received by David Centofanti for his technical expertise which he provides to us is competitive and comparable to compensation we would have to pay to an unaffiliated third party with the same technical expertise.

Robert Ferguson

Robert Ferguson serves as an advisor to our Board and was also a member of the Supervisory Board of PF Medical (until May 11, 2018), a majority-owned Polish subsidiary of the Company. Robert Ferguson previously served as a Board member of the Company from June 2007 to February 2010 and again from August 2011 to September 2012. Robert Ferguson is also a consultant for us in connection with our Test Bed Initiative (“TBI”) at our Perma-Fix Northwest Richland, Inc. (“PFNWR”) facility. As an advisor to our Board, Robert Ferguson is paid \$4,000 monthly plus reasonable expenses. For such services, Robert Ferguson received compensation of approximately \$50,000 and \$51,000 for the year ended December 31, 2018 and 2017, respectively. For Robert Ferguson’s consulting work in connection with our TBI, on July 27, 2017 (“grant date”), we granted Robert Ferguson a non-qualified stock option from our 2017 Stock Option Plan for the purchase of up to 100,000 shares of the Company’s Common Stock at an exercise price of \$3.65 a share, which was the fair market value of our Common Stock on the date of grant (“Ferguson Stock Option”). The vesting of the Ferguson Stock Option is subject to the achievement of the following milestones (“waste” as noted below is defined as liquid LAW (“low activity waste”) and/or liquid TRU (“transuranic waste”)):

- Upon treatment and disposal of three gallons of waste at the PFNWR facility by January 27, 2018, 10,000 shares of the Ferguson Stock Option shall become exercisable;
- Upon treatment and disposal of 2,000 gallons of waste at the PFNWR facility by January 27, 2019, 30,000 shares of the Ferguson Stock Option shall become exercisable; and
- Upon treatment and disposal of 50,000 gallons of waste at the PFNWR facility and assistance, on terms satisfactory to the Company, in preparing certain justifications of cost and pricing data for the waste and obtaining a long-term commercial contract relating to the treatment, storage and disposal of waste by January 27, 2021, 60,000 shares of the Ferguson Stock Option shall become exercisable.

The term of the Ferguson Stock Option is seven (7) years from the grant date. Each of the milestones is exclusive of each other; therefore, achievement of any of the milestones above by Robert Ferguson by the designated date will provide Robert Ferguson the right to exercise the number of options in accordance with the milestone attained. The 10,000 options as noted above became vested by Robert Ferguson on December 19, 2017. The fair value of the 10,000 options was determined to be approximately \$20,000. On May 1, 2018, Robert Ferguson exercised the 10,000 options for the purchase of 10,000 shares of our Common Stock, resulting in total proceeds paid to us of approximately \$36,500.

On January 17, 2019, the Ferguson Stock Option was amended whereby the vesting date of the Ferguson Stock Option for the second milestone as discussed above was amended from “by January 27, 2019” to “by March 31, 2020.” All other terms of the Ferguson Stock Option remain unchanged.

On April 1, 2019, we executed a loan and securities purchase agreement and promissory note with Robert Ferguson for a \$2,500,000 loan (see “Liquidity and Capital Resources - Financing Activities” of this MD&A for further information of the loan agreement).

Employment Agreements

We entered into employment agreements with each of Mark Duff (President and CEO), Ben Naccarato (Chief Financial Officer (“CFO")), and Dr. Louis Centofanti, (EVP of Strategic Initiatives), with each employment dated September 8, 2017. Each of the employment agreements is effective for three years from September 8, 2017 (the “Initial Term”) unless earlier terminated by us or by the executive officer. At the end of the Initial Term of each employment agreement, each employment agreement will automatically be extended for one additional year, unless at least six months prior to the expiration of the Initial Term, we or the executive officer provides written notice not to extend the terms of the employment agreement. Each employment agreement provides for annual base salaries, performance bonuses (as provided in the Management Incentive Plan (“MIP”) as approved by our Board, and other benefits commonly found in such agreements. In addition, each employment agreement provides that in the event the executive officer terminates his employment for “good reason” (as defined in the agreements) or is terminated by us without cause (including the executive officer terminating his employment for “good reason” or is terminated by us without cause within 24 months after a Change in Control (as defined in the agreement)), we will pay the executive officer the following: (a) a sum equal to any unpaid base salary; (b) accrued unused vacation time and any employee benefits accrued as of termination but not yet been paid (“Accrued Amounts”); (c) two years of full base salary; (d) performance compensation under the MIP earned with respect to the fiscal year immediately preceding the date of termination; and (e) an additional year of performance compensation as provided under the MIP earned, if not already paid, with respect to the fiscal year immediately preceding the date of termination. If the executive terminates his employment for a reason other than for good reason, we will pay to the executive the amount equal to the Accrued Amounts plus any performance compensation payable pursuant to the MIP.

If there is a Change in Control (as defined in the agreements), all outstanding stock options to purchase our Common Stock held by the executive officer will immediately become exercisable in full commencing on the date of termination through the original term of the options. In the event of the death of an executive officer, all outstanding stock options to purchase our Common Stock held by the executive officer will immediately become exercisable in full commencing on the date of death, with such options exercisable for the lesser of the original option term or twelve months from the date of the executive officer’s death. In the event of an executive officer terminating his employment for “good reason” or is terminated by us without cause, all outstanding stock options to purchase our Common Stock held by the executive officer will immediately become exercisable in full commencing on the date of termination, with such options exercisable for the lesser of the original option term or within 60 days from the date of the executive’s date of termination.

We had previously entered into an employment agreement with each of Dr. Louis Centofanti and Ben Naccarato on July 10, 2014 which both employment agreements were to expire on July 10, 2018, as amended (the “July 10, 2014 Employment Agreements”). We also had previously entered into an employment agreement dated January 19, 2017 (which was effective June 11, 2016) with Mark Duff which is due to expire on June 11, 2019 (the “January 19, 2017 Employment Agreement”). The July 10, 2014 Employment Agreements and the January 19, 2017 Employment Agreement were terminated effective September 8, 2017.

MIPs

On January 18, 2018, our Board and the Compensation and Stock Option Committee (the “Compensation Committee”) approved individual MIP for each Mark Duff, CEO and President, Ben Naccarato, CFO, and Dr. Louis Centofanti, EVP of Strategic Initiatives. The MIPs are effective January 1, 2018 and applicable for year ended December 31, 2018. Each MIP provides guidelines for the calculation of annual cash incentive based compensation, subject to Compensation Committee oversight and modification. Each MIP awards cash compensation based on achievement of performance thresholds, with the amount of such compensation established as a percentage of the executive’s 2018 annual base salary on the approval date of the MIP. The potential target performance compensation ranges from 5% to 100% (\$13,350 to \$267,000) of the base salary for the CEO and President; 5% to 100% (\$11,475 to \$229,494) of the base salary for the CFO; and 5% to 100% (\$11,170 to \$223,400) of the base salary for the EVP of Strategic Initiatives. Pursuant to the MIPs, the Compensation Committee has the right to modify, change or terminate the MIPs at any time and for any reason. No performance compensation was earned or payable under each of the 2018 MIPs as discussed above.

On January 17, 2019, our Board and the Compensation Committee approved individual MIP for the CEO, CFO, and EVP of Strategic Initiatives. Each MIP is effective January 1, 2019 and applicable for the year ended December 31, 2019. Each MIP provides guidelines for the calculation of annual cash incentive based compensation, subject to Compensation Committee oversight and modification. Each MIP awards cash compensation based on achievement of performance thresholds, with the amount of such compensation established as a percentage of the executive's annual 2019 base salary on the approval date of the MIP. The potential target performance compensation ranges from 5% to 150% of the 2019 base salary for the CEO (\$14,350 to \$430,500), 5% to 100% of the 2019 base salary for the CFO (\$11,762 to \$235,231), and 5% to 100% of the 2019 base salary for the EVP of Strategic Initiatives (\$11,449 to \$228,985).

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not required under Regulation S-K for smaller reporting companies.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Forward-looking Statements

Certain statements contained within this report may be deemed "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (collectively, the "Private Securities Litigation Reform Act of 1995"). All statements in this report other than a statement of historical fact are forward-looking statements that are subject to known and unknown risks, uncertainties and other factors, which could cause actual results and performance of the Company to differ materially from such statements. The words "believe," "expect," "anticipate," "intend," "will," and similar expressions identify forward-looking statements. Forward-looking statements contained herein relate to, among other things,

- demand for our services;
- continue to focus on expansion into both commercial and international markets to increase revenues;
- closure of M&EC facility;
- improvement to working capital;
- reductions in the level of government funding in future years;
- R&D activity of our Medical Segment;
- reducing operating costs;
- expect to meet our financial covenant requirements in the next twelve months;
- cash flow requirements;
- government funding for our services;
- may not have liquidity to repay debt if our lender accelerates payment of our borrowings;
- our cash flows from operations, our available liquidity from our credit facility, loan proceeds of \$2,500,000, and finite sinking funds that we expect to receive are sufficient to service our operations;
- release of restricted finite risk sinking funds;
- manner in which the government will be required to spend funding to remediate federal sites;
- audit by the Internal Revenue Services of our net operating losses;

- funding operations;
- fund capital expenditures from cash from operations and/or financing;
- fund remediation expenditures for sites from funds generated internally;
- compliance with environmental regulations;
- future environmental policies affecting operations;
- potential effect of being a PRP;
- subject to fines and civil penalties in connection with violations of regulatory requirements;
- large business are more willing to team with small businesses;
- permit and license requirements represent a potential barrier to entry for possible competitors;
- process backlog during periods of low waste receipts, which historically has been in the first and fourth quarters;
- potential sites for violations of environmental laws and remediation of our facilities;
- delay in waste shipment should have positive effect for us in first half of 2019;
- continuation of contracts with federal government;
- loss of contracts;
- necessary capital for Medical Segment;
- disposal of our waste;
- exposure to one-time transition tax; and
- contract awards and estimated value of these contracts.

While the Company believes the expectations reflected in such forward-looking statements are reasonable, it can give no assurance such expectations will prove to be correct. There are a variety of factors, which could cause future outcomes to differ materially from those described in this report, including, but not limited to:

- general economic conditions;
- material reduction in revenues;
- ability to meet PNC covenant requirements;
- inability to collect in a timely manner a material amount of receivables;
- increased competitive pressures;
- inability to maintain and obtain required permits and approvals to conduct operations;
- public not accepting our new technology;
- inability to develop new and existing technologies in the conduct of operations;
- inability to maintain and obtain closure and operating insurance requirements;
- inability to retain or renew certain required permits;
- discovery of additional contamination or expanded contamination at any of the sites or facilities leased or owned by us or our subsidiaries which would result in a material increase in remediation expenditures;
- delays at our third party disposal site can extend collection of our receivables greater than twelve months;
- refusal of third party disposal sites to accept our waste;
- changes in federal, state and local laws and regulations, especially environmental laws and regulations, or in interpretation of such;
- requirements to obtain permits for TSD activities or licensing requirements to handle low level radioactive materials are limited or lessened;
- potential increases in equipment, maintenance, operating or labor costs;
- management retention and development;
- financial valuation of intangible assets is substantially more/less than expected;
- the requirement to use internally generated funds for purposes not presently anticipated;
- inability to continue to be profitable on an annualized basis;
- inability of the Company to maintain the listing of its Common Stock on the NASDAQ;
- terminations of contracts with federal agencies or subcontracts involving federal agencies, or reduction in amount of waste delivered to the Company under the contracts or subcontracts;
- renegotiation of contracts involving the federal government;
- federal government's inability or failure to provide necessary funding to remediate contaminated federal sites;
- disposal expense accrual could prove to be inadequate in the event the waste requires re-treatment;
- inability to raise capital on commercially reasonable terms;
- inability to increase profitable revenue;
- lender refuses to waive non-compliance or revise our covenant so that we are in compliance; and
- risk factors contained in Item 1A of this report.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Financial Statement Schedules

In accordance with the rules of Regulation S-X, schedules are not submitted because they are not applicable to or required by the Company.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Perma-Fix Environmental Services, Inc.

We have audited the accompanying consolidated balance sheets of Perma-Fix Environmental Services, Inc. (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

Basis for opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2014.

Atlanta, Georgia
April 1, 2019

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED BALANCE SHEETS

As of December 31,

(Amounts in Thousands, Except for Share and Per Share Amounts)

	2018	2017
ASSETS		
Current assets:		
Cash	\$ 810	\$ 1,063
Accounts receivable, net of allowance for doubtful accounts of \$105 and \$720, respectively	7,735	7,940
Unbilled receivables - current	3,105	4,547
Inventories	449	393
Prepaid and other assets	2,552	3,281
Current assets related to discontinued operations	107	89
Total current assets	14,758	17,313
Property and equipment:		
Buildings and land	19,782	23,806
Equipment	19,157	33,182
Vehicles	369	393
Leasehold improvements	23	11,549
Office furniture and equipment	1,551	1,670
Construction-in-progress	1,389	653
Total property and equipment	42,271	71,253
Less accumulated depreciation	(26,532)	(56,383)
Net property and equipment	15,739	14,870
Property and equipment related to discontinued operations	81	81
Intangibles and other long term assets:		
Permits	8,443	8,419
Other intangible assets - net	1,278	1,487
Unbilled receivables - non-current	—	184
Finite risk sinking fund (restricted cash)	15,971	15,676
Other assets	1,054	1,313
Other assets related to discontinued operations	118	195
Total assets	\$ 57,442	\$ 59,538

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED BALANCE SHEETS, CONTINUED

As of December 31,

(Amounts in Thousands, Except for Share and per Share Amounts)	2018	2017
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 5,497	\$ 3,537
Accrued expenses	5,014	4,782
Disposal/transportation accrual	1,542	2,071
Deferred revenue	6,595	4,311
Accrued closure costs - current	1,142	2,791
Current portion of long-term debt	1,184	1,184
Current portion of capital lease obligations	181	—
Current liabilities related to discontinued operations	356	905
Total current liabilities	<u>21,511</u>	<u>19,581</u>
Accrued closure costs	5,608	5,604
Other long-term liabilities	255	1,191
Deferred tax liabilities	586	1,694
Long-term debt, less current portion	2,118	2,663
Long-term capital lease obligations, less current portion	268	—
Long-term liabilities related to discontinued operations	963	359
Total long-term liabilities	<u>9,798</u>	<u>11,511</u>
Total liabilities	31,309	31,092
Commitments and Contingencies (Note 15)		
Series B Preferred Stock of subsidiary, \$0 par value; 1,467,396 shares authorized; 0 and 1,284,730 shares issued, respectively; 0 and 1,284,730 shares outstanding, respectively; liquidation value of \$1.00 per share plus accrued and unpaid dividends of \$0 and \$995, respectively (Note 8)	—	1,285
Stockholders' Equity:		
Preferred Stock, \$.001 par value; 2,000,000 shares authorized, no shares issued and outstanding	—	—
Common Stock, \$.001 par value; 30,000,000 shares authorized; 11,944,215 and 11,738,623 shares issued, respectively; 11,936,573 and 11,730,981 shares outstanding, respectively	12	12
Additional paid-in capital	107,548	106,417
Accumulated deficit	(79,630)	(77,893)
Accumulated other comprehensive loss	(214)	(112)
Less Common Stock in treasury, at cost; 7,642 shares	(88)	(88)
Total Perma-Fix Environmental Services, Inc. stockholders' equity	<u>27,628</u>	<u>28,336</u>
Non-controlling interest	(1,495)	(1,175)
Total stockholders' equity	<u>26,133</u>	<u>27,161</u>
Total liabilities and stockholders' equity	<u>\$ 57,442</u>	<u>\$ 59,538</u>

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

For the years ended December 31,

(Amounts in Thousands, Except for Per Share Amounts)	2018	2017
Net revenues	\$ 49,539	\$ 49,769
Cost of goods sold	41,078	41,149
Gross profit	8,461	8,620
Selling, general and administrative expenses	10,741	11,101
Research and development	1,370	1,595
Gain on disposal of property and equipment	(46)	(12)
Impairment loss on tangible assets	—	672
Loss from operations	(3,604)	(4,736)
Other income (expense):		
Interest income	295	140
Interest expense	(251)	(315)
Interest expense-financing fees	(38)	(35)
Other	(8)	123
Net gain on exchange offer of Series B Preferred Stock of subsidiary (Note 8)	1,596	—
Loss from continuing operations before taxes	(2,010)	(4,823)
Income tax benefit	(936)	(1,285)
Loss from continuing operations, net of taxes	(1,074)	(3,538)
Loss from discontinued operations, net of taxes of \$0	(667)	(592)
Net loss	(1,741)	(4,130)
Net loss attributable to non-controlling interest	(320)	(450)
Net loss attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ (1,421)	\$ (3,680)
Net loss per common share attributable to Perma-Fix Environmental Services, Inc. stockholders - basic and diluted:		
Continuing operations	\$ (.06)	\$ (.26)
Discontinued operations	(.06)	(.05)
Net loss per common share	\$ (.12)	\$ (.31)
Number of common shares used in computing net loss per share:		
Basic	11,855	11,706
Diluted	11,855	11,706

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
For the years ended December 31,

(Amounts in Thousands)	2018	2017
Net loss	\$ (1,741)	\$ (4,130)
Other comprehensive (loss) income:		
Foreign currency translation adjustments	(102)	50
Total other comprehensive (loss) income	(102)	50
Comprehensive loss	(1,843)	(4,080)
Comprehensive loss attributable to non-controlling interest	(320)	(450)
Comprehensive loss attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ (1,523)	\$ (3,630)

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
For the years ended December 31,
(Amounts in Thousands, Except for Share Amounts)

	Common Stock		Additional Paid-In Capital	Common Stock Held In Treasury	Accumulated Other Comprehensive Loss	Non-controlling Interest in Subsidiary	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount						
Balance at December 31, 2016	<u>11,677,025</u>	<u>\$ 11</u>	<u>\$ 106,048</u>	<u>\$ (88)</u>	<u>\$ (162)</u>	<u>\$ (725)</u>	<u>\$ (74,213)</u>	<u>\$ 30,871</u>
Net loss	—	\$ —	\$ —	\$ —	\$ —	\$ (450)	\$ (3,680)	\$ (4,130)
Foreign currency translation	—	—	—	—	50	—	—	50
Issuance of Common Stock for services	61,598	1	225	—	—	—	—	226
Stock-Based Compensation	—	—	144	—	—	—	—	144
Balance at December 31, 2017	<u>11,738,623</u>	<u>\$ 12</u>	<u>\$ 106,417</u>	<u>\$ (88)</u>	<u>\$ (112)</u>	<u>\$ (1,175)</u>	<u>\$ (77,893)</u>	<u>\$ 27,161</u>
Adoption of accounting standards updates (Note 2)	—	—	—	—	—	—	(316)	(316)
Net loss	—	—	—	—	—	(320)	(1,421)	(1,741)
Foreign currency translation adjustment	—	—	—	—	(102)	—	—	(102)
Issuance of Common Stock upon exercise of options	10,000	—	36	—	—	—	—	36
Issuance of Common Stock from exchange offer of Series B Preferred Stock of subsidiary (Note 8)	134,994	—	648	—	—	—	—	648
Issuance of Common Stock for services	60,598	—	249	—	—	—	—	249
Stock-Based Compensation	—	—	198	—	—	—	—	198
Balance at December 31, 2018	<u>11,944,215</u>	<u>\$ 12</u>	<u>\$ 107,548</u>	<u>\$ (88)</u>	<u>\$ (214)</u>	<u>\$ (1,495)</u>	<u>\$ (79,630)</u>	<u>\$ 26,133</u>

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

For the years ended December 31,

(Amounts in Thousands)	2018	2017
Cash flows from operating activities:		
Net loss	\$ (1,741)	\$ (4,130)
Less: loss on discontinued operations, net of taxes of \$0 (Note 9)	(667)	(592)
Loss from continuing operations	(1,074)	(3,538)
Adjustments to reconcile net loss from continuing operations to cash provided by operating activities:		
Depreciation and amortization	1,455	3,803
Amortization of debt issuance costs	35	36
Deferred tax benefit	(1,108)	(668)
Provision for bad debt reserves	66	462
Gain on disposal of property and equipment	(46)	(12)
Gain on exchange offer of Series B Preferred Stock of subsidiary (Note 8)	(1,659)	—
Impairment loss on tangible assets	—	672
Issuance of common stock for services	249	225
Stock-based compensation	198	144
Changes in operating assets and liabilities of continuing operations:		
Accounts receivable	139	515
Unbilled receivables	1,626	(1,589)
Prepaid expenses, inventories and other assets	1,932	(54)
Accounts payable, accrued expenses and unearned revenue	765	1,093
Cash provided by continuing operations	2,578	1,089
Cash used in discontinued operations	(618)	(647)
Cash provided by operating activities	1,960	442
Cash flows from investing activities:		
Purchases of property and equipment	(1,432)	(439)
Proceeds from sale of property and equipment	47	30
Cash used in investing activities of continuing operations	(1,385)	(409)
Cash provided by investing activities of discontinued operations	67	69
Cash used in investing activities	(1,318)	(340)
Cash flows from financing activities:		
Borrowing on revolving credit	54,714	45,163
Repayments of revolving credit borrowings	(54,075)	(48,966)
Principal repayments of long term debt	(1,219)	(1,219)
Principal payment on capital leases	(36)	—
Proceeds from issuance of common stock upon exercise of options	36	—
Cash used in financing activities of continuing operations	(580)	(5,022)
Effect of exchange rate changes on cash	(20)	9
Increase (decrease) in cash and finite risk sinking fund (restricted cash) (Note 2)	42	(4,911)
Cash and finite risk sinking fund (restricted cash) at beginning of period (Note 2)	16,739	21,650
Cash and finite risk sinking fund (restricted cash) at end of period (Note 2)	\$ 16,781	\$ 16,739
Supplemental disclosure:		
Interest paid	\$ 248	\$ 318
Income taxes paid	160	58
Non-cash investing and financing activities:		
Equipment purchase subject to capital lease	545	196
Common stock issued in exchange offer of Series B Preferred Stock of subsidiary (Note 8)	648	—

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Notes to Consolidated Financial Statements
December 31, 2018 and 2017

NOTE 1
DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

Perma-Fix Environmental Services, Inc. (the Company, which may be referred to as we, us, or our), an environmental and technology know-how company, is a Delaware corporation, engaged through its subsidiaries, in three reportable segments:

TREATMENT SEGMENT, which includes:

- nuclear, low-level radioactive, mixed waste (containing both hazardous and low-level radioactive constituents), hazardous and non-hazardous waste treatment, processing and disposal services primarily through three uniquely licensed and permitted treatment and storage facilities; and
- R&D activities to identify, develop and implement innovative waste processing techniques for problematic waste streams.

SERVICES SEGMENT, which includes:

- Technical services, which include:
 - o professional radiological measurement and site survey of large government and commercial installations using advanced methods, technology and engineering;
 - o integrated Occupational Safety and Health services including IH assessments; hazardous materials surveys, e.g., exposure monitoring; lead and asbestos management/abatement oversight; indoor air quality evaluations; health risk and exposure assessments; health & safety plan/program development, compliance auditing and training services; and OSHA citation assistance;
 - o global technical services providing consulting, engineering, project management, waste management, environmental, and decontamination and decommissioning field, technical, and management personnel and services to commercial and government customers; and
 - o on-site waste management services to commercial and governmental customers.
- Nuclear services, which include:
 - o technology-based services including engineering, decontamination and decommissioning (“D&D”), specialty services and construction, logistics, transportation, processing and disposal;
 - o remediation of nuclear licensed and federal facilities and the remediation cleanup of nuclear legacy sites. Such services capability includes: project investigation; radiological engineering; partial and total plant D&D; facility decontamination, dismantling, demolition, and planning; site restoration; logistics; transportation; and emergency response; and
- A company owned equipment calibration and maintenance laboratory that services, maintains, calibrates, and sources (i.e., rental) health physics, IH and customized NIOSH instrumentation.
- A company owned gamma spectroscopy laboratory for the analysis of oil and gas industry solids and liquids.

MEDICAL SEGMENT, which includes: R&D of the Company’s medical isotope production technology by our majority-owned Polish subsidiary, Perma-Fix Medical S.A. and its wholly-owned subsidiary Perma-Fix Medical Corporation (“PFM Corporation”) (together known as “PF Medical” or the Medical Segment). The Company’s Medical Segment has not generated any revenue as it remains in the R&D stage and has substantially reduced its R&D activities due to the need for capital to fund these activities. All costs incurred by the Medical Segment are reflected within R&D in the accompanying consolidated financial statements (see “Financial Position and Liquidity” below for further discussion of Medical Segment’s significant curtailment of its R&D activities).

The Company's continuing operations consist of Diversified Scientific Services, Inc. ("DSSI"), Perma-Fix of Florida, Inc. ("PFF"), Perma-Fix of Northwest Richland, Inc. ("PFNWR"), East Tennessee Materials & Energy Corporation ("M&EC") (see "Note 4 – M&EC Facility" regarding the closure of this facility), Safety & Ecology Corporation ("SEC"), Perma-Fix Environmental Services UK Limited ("PF UK Limited"), Perma-Fix of Canada, Inc. ("PF Canada"), and PF Medical.

The Company's discontinued operations (see Note 9) consist of all our subsidiaries included in our Industrial Segment which were divested in 2011 and prior, previously closed locations, and our Perma-Fix of South Georgia, Inc. ("PFSG") facility which is non-operational and is in closure status.

Financial Position and Liquidity

The Company's cash flow requirements during 2018 were primarily financed by our operations and credit facility availability. We generated positive cash flow from our operations of approximately \$1,960,000, which included cash outlays of approximately \$5,400,000 for operating and closure spending for our M&EC facility, which is in closure status.

The Company's cash flow requirements for 2019 and into the first quarter of 2020 will consist primarily of general working capital needs, scheduled principal payments on our debt obligations, remediation projects, planned capital expenditures and remaining closure spending requirements in connection with the closure of our M&EC facility (see "Note 4 – M&EC Facility" for further discussion of the M&EC facility closure) which we plan to fund from operations, credit facility availability, and proceeds of approximately \$2,500,000 that the Company received pursuant to the terms of a loan and securities purchase agreement and promissory note that the Company consummated on April 1, 2019 (see "Note 19 – Subsequent Event" for further information of this loan). Additionally, as a result of the M&EC facility closure, the Company expects to receive, by the end of the second quarter of 2019, a release of approximately \$5,000,000 of the \$15,971,000 restricted finite risk sinking funds held by American International Group ("AIG") as collateral under the financial assurance policy dated June 2003 that we currently have with AIG. The release of this finite risk sinking fund is subject to approval from AIG and the appropriate regulators and when released, will further enhance our liquidity and working capital deficit (see "Note 15 – Commitment and Contingencies – Insurance" for further information of this policy with AIG). The Company continues to explore all sources of increasing revenue. The Company is continually reviewing operating costs and is committed to further reducing operating costs to bring them in line with revenue levels, when necessary.

As previously disclosed, the Company's Medical Segment reduced its R&D activities substantially due to the need for capital to fund such activities. Our Medical Segment continues to seek various sources in order to raise this funding or partners willing to provide the funding for its R&D activities. The Company anticipates that the Medical Segment will not resume full R&D activities until the necessary capital is obtained through its own credit facility or additional equity raise or obtains partners willing to provide funding for its R&D activities. If the Medical Segment is unable to raise the necessary capital, the Medical Segment could be required to further reduce, delay or eliminate its R&D program.

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

Our consolidated financial statements include our accounts, those of our wholly-owned subsidiaries, and our majority-owned Polish subsidiary, PF Medical, after elimination of all significant intercompany accounts and transactions.

Use of Estimates

The Company prepares financial statements in conformity with accounting standards generally accepted in the United States of America ("US GAAP"), which may require estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, as well as, the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. See Notes 9, 13, 14 and 15 for estimates of discontinued operations and environmental liabilities, closure costs, income taxes and contingencies for details on significant estimates.

Cash and Finite Risk Sinking Fund (Restricted Cash)

At December 31, 2018, the Company had cash on hand of approximately \$810,000, which reflects primarily account balances of our foreign subsidiaries totaling approximately \$806,000. At December 31, 2017, the Company had cash on hand of approximately \$1,063,000, which included account balances for our foreign subsidiaries totaling approximately \$305,000. At December 31, 2018 and 2017, the Company has finite risk sinking funds of approximately \$15,971,000 and \$15,676,000, respectively, which represents cash held as collateral under the Company's financial assurance policy (see "Note 15 – Commitment and Contingencies – Insurance" for a discussion of this fund).

Accounts Receivable

Accounts receivable are customer obligations due under normal trade terms requiring payment within 30 or 60 days from the invoice date based on the customer type (government, broker, or commercial). The carrying amount of accounts receivable is reduced by an allowance for doubtful accounts, which is a valuation allowance that reflects management's best estimate of the amounts that will not be collected. The Company regularly reviews all accounts receivable balances that exceed 60 days from the invoice date and based on an assessment of current credit worthiness, estimates the portion, if any, of the balance that will not be collected. This analysis excludes government related receivables due to our past successful experience in their collectability. Specific accounts that are deemed to be uncollectible are reserved at 100% of their outstanding balance. The remaining balances aged over 60 days have a percentage applied by aging category, based on historical experience that allows us to calculate the total allowance required. Once the Company has exhausted all options in the collection of a delinquent accounts receivable balance, which includes collection letters, demands for payment, collection agencies and attorneys, the account is deemed uncollectible and subsequently written off. The write off process involves approvals from senior management based on required approval thresholds.

The following table sets forth the activity in the allowance for doubtful accounts for the years ended December 31, 2018 and 2017 (in thousands):

	Year Ended December 31,	
	2018	2017
Allowance for doubtful accounts - beginning of year	\$ 720	\$ 272
Provision for bad debt reserve	66	462
Write-off	(681)	(14)
Allowance for doubtful accounts - end of year	\$ 105	\$ 720

Unbilled Receivables

Unbilled receivables are generated by differences between invoicing timing and our proportional performance based methodology used for revenue recognition purposes. As major processing and contract completion phases are completed and the costs are incurred, the Company recognizes the corresponding percentage of revenue. Within our Treatment Segment, the facilities experience delays in processing invoices due to the complexity of the documentation that is required for invoicing, as well as the difference between completion of revenue recognition milestones and agreed upon invoicing terms, which results in unbilled receivables. The timing differences occur for several reasons: partially from delays in the final processing of all wastes associated with certain work orders and partially from delays for analytical testing that is required after the facilities have processed waste but prior to our release of waste for disposal. The tasks relating to these delays usually take several months to complete. Based on historical data used in reviewing the timing of these delays, the Company determined that certain issues, including, but not limited to, delays at our third party disposal site, can extend collection of some of these receivables greater than twelve months. However, our historical experience suggests that a significant portion of unbilled receivables are ultimately collectible with minimal concession on our part. The Company, therefore, segregates the unbilled receivables between current and long-term.

Unbilled receivables within our Services Segment can result from: (1) revenue recognized by our Earned Value Management program (a program which integrates project scope, schedule, and cost to provide an objective measure of project progress) but invoice milestones have not yet been met and/or (2) contract claims and pending change orders, including Requests for Equitable Adjustments ("REAs") when work has been performed and collection of revenue is reasonably assured.

Inventories

Inventories consist of treatment chemicals, saleable used oils, and certain supplies. Additionally, the Company has replacement parts in inventory, which are deemed critical to the operating equipment and may also have extended lead times should the part fail and need to be replaced. Inventories are valued at the lower of cost or market with cost determined by the first-in, first-out method.

Property and Equipment

Property and equipment expenditures are capitalized and depreciated using the straight-line method over the estimated useful lives of the assets for financial statement purposes, while accelerated depreciation methods are principally used for income tax purposes. Generally, asset lives range from ten to forty years for buildings (including improvements and asset retirement costs) and three to seven years for office furniture and equipment, vehicles, and decontamination and processing equipment. Leasehold improvements are capitalized and amortized over the lesser of the term of the lease or the life of the asset. Maintenance and repairs are charged directly to expense as incurred. The cost and accumulated depreciation of assets sold or retired are removed from the respective accounts, and any gain or loss from sale or retirement is recognized in the accompanying Consolidated Statements of Operations. Renewals and improvements, which extend the useful lives of the assets, are capitalized.

Certain property and equipment expenditures are financed through the use of capital leases. Amortization of capitalized leased assets is computed using the straight-line method over the estimated useful lives of the assets. Total property and equipment at December 31, 2018 financed through capital leases was approximately \$517,000 less accumulated depreciation of \$8,000 resulting in net fixed assets under capital leases of \$509,000. The Company had no capital leases in 2017.

Long-lived assets, such as property, plant and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be disposed of are separately presented in the balance sheet and reported at the lower of the carrying amount or fair value less costs to sell, and are no longer depreciated.

Our depreciation expense totaled approximately \$1,105,000 and \$3,429,000 in 2018 and 2017, respectively.

Capitalized Interest

The Company's policy is to capitalize interest cost incurred on debt during the construction of projects for its use. A reconciliation of our total interest cost to "Interest Expense" as reported on our Consolidated Statements of Operations for 2018 and 2017 is as follows:

(Amounts in Thousands)	2018	2017
Interest cost capitalized	\$ 70	\$ 6
Interest cost charged to income	251	315
Total interest	<u>\$ 321</u>	<u>\$ 321</u>

Intangible Assets

Intangible assets consist primarily of the recognized value of the permits required to operate our business.

Indefinite-lived intangible assets are not amortized but are reviewed for impairment annually as of October 1, or when events or changes in the business environment indicate that the carrying value may be impaired. If the fair value of the asset is less than the carrying amount, a quantitative test is performed to determine the fair value. The impairment loss, if any, is measured as the excess of the carrying value of the asset over its fair value. Significant judgments are inherent in these analyses and include assumptions for, among other factors, forecasted revenue, gross margin, growth rate, operating income, timing of expected future cash flows, and the determination of appropriate long term discount rates. Impairment testing of our permits related to our Treatment reporting unit as of October 1, 2018 and 2017 resulted in no impairment charges.

Intangible assets that have definite useful lives are amortized using the straight-line method over the estimated useful lives (with the exception of customer relationships which are amortized using an accelerated method) and are excluded from our annual intangible asset valuation review as of October 1. The Company has one definite-lived permit which was excluded from our annual impairment review as noted above. Definite-lived intangible assets are also tested for impairment whenever events or changes in circumstances suggest impairment might exist.

R&D

Operational innovation and technical know-how is very important to the success of our business. Our goal is to discover, develop, and bring to market innovative ways to process waste that address unmet environmental needs and to develop new company service offerings. The Company conducts research internally and also through collaborations with other third parties. R&D costs consist primarily of employee salaries and benefits, laboratory costs, third party fees, and other related costs associated with the development and enhancement of new potential waste treatment processes and new technology and are charged to expense when incurred in accordance with ASC Topic 730, "Research and Development." The Company's R&D expenses included approximately \$811,000 and \$1,141,000 for the years ended December 31, 2018 and 2017, respectively, incurred by our Medical Segment in the R&D of its medical isotope production technology.

Accrued Closure Costs and Asset Retirement Obligations ("ARO")

Accrued closure costs represent our estimated environmental liability to clean up our facilities, as required by our permits, in the event of closure. ASC 410, "Asset Retirement and Environmental Obligations" requires that the discounted fair value of a liability for an ARO be recognized in the period in which it is incurred with the associated ARO capitalized as part of the carrying cost of the asset. The recognition of an ARO requires that management make numerous estimates, assumptions and judgments regarding such factors as estimated probabilities, timing of settlements, material and service costs, current technology, laws and regulations, and credit adjusted risk-free rate to be used. This estimate is inflated, using an inflation rate, to the expected time at which the closure will occur, and then discounted back, using a credit adjusted risk free rate, to the present value. ARO's are included within buildings as part of property and equipment and are depreciated over the estimated useful life of the property. In periods subsequent to initial measurement of the ARO, the Company must recognize period-to-period changes in the liability resulting from the passage of time and revisions to either the timing or the amount of the original estimate of undiscounted cash flows. Increases in the ARO liability due to passage of time impact net income as accretion expense, which is included in cost of goods sold. Changes in costs resulting from changes or expansion at the facilities require adjustment to the ARO liability and are capitalized and charged as depreciation expense, in accordance with the Company's depreciation policy.

Income Taxes

Income taxes are accounted for in accordance with ASC 740, "Income Taxes." Under ASC 740, the provision for income taxes is comprised of taxes that are currently payable and deferred taxes that relate to the temporary differences between financial reporting carrying values and tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted income tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Any effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

ASC 740 requires that deferred income tax assets be reduced by a valuation allowance if it is more likely than not that some portion or all of the deferred income tax assets will not be realized. The Company regularly assesses the likelihood that the deferred tax asset will be recovered from future taxable income. The Company considers projected future taxable income and ongoing tax planning strategies, then records a valuation allowance to reduce the carrying value of the net deferred income taxes to an amount that is more likely than not to be realized.

ASC 740 sets out a consistent framework for preparers to use to determine the appropriate recognition and measurement of uncertain tax positions. ASC 740 uses a two-step approach wherein a tax benefit is recognized if a position is more-likely-than-not to be sustained. The amount of the benefit is then measured to be the highest tax benefit which is greater than 50% likely to be realized. ASC 740 also sets out disclosure requirements to enhance transparency of an entity's tax reserves. The Company recognizes accrued interest and income tax penalties related to unrecognized tax benefits as a component of income tax expense.

The Company reassesses the validity of our conclusions regarding uncertain income tax positions on a quarterly basis to determine if facts or circumstances have arisen that might cause us to change our judgment regarding the likelihood of a tax position's sustainability under audit.

Foreign Currency

The Company's foreign subsidiaries include PF UK Limited, PF Canada and PF Medical. Assets and liabilities are translated to U.S. dollars at the exchange rate in effect at the balance sheet date and revenue and expenses at the average exchange rate for the period. Foreign currency translation adjustments for these subsidiaries are accumulated as a separate component of accumulated other comprehensive income (loss) in stockholders' equity. Gains and losses resulting from foreign currency transactions are recognized in the Consolidated Statements of Operations.

Concentration Risk

The Company performed services relating to waste generated by domestic government clients (includes U.S federal, state and local), either directly as a prime contractor or indirectly as a subcontractor to government entities, representing approximately \$34,811,000, or 70.3%, of our total revenue during 2018, as compared to \$37,019,000, or 74.4%, of our total revenue during 2017.

As our revenues are project/event based where the completion of one contract with a specific customer may be replaced by another contract with a different customer from year to year, the Company does not believe the loss of one specific customer from one year to the next will generally have a material adverse effect on our operations and financial condition.

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash and accounts receivable. The Company maintains cash with high quality financial institutions, which may exceed Federal Deposit Insurance Corporation ("FDIC") insured amounts from time to time. Concentration of credit risk with respect to accounts receivable is limited due to the Company's large number of customers and their dispersion throughout the United States as well as with the significant amount of work that we perform for the federal government.

The Company had two government related customers whose net outstanding receivable balance represented 13.0% and 10.1% of the Company's total consolidated net accounts receivable at December 31, 2018. The Company had two government related customers whose net outstanding receivable balance represented 17.9% and 16.8% of the Company's total consolidated net accounts receivable at December 31, 2017.

Revenue Recognition and Related Policies

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2014-09, "Revenue from Contracts with Customers" followed by a series of related accounting standard updates (collectively referred to as "Topic 606") which superseded nearly all existing revenue recognition guidance. Under the new standard, a five-step process is utilized in order to determine revenue recognition, depicting the transfer of goods or services to a customer at an amount that reflects the consideration it expects to receive in exchange for those goods or services. We adopted Topic 606 effective January 1, 2018 (see "Recently Adopted Accounting Standards" below for further discussion of Topic 606 and the impact to the Company's financial statements). Under Topic 606, a performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account. A contract transaction price is allocated to each distinct performance obligation and recognized as revenues as the performance obligation is satisfied.

Treatment Segment Revenues:

Contracts in our Treatment Segment have a single performance obligation as the promise to receive, treat and dispose of waste is not separately identifiable in the contract and, therefore, not distinct. Performance obligations are generally satisfied over time using the input method. Under the input method, the Company uses a measure of progress divided into major phases which include receipt (generally ranging from 9.0% to 33%), treatment/processing and shipment/final disposal. As major processing phases are completed and the costs are incurred, the proportional percentage of revenue is recognized. Transaction price for Treatment Segment contracts are determined by the stated fixed rate per unit price as stipulated in the contract.

Services Segment Revenues:

Revenues for our Services Segment are generated from time and materials, cost reimbursement or fixed price arrangements:

Our primary obligation to customers in time and materials contracts relate to the provision of services to the customer at the direction of the customer. This provision of services at the request of the customer is the performance obligation, which is satisfied over time. Revenue earned from time and materials contracts is determined using the input method and is based on contractually defined billing rates applied to services performed and materials delivered.

Our primary performance obligation to customers in cost reimbursement contracts is to complete certain tasks and work streams. Each specified work stream or task within the contract is considered to be a separate performance obligation. The transaction price is calculated using an estimated cost to complete the various scope items to achieve the performance obligation as stipulated in the contract. An estimate is prepared for each individual scope item in the contract and the transaction price is allocated on a time and materials basis as services are provided. Revenue from cost reimbursement contracts is recognized over time using the input method based on costs incurred, plus a proportionate amount of fee earned.

Under fixed price contracts, the objective of the project is not attained unless all scope items within the contract are completed and all of the services promised within fixed fee contracts constitute a single performance obligation. Transaction price is estimated based upon the estimated cost to complete the overall project. Revenue from fixed price contracts is recognized over time using the output or input method. For the output method, revenue is recognized based on milestone attained on the project. For the input method, revenue is recognized based on costs incurred on the project relative to the total estimated costs of the project.

The majority of our revenue is derived from short term contracts with an original expected length of one year or less. Also, the nature of our contracts does not give rise to variable consideration.

Significant Payment Terms

Invoicing is based on schedules established in customer contracts. Payment terms vary by customers but are generally established at 30 days from invoicing.

Incremental Costs to Obtain a Contract

Costs incurred to obtain contracts with our customers are immaterial and as a result, the Company expenses (within selling, general and administration expenses ("SG&A")) incremental costs incurred in obtaining contracts with our customer as incurred.

Remaining Performance Obligations

The Company applies the practical expedient in paragraph 606-10-50-14 and does not disclose information about remaining performance obligations that have original expected durations of one year or less.

The Company applies the transition practical expedient in paragraph 606-10-65-1(f)(3) and does not disclose the amount of the transaction price allocated to the remaining performance obligations or an explanation of when the Company expects to recognize that amount as revenue for periods prior to the adoption of Topic 606.

Stock-Based Compensation

The Company accounts for stock-based compensation in accordance with ASC 718, "Compensation – Stock Compensation." ASC 718 requires all stock-based payments to employees, including grant of options, to be recognized in the Statement of Operations based on their fair values. The Company accounts for stock-based compensation issued to consultants in accordance with the provisions of ASC 505-50, "Equity-Based Payments to Non-Employees (see "Recently Issued Accounting Standards – Not Yet Adopted – ASU No 2018-07, Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting" which the Company will adopt effective January 1, 2019. The Company uses the Black-Scholes option-pricing model to determine the fair-value of stock-based awards which requires subjective assumptions. Assumptions used to estimate the fair value of stock-based awards include the exercise price of the award, the expected term, the expected volatility of our stock over the stock-based award's expected term, the risk-free interest rate over the award's expected term, and the expected annual dividend yield. The Company accounts for forfeitures when they occur.

Comprehensive Income (Loss)

The components of comprehensive income (loss) are net income (loss) and the effects of foreign currency translation adjustments.

Income (Loss) Per Share

Basic income (loss) per share is calculated based on the weighted-average number of outstanding common shares during the applicable period. Diluted income (loss) per share is based on the weighted-average number of outstanding common shares plus the weighted-average number of potential outstanding common shares. In periods where they are anti-dilutive, such amounts are excluded from the calculations of dilutive earnings per share. Income (loss) per share is computed separately for each period presented.

Fair Value of Financial Instruments

Certain assets and liabilities are required to be recorded at fair value on a recurring basis, while other assets and liabilities are recorded at fair value on a nonrecurring basis. Fair value is determined based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. The three-tier value hierarchy, which prioritizes the inputs used in the valuation methodologies, is:

Level 1—Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2—Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3—Valuations based on unobservable inputs reflecting the Company's own assumptions, consistent with reasonably available assumptions made by other market participants.

Financial instruments include cash (Level 1), accounts receivable, accounts payable, and debt obligations (Level 3). Credit is extended to customers based on an evaluation of a customer's financial condition and, generally, collateral is not required. At December 31, 2018 and December 31, 2017, the fair value of the Company's financial instruments approximated their carrying values. The fair value of the Company's revolving credit and term loan approximate its carrying value due to the variable interest rate.

Recently Adopted Accounting Standards

The Company adopted Topic 606 effective January 1, 2018. Topic 606 provides a single, comprehensive revenue recognition model for all contracts with customers and also requires additional disclosure surrounding the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. The Company adopted Topic 606 under the modified retrospective approach to all contracts as of the date of adoption. The Company recognized the cumulative effect of initially adopting Topic 606 as an increase of approximately \$316,000 to the opening balance of accumulated deficit at January 1, 2018. The adoption of Topic 606 did not result in significant changes to our revenues within our Treatment and Services Segments. The cumulative impact to the opening balance of accumulated deficit at January 1, 2018 was primarily driven by changes to the timing of revenue recognition in certain immaterial waste streams within our Treatment Segment. See "Revenue Recognition and Related Policies" above in this Note and "Note 3 – Revenue" for additional disclosures related to our revenues under the new standard. The comparative previous period information continues to be reported under the accounting standards in effect for that period. We expect the impact of the adoption of Topic 606 to be immaterial to our consolidated financial statements on an on-going basis.

The cumulative effect of the changes made to our January 1, 2018 unaudited Consolidated Balance Sheet for the adoption of Topic 606 was as follows (in thousands):

	Balance at December 31, 2017	Adjustment Due to Topic 606	Opening balance at January 1, 2018
LIABILITIES AND STOCKHOLDERS' EQUITY			
Current liabilities:			
Disposal/transportation accrual	\$ 2,071	\$ (456)	\$ 1,615
Deferred revenue	4,311	772	5,083
Stockholders' Equity:			
Accumulated deficit	\$ (77,893)	\$ (316)	\$ (78,209)

In accordance with Topic 606 requirements, the disclosure of the impact of adoption of Topic 606 on our Consolidated Balance Sheets, Consolidated Statement of Operations, and Consolidated Statement of Comprehensive Loss was as follows (in thousands):

Consolidated Balance Sheet	December 31, 2018		
	As Reported	Balances Before Adoption of Topic 606	Effect of Change Higher/(Lower)
LIABILITIES AND STOCKHOLDERS' EQUITY			
Current liabilities:			
Disposal/transportation accrual	\$ 1,542	\$ 1,882	\$ (340)
Deferred revenue	6,595	6,007	588
Stockholders' Equity:			
Accumulated deficit	\$ (79,630)	\$ (79,795)	\$ 165

Consolidated Statement of Operations	For the year ended December 31, 2018		
	As Reported	Balances Before Adoption of Topic 606	Effect of Change Higher/(Lower)
Revenues	\$ 49,539	\$ 49,355	\$ 184
Cost of goods sold	41,078	41,059	19
Loss from continuing operations, net of taxes	(1,074)	(1,239)	165
Net loss attributable to Perma-Fix Services, Inc. common stockholders	(1,421)	(1,586)	165
Net loss attributable to Perma-Fix Environmental Services, Inc. common stockholders - basic and diluted:			
Continuing operations	\$ (.06)	\$ (.07)	\$.01
Net loss per common shares	\$ (.12)	\$ (.13)	\$.01

	For the year ended December 31, 2018		
	As Reported	Balances Before Adoption of Topic 606	Effect of Change Higher/(Lower)
Net loss	\$ (1,741)	\$ (1,906)	\$ 165
Comprehensive loss attributable to Perma-Fix Environmental Services, Inc. stockholders	(1,523)	(1,688)	165

In August 2016, the FASB issued ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments (a consensus of the Emerging Issues Task Force)," which aims to eliminate diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows under Topic 230, Statement of Cash Flows, and other Topics. Subsequently, in November 2016, the FASB issued ASU 2016-18, "Statement of Cash Flows (Topic 230), Restricted Cash, a consensus of the FASB Emerging Issues Task Force," which clarifies the guidance on the cash flow classification and presentation of changes in restricted cash or restricted cash equivalents. Although ASU 2016-18 does not provide a definition of restricted cash or restricted cash equivalents, it states that amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flow. ASU 2016-15 and ASU 2016-18 are effective for annual reporting periods, and interim periods therein, beginning after December 15, 2017. The Company retrospectively adopted these ASUs effectively January 1, 2018 and has included finite risk sinking funds (included in other long term assets of the Company's Consolidated Balance Sheets) of \$15,971,000 and \$15,676,000 at December 31, 2018 and 2017, respectively, as well as previously reported cash, when reconciling the beginning-of-period and end-of-period cash and restricted cash on the accompanying Company's Consolidated Statements of Cash Flows. The Company's finite risk sinking funds represent cash held as collateral under the Company's financial assurance policy (see "Note 14 – Commitment and Contingencies – Insurance" for a discussion of the Company's finite risk sinking funds). The adoption of these ASUs by the Company effective January 1, 2018 did not have a material impact on the Company's financial position and results of operations.

In October 2016, the FASB issued ASU 2016-16, "Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory," which eliminates the existing exception in U.S. GAAP prohibiting the recognition of the income tax consequences for intra-entity asset transfers. Under ASU 2016-16, entities are required to recognize the income tax consequences of intra-entity asset transfers other than inventory when the transfer occurs. ASU 2016-16 is effective on a modified retrospective basis for fiscal years, and for interim periods within those fiscal years, beginning after December 15, 2017, with early adoption permitted. The adoption of ASU 2016-16 by the Company effective January 1, 2018 did not have a material impact on the Company's financial position, results of operations, or cash flows.

In January 2017, the FASB issued ASU No. 2017-01, "Business Combinations (Topic 805) – Clarifying the Definition of a Business." ASU 2017-01 clarifies the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The definition of a business affects many areas of accounting including acquisition, disposals, goodwill and consolidation. This standard is effective for fiscal years beginning after December 15, 2017, including interim periods within that reporting period. The adoption of ASU 2017-01 by the Company effective January 1, 2018 did not have a material impact on the Company's financial position, results of operations, or cash flows.

In May 2017, the FASB issued ASU 2017-09, "Compensation – Stock Compensation (Topic 718): Scope of Modification Accounting." This ASU provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. ASU 2017-09 is effective for fiscal years beginning after December 15, 2017 and interim periods within those fiscal years, and early adoption is permitted, including in an interim period. ASU 2017-09 is to be applied on a prospective basis to an award modified on or after the adoption date. The adoption of ASU 2017-01 by the Company effective January 1, 2018 did not have a material impact on the Company's financial position, results of operations, or cash flows.

Recently Issued Accounting Standards – Not Yet Adopted

In February 2016, the FASB issued ASU 2016-02, “Leases (Topic 842).” ASU 2016-02 requires lessees to recognize a lease liability and a right-of-use (“ROU”) asset for all leases, including operating leases, with a term greater than twelve months in their balance sheets. ASU 2016-02 is effective for annual and interim periods in fiscal years beginning after December 15, 2018, with early adoption permitted. In July 2018, the FASB issued ASU 2018-11, “Targeted Improvements,” which provided entities with an additional (and optional) transition method, allowing an entity to apply the new lease standard at the adoption date and to recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. The Company will adopt ASC Topic 842 on January 1, 2019 using the modified retrospective transition method allowed under ASU 2018-11. The Company will elect the package of practical expedients permitted under ASU 2018-11 which among other things, allows an entity to carry forward its historical lease classifications. Based on our current assessment, which is subject to change, the Company estimates it will recognize both ROU assets and related liabilities on its Consolidated Balance Sheets in the range of \$2,500,000 to \$2,700,000, upon adoption. The Company continues to evaluate implementation of key systems functionality and internal control processes in order to comply with ASC Topic 842. The Company does not expect the adoption of this standard to have a material impact in its Consolidated Statements of Operations and Cash Flows. The Company will expand its consolidated financial statement disclosure upon adoption of this standard.

In February 2018, FASB issued ASU 2018-02, “Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income.” This ASU allows for the reclassification of certain income tax effects related to the new Tax Cuts and Jobs Act legislation between “Accumulated other comprehensive income” and “Retained earnings.” This ASU relates to the requirement that adjustments to deferred tax liabilities and assets related to a change in tax laws or rates be included in “Income from continuing operations”, even in situations where the related items were originally recognized in “Other comprehensive income” (rather than in “Income from continuing operations”). ASU 2018-02 is effective for all entities for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years, with early adoption permitted. Adoption of this ASU is to be applied either in the period of adoption or retrospectively to each period in which the effect of the change in the tax laws or rates were recognized. This ASU is effective January 1, 2019 for the Company. The Company does not expect that the adoption of ASU 2018-09 will have a material impact on the Company’s financial statements.

In June 2018, the FASB issued ASU No. 2018-07, “Compensation — Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting,” which expands the scope of Topic 718 to include all share-based payment transactions for acquiring goods and services from nonemployees. ASU 2018-07 specifies that Topic 718 applies to all share-based payment transactions in which the grantor acquires goods and services to be used or consumed in its own operations by issuing share-based payment awards. ASU 2018-07 also clarifies that Topic 718 does not apply to share-based payments used to effectively provide (1) financing to the issuer or (2) awards granted in conjunction with selling goods or services to customers as part of a contract accounted for under ASC 606. ASU 2018-07 is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2018, with early adoption permitted. This ASU is effective January 1, 2019 for the Company. The Company does not expect that the adoption of ASU 2018-09 will have a material impact on the Company’s financial statements.

In August 2018, the FASB issued ASU 2018-13, “Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement.” ASU 2018-13 improves the disclosure requirements on fair value measurements. ASU 2018-13 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption is permitted for any removed or modified disclosures. The Company is currently assessing the impact that this standard will have on its financial statements.

NOTE 3
REVENUE

Disaggregation of Revenue

In general, the Company's business segmentation is aligned according to the nature and economic characteristics of our services and provides meaningful disaggregation of each business segment's results of operations. The following tables present further disaggregation of our revenues by different categories for our Services and Treatment Segments:

Revenue by Contract Type
(In thousands)

	Twelve Months Ended			Tweleve Months Ended		
	December 31, 2018			December 31, 2017		
	Treatment	Services	Total	Treatment	Services	Total
Fixed price	\$ 36,271	\$ 1,575	\$ 37,846	\$ 37,750	\$ 714	\$ 38,464
Time and materials	—	11,693	11,693	—	11,305	11,305
Total	\$ 36,271	\$ 13,268	\$ 49,539	\$ 37,750	\$ 12,019	\$ 49,769

Revenue by generator
(In thousands)

	Twelve Months Ended			Twelve Months Ended		
	December 31, 2018			December 31, 2017		
	Treatment	Services	Total	Treatment	Services	Total
Domestic government	\$ 25,181	\$ 9,630	\$ 34,811	\$ 27,956	\$ 9,063	\$ 37,019
Domestic commercial	10,970	2,521	13,491	9,794	1,800	11,594
Foreign government	114	1,019	1,133	—	1,073	1,073
Foreign commercial	6	98	104	—	83	83
Total	\$ 36,271	\$ 13,268	\$ 49,539	\$ 37,750	\$ 12,019	\$ 49,769

Contract Balances

The timing of revenue recognition, billings, and cash collections results in accounts receivable and unbilled receivables (contract assets). The Company's contract liabilities consist of deferred revenues which represents advance payment from customers in advance of the completion of our performance obligation.

The following table represents changes in our contract assets and contract liabilities balances:

(In thousands)	December 31, 2018	January 1, 2018	Year-to-date Change (\$)	Year-to-date Change (%)
Contract assets				
Account receivables, net of allowance	\$ 7,735	\$ 7,940	\$ (205)	(2.6)%
Unbilled receivables - current	3,105	4,547	(1,442)	(31.7)%
Unbilled receivables - non-current	—	184	(184)	(100.0)%
Contract liabilities				
Deferred revenue	\$ 6,595	\$ 5,083	\$ 1,512	29.7%

During the twelve months ended December 31, 2018 and 2017, the Company recognized revenue of \$8,071,000 and \$5,105,000, respectively, which was included in the deferred revenue balance at the beginning of the year. Revenue recognized in each period related to performance obligations satisfied within the respective period.

**NOTE 4
M&EC FACILITY**

The Company has completed the physical on-site closure and decommissioning activities at its M&EC facility (in closure status) in accordance with M&EC's license and permit requirements, with final closure of the facility subject to completion of final surveys and regulatory approvals. The Company continues to transition operational capabilities to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals. The closure of the Company's M&EC facility was approved during the second quarter of 2016.

During the third quarter of 2017, the Company recorded a \$672,000 in impairment loss on tangible assets resulting from an updated financial valuation of M&EC's remaining long-lived tangible assets (inclusive of ARO costs) in accordance with ASC 360, "Property, Plant, and Equipment." Additionally, during the third and fourth quarters of 2017, the Company recorded an additional \$550,000 and \$850,000, respectively, in closure costs and current closure costs liabilities due to changes in future estimated closure costs.

During the second, third and fourth quarters of 2018, the Company recorded an additional \$1,215,000, \$1,093,000, and \$1,015,000, respectively, in closure costs and current closure liabilities due to changes in estimated future closure costs resulting from additional decommissioning clean-up scope. Given the nature of the closure requirements, additional clean up responsibilities were identified in locations of the building not previously accessible.

During the years ended December 31, 2018 and 2017, M&EC's revenues were approximately \$155,000 and \$6,312,000, respectively.

**NOTE 5
PERMIT AND OTHER INTANGIBLE ASSETS**

The following table summarizes changes in the carrying amount of permits. No permit exists at our Services and Medical Segments.

Permit (amount in thousands)	Treatment
Balance as of December 31, 2016	\$ 8,474
PCB permit amortized ⁽¹⁾	(55)
Balance as of December 31, 2017	<u>8,419</u>
PCB permit amortized ⁽¹⁾	(55)
Permit in progress	79
Balance as of December 31, 2018	<u>\$ 8,443</u>

⁽¹⁾ Amortization for the one definite-lived permit capitalized in 2009. This permit is being amortized over a ten year period in accordance with its estimated useful life. See net carrying value of this permit at December 31, 2018 and 2017 in the table below.

The following table summarizes information relating to the Company's definite-lived intangible assets:

Intangibles (amount in thousands)	Useful Lives (Years)	December 31, 2018			December 31, 2017		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Patent	1-17	\$ 728	\$ (336)	\$ 392	\$ 657	\$ (306)	\$ 351
Software	3	410	(403)	7	410	(398)	12
Customer relationships	10	3,370	(2,491)	879	3,370	(2,246)	1,124
Permit	10	545	(538)	7	545	(483)	62
Total		<u>\$ 5,053</u>	<u>\$ (3,768)</u>	<u>\$ 1,285</u>	<u>\$ 4,982</u>	<u>\$ (3,433)</u>	<u>\$ 1,549</u>

The intangible assets are amortized on a straight-line basis over their useful lives with the exception of customer relationships which are being amortized using an accelerated method.

The following table summarizes the expected amortization over the next five years for our definite-lived intangible assets:

Year	Amount (In thousands)
2019	\$ 255
2020	219
2021	198
2022	172
2023	132

Amortization expense recorded for definite-lived intangible assets was approximately \$350,000 and \$374,000, for the years ended December 31, 2018 and 2017, respectively.

NOTE 6

CAPITAL STOCK, STOCK PLANS, WARRANTS, AND STOCK BASED COMPENSATION

Stock Option Plans

The Company adopted the 2003 Outside Directors Stock Plan (the “2003 Plan”), which was approved by our stockholders at the Company’s July 29, 2003 Annual Meeting of Stockholders. Options granted under the 2003 Plan generally have a vesting period of six months from the date of grant and a term of 10 years, with an exercise price equal to the closing trade price on the date prior to grant date. The 2003 Plan also provides for the issuance to each outside director a number of shares of the Company’s Common Stock in lieu of 65% or 100% (based on option elected by each director) of the fee payable to the eligible director for services rendered as a member of the Board. The number of shares issued is determined at 75% of the market value as defined in the plan (the Company recognizes 100% of the market value of the shares issued). The 2003 Plan, as amended, also provides for the grant of an option to purchase up to 6,000 shares of our Common Stock for each outside director upon initial election to the Board, and the grant of an option to purchase 2,400 shares of our Common Stock upon each re-election. At the July 27, 2017 Annual Meeting of Stockholders (“2017 Annual Meeting”), the Company’s stockholders approved an amendment to the 2003 Plan which authorized the issuance of an additional 300,000 shares of the Company’s Common Stock under the plan. After the approval of the amendment, the number of shares of the Company’s Common Stock authorized under the 2003 Plan was 1,100,000. At December 31, 2018, the 2003 Plan had available for issuance 329,417 shares.

On April 28, 2010, the Company adopted the 2010 Stock Option Plan (“2010 Plan”), which was approved by our stockholders at the Company’s September 29, 2010 Annual Meeting of Stockholders. The 2010 Plan authorized an aggregate grant of 200,000 Non-Qualified Stock Options (“NQSOs”) and Incentive Stock Options (“ISOs”) to officers and employees of the Company for the purchase of up to 200,000 shares of the Company’s Common Stock. The term of each stock option granted is to be fixed by the Compensation Committee, but no stock option is exercisable more than ten years after the grant date, or in the case of an incentive stock option granted to a 10% stockholder, five years after the grant date. As discussed below, as the result of the approval of the 2017 Stock Option Plan (“2017 Plan”) at the Company’s 2017 Annual Meeting, no further options remain available for issuance under the 2010 Plan immediately upon the approval of the 2017 Plan; however, the 2010 Plan remains in full force and effect with respect to the outstanding options issued and unexercised at the date of the approval of the 2017 Plan. At December 31, 2018, the 2010 Plan had an option for the purchase of up to 10,000 shares of our Common Stock with expiration date of July 10, 2020 and an option for the purchase of up to 50,000 shares of our Common Stock with expiration date of May 15, 2022.

The Company adopted the 2017 Plan, which was approved by the Company’s stockholders at the Company’s 2017 Annual Meeting. The 2017 Plan authorizes the grant of options to officers and employees of the Company, including any employee who is also a member of the Board, as well as to consultants of the Company. The 2017 Plan authorizes an aggregate grant of 540,000 NQSOs and ISOs, which includes a rollover of 140,000 shares that remained available for issuance under the 2010 Plan as discussed above. Consultants of the Company can only be granted NQSOs. The term of each stock option granted under the 2017 Plan shall be fixed by the Compensation Committee, but no stock options will be exercisable more than ten years after the grant date, or in the case of an ISO granted to a 10% stockholder, five years after the grant date. The exercise price of any ISO granted under the 2017 Plan to an individual who is not a 10% stockholder at the time of the grant shall not be less than the fair market value of the shares at the time of the grant, and the exercise price of any incentive stock option granted to a 10% stockholder shall not be less than 110% of the fair market value at the time of grant. The exercise price of any NQSOs granted under the plan shall not be less than the fair market value of the shares at the time of grant. At December 31, 2018, the 2017 Plan had available for issuance 130,000 shares.

Stock Options to Employees and Outside Director

On January 18, 2018, the Company granted 6,000 NQSOs from the Company's 2003 Plan to a new director elected by the Company's Board to fill a vacancy on the Board. The options granted were for a contractual term of ten years with a vesting period of six months. The exercise price of the options was \$4.05 per share, which was equal to our closing stock price the day preceding the grant date, pursuant to the 2003 Plan.

On July 26, 2018, the Company granted an aggregate of 12,000 NQSOs from the Company's 2003 Plan to five of the six re-elected directors at the Company's July 26, 2018 Annual Meeting of Stockholders. Dr. Louis F. Centofanti (a Board member) was not eligible to receive options under the 2003 Plan as an employee of the Company, pursuant to the 2003 Plan. The NQSOs granted were for a contractual term of ten years with a vesting period of six months. The exercise price of the NQSO was \$4.30 per share, which was equal to our closing stock price the day preceding the grant date, pursuant to the 2003 Plan.

On January 13, 2017, the Company granted 6,000 NQSOs from the Company's 2003 Plan to a new director elected by the Company's Board to fill the vacancy left by a Board member who retired from the Board in October 2016. The options granted were for a contractual term of ten years with a vesting period of six months. The exercise price of the NQSO was \$3.79 per share, which was equal to our closing stock price the day preceding the grant date, pursuant to the 2003 Plan.

On July 27, 2017, the Company granted 12,000 NQSOs from the Company's 2003 Plan to five of the six re-elected directors at the 2017 Annual Meeting. Dr. Louis F. Centofanti, who is a member of the Board, was not eligible to receive options under the 2003 Plan as an employee of the Company, pursuant to the 2003 Plan. The NQSOs granted to the five directors were for a contractual term of ten years with a vesting period of six months. The exercise price of the NQSO was \$3.55 per share, which was equal to our closing stock price the day preceding the grant date, pursuant to the 2003 Plan.

On October 19, 2017, the Company granted an aggregate of 110,000 ISOs from the 2017 Plan to certain employees. The ISOs granted were for a contractual term of six years with one-fifth vesting annually over a five year period. The exercise price of the ISO was \$3.60 per share, which was equal to the fair market value of the Company's common stock on the date of grant.

On July 27, 2017, the Company granted an aggregate 200,000 ISOs from the 2017 Plan (following the approval of the 2017 Plan as discussed above) to the three named executive officers of the Company. The ISOs granted has a contractual term of six years with one-fifth vesting annually over a five year period. The exercise price of the ISO was \$3.65 per share, which was equal to the fair market value of the Company's Common Stock on the date of grant.

No employees or directors exercised options during 2018 and 2017.

The Company estimates the fair value of stock options using the Black-Scholes valuation model. Assumptions used to estimate the fair value of stock options granted include the exercise price of the award, the expected term, the expected volatility of the Company's stock over the option's expected term, the risk-free interest rate over the option's expected term, and the expected annual dividend yield. The fair value of the options granted during 2018 and 2017 and the related assumptions used in the Black-Scholes option model used to value the options granted were as follows:

	Employee Stock Option Granted	
	October 19, 2017	July 27, 2017
Weighted-average fair value per share	\$ 1.75	1.88
Risk -free interest rate ⁽¹⁾	1.98%	1.98%
Expected volatility of stock ⁽²⁾	54.64%	53.15%
Dividend yield	None	None
Expected option life ⁽³⁾	5.0 years	6.0 years

	Outside Director Stock Options Granted			
	January 18, 2018	July 26, 2018	January 13, 2017	July 27, 2017
Weighted-average fair value per share	\$ 2.55	3.02	\$ 2.63	\$ 2.48
Risk-free interest rate ⁽¹⁾	2.62%	2.98%	2.40%	2.32%
Expected volatility of stock ⁽²⁾	57.29%	55.34%	56.32%	57.21%
Dividend yield	None	None	None	None
Expected option life ⁽³⁾	10.0 years	10.0 years	10.0 years	10.0 years

(1) The risk-free interest rate is based on the U.S. Treasury yield in effect at the grant date over the expected term of the option.

(2) The expected volatility is based on historical volatility from our traded Common Stock over the expected term of the option.

(3) The expected option life is based on historical exercises and post-vesting data.

The following table summarizes stock-based compensation recognized for fiscal years 2018 and 2017.

	Year Ended	
	2018	2017
Employee Stock Options	\$ 147,000	\$ 78,000
Director Stock Options	51,000	46,000
Total	\$ 198,000	\$ 124,000

At December 31, 2018, the Company has approximately \$432,000 of total unrecognized compensation cost related to unvested employee and director options, of which \$131,000 is expected to be recognized in 2019, \$114,000 in 2020, \$114,000 in 2021, with the remaining \$73,000 in 2022.

Stock Options to Consultant

Robert Ferguson is a consultant to the Board and a consultant to the Company in connection with the Company's Test Bed Initiative ("TBI") at its PFNWR facility (see "Note 16 – Related Party Transactions" for further discussion). For Robert Ferguson's consulting work with the Board, he has been receiving monthly compensation of \$4,000. For Robert Ferguson's consulting work in connection with the Company's TBI, on July 27, 2017 ("grant date"), the Company granted Robert Ferguson a stock option from the Company's 2017 Plan for the purchase of up to 100,000 shares of the Company's Common Stock at an exercise price of \$3.65 a share, which was the fair market value of the Company's Common Stock on the date of grant ("Ferguson Stock Option"). The vesting of the Ferguson Stock Option is subject to the achievement of the following milestones ("waste" as noted below is defined as liquid LAW ("low activity waste") and/or liquid TRU ("transuranic waste")):

- Upon treatment and disposal of three gallons of waste at the PFNWR facility by January 27, 2018, 10,000 shares of the Ferguson Stock Option shall become exercisable;
- Upon treatment and disposal of 2,000 gallons of waste at the PFNWR facility by January 27, 2019, 30,000 shares of the Ferguson Stock Option shall become exercisable; and
- Upon treatment and disposal of 50,000 gallons of waste at the PFNWR facility and assistance, on terms satisfactory to the Company, in preparing certain justifications of cost and pricing data for the waste and obtaining a long-term commercial contract relating to the treatment, storage and disposal of waste by January 27, 2021, 60,000 shares of the Ferguson Stock Option shall become exercisable.

The term of the Ferguson Stock Option is seven (7) years from the grant date. Each of the milestones is exclusive of each other; therefore, achievement of any of the milestones above by Robert Ferguson by the designated date will provide Robert Ferguson the right to exercise the number of options in accordance with the milestone attained (See “Note 18- Subsequent Events” for a discussion of an amendment whereby the second milestone date has been extended to March 31, 2020 from January 27, 2019).

In December 2017, the Company recorded approximately \$20,000 in consulting expenses (included in SG&A) and additional paid-in capital in connection with this transaction which amount was estimated to be the fair value of the 10,000 options on the performance completion date of December 19, 2017 under the first milestone. The fair value of the 10,000 options was estimated using the Black-Scholes valuation model with the following assumptions: 52.65% volatility, risk free interest rate of 2.30%, and an expected life of approximately 6.6 years and no dividends. On May 1, 2018, Robert Ferguson exercised the 10,000 options for the purchase of 10,000 shares of the Company’s Common Stock, resulting in total proceeds paid to the Company of approximately \$36,500.

The Company has not recorded expenses for the remaining 90,000 Ferguson Stock Option since achievement of the performance obligation under each of the two remaining milestones is uncertain at December 31, 2018.

Summary of Stock Option Plans

The summary of the Company’s total plans as of December 31, 2018 and 2017, and changes during the period then ended are presented as follows:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value ⁽²⁾
Options outstanding January 1, 2018	624,800	\$ 4.42		
Granted	18,000	4.22		
Exercised	(10,000)	3.65		
Forfeited/expired	(16,800)	11.70		
Options outstanding end of period ⁽¹⁾	<u>616,000</u>	\$ 4.23	4.7	\$ —
Options exercisable at December 31, 2018 ⁽¹⁾	<u>249,333</u>	\$ 5.04	4.4	\$ —
Options exercisable and expected to be vested at December 31, 2018	<u>616,000</u>	\$ 4.23	4.7	\$ —

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value ⁽²⁾
Options outstanding January 1, 2017	247,200	\$ 6.69		
Granted	428,000	3.64		
Exercised	—	—		
Forfeited/expired	(50,400)	8.95		
Options outstanding end of period ⁽¹⁾	<u>624,800</u>	4.42	5.5	\$ 19,780
Options exercisable at December 31, 2017 ⁽¹⁾	<u>179,467</u>	6.30	4.6	\$ 13,080
Options vested and expected to be vested at December 31, 2017	<u>624,800</u>	\$ 4.42	5.5	\$ 19,780

(1) Options with exercise prices ranging from \$2.79 to \$13.35

(2) The intrinsic value of a stock option is the amount by which the market value of the underlying stock exceeds the exercise price of the option.

The summary of the Company's nonvested options as of December 31, 2018 and changes during the period then ended are presented as follows:

	Shares	Weighted Average Grant-Date Fair Value
Non-vested options January 1, 2018	445,333	\$ 1.89
Granted	18,000	1.89
Vested	(96,666)	1.99
Forfeited	—	—
Non-vested options at December 31, 2018	<u>366,667</u>	<u>\$ 1.91</u>

Common Stock Issued for Services

The Company issued a total of 60,598 and 61,598 shares of our Common Stock in 2018 and 2017, respectively, under our 2003 Plan to our outside directors as compensation for serving on our Board. As a member of the Board, each director elects to receive either 65% or 100% of the director's fee in shares of our Common Stock. The number of shares received is calculated based on 75% of the fair market value of our Common Stock determined on the business day immediately preceding the date that the quarterly fee is due. The balance of each director's fee, if any, is payable in cash. The Company recorded approximately \$249,000 and \$234,000 in compensation expense (included in SG&A) for the twelve months ended December 31, 2018 and 2017, respectively, for the portion of director fees earned in the Company's Common Stock.

Shares Reserved

At December 31, 2018, the Company has reserved approximately 616,000 shares of our Common Stock for future issuance under all of the option arrangements.

NOTE 7
LOSS PER SHARE

The following table reconciles the loss and average share amounts used to compute both basic and diluted loss per share:

(Amounts in Thousands, Except for Per Share Amounts)	Years Ended December 31,	
	2018	2017
Net loss attributable to Perma-Fix Environmental Services, Inc., common stockholders:		
Loss from continuing operations, net of taxes	\$ (1,074)	\$ (3,538)
Net loss attributable to non-controlling interest	(320)	(450)
Loss from continuing operations attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ (754)	\$ (3,088)
Loss from discontinuing operations attributable to Perma-Fix Environmental Services, Inc. common stockholders	(667)	(592)
Net Loss attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ (1,421)	\$ (3,680)
Basic loss per share attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ (.12)	\$ (.31)
Diluted loss per share attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ (.12)	\$ (.31)
Weighted average shares outstanding:		
Basic weighted average shares outstanding	11,855	11,706
Add: dilutive effect of stock options	—	—
Add: dilutive effect of warrants	—	—
Diluted weighted average shares outstanding	11,855	11,706
Potential shares excluded from above weighted average share calculations due to their anti-dilutive effect include:		
Stock options	107	595

NOTE 8
SERIES B PREFERRED STOCK

The 1,284,730 shares of the Series B Preferred Stock (the "Series B Preferred Stock") of the Company's wholly-owned consolidated subsidiary, M&EC, were non-voting and non-convertible, had a \$1.00 liquidation preference per share and were redeemable at the option and sole discretion of M&EC at any time, and from time to time, from and after one year from the date of issuance (June 25, 2001) of the Series B Preferred Stock for the purchase price of \$1.00 per share. Holders of shares of M&EC Series B Preferred Stock were entitled to receive, when, as and if declared by M&EC's Board out of funds legally available for payment, cumulative dividends at the rate per annum of 5% per share on the liquidation preference of \$1.00 per share of Series B Preferred Stock. Dividends on the Series B Preferred Stock accrued without interest beginning one year from the date of original issuance (June 25, 2001), and was payable in cash, if, when, and as declared by M&EC Board, quarterly each year commencing on the first dividend due date following the expiration of one year from the date of original issuance. On April 24, 2018, the Company announced a private exchange offer ("Exchange Offer"), to all 13 holders of the M&EC Series B Preferred Stock, to exchange in a private placement exempt from registration, for every share of Series B Preferred Stock tendered, (a) 0.1050805 shares of newly issued Common Stock of the Company, par value \$.001 per share ("Common Stock"), and (b) cash in lieu of fractional shares of Common Stock that would otherwise be issuable to the tendering holder of Series B Preferred Stock, in an amount equal to such fractional share of Common Stock multiplied by the closing price per share of the Common Stock on the last trading day immediately preceding the expiration date of the Exchange Offer. The Exchange Offer was made on an all-or-none basis, for all 1,284,730 shares of Series B Preferred Stock outstanding and had an expiration date of May 30, 2018. The Company owns 100% of the voting capital stock of M&EC. On May 30, 2018, the Exchange Offer was consummated, resulting in the issuance of an aggregate 134,994 unregistered shares of the Company's Common Stock in exchange for the 1,284,730 shares of Series B Preferred Stock and the payment of an aggregate of approximately \$29.00 in cash in lieu of the fractional shares of the Company's Common Stock that would otherwise have been issuable to the tendering holders of the Series B Preferred Stock. The fair value of the 134,994 shares of the Company's Common Stock issued was determined to be approximately \$648,000 which was based on the closing price of the Company's Common Stock on May 30, 2018 of \$4.80 per share. Upon the consummation of the Exchange Offer, the previous holders of the M&EC Series B Preferred Stock forfeited all rights of a holder of Series B Preferred Shares, including the right to receive quarterly cash dividends, and the rights to the cumulative accrued and unpaid dividends with M&EC Series B Preferred Stock in the amount of approximately \$1,022,000 at May 30, 2018. The M&EC Board never declared dividends on the Series B Preferred Stock and our credit facility prohibits the payment of cash dividends without the lender's consent. After the Exchange Offer, the 1,284,730 shares of the Series B Preferred Stock acquired by the Company were contributed by the Company to M&EC and the Series B Preferred Stock was no longer outstanding. The Company recorded a gain of approximately \$1,596,000 during the second quarter of 2018, which was net of approximately \$63,000 in legal costs incurred for the completion of the transaction.

The shares of Company Common Stock issued in exchange for shares of M&EC's Series B Preferred Stock were issued pursuant to an exemption from registration under the Securities Act of 1933, as amended (the "Securities Act"), and, as a result, were considered restricted securities when issued.

NOTE 9
DISCONTINUED OPERATIONS

The Company's discontinued operations consist of all our subsidiaries included in our Industrial Segment: (1) subsidiaries divested in 2011 and prior, (2) two previously closed locations, and (3) our Perma-Fix of PFSG facility, which is currently in the process of undergoing closure, subject to regulatory approval of necessary plans and permits.

The Company incurred losses from discontinued operations of \$667,000 and \$592,000 for the years ended December 31, 2018 and 2017 (net of taxes of \$0 for each period), respectively. The loss for the year ended 2018 included an increase of approximately \$50,000 in remediation reserve for our Perma-Fix of Dayton ("PFD") subsidiary due to reassessment of the remediation reserve. The remaining loss for each of the periods noted above were primarily due to costs incurred in the administration and continued monitoring of our discontinued operations.

The following table presents the major class of assets of discontinued operations at December 31, 2018 and 2017. No assets and liabilities were held for sale at December 31, 2018 and 2017.

(Amounts in Thousands)	December 31, 2018	December 31, 2017
Current assets		
Other assets	\$ 107	\$ 89
Total current assets	107	89
Long-term assets		
Property, plant and equipment, net ⁽¹⁾	81	81
Other assets	118	195
Total long-term assets	199	276
Total assets	<u>\$ 306</u>	<u>\$ 365</u>
Current liabilities		
Accounts payable	\$ 10	\$ 8
Accrued expenses and other liabilities	296	265
Environmental liabilities	50	632
Total current liabilities	356	905
Long-term liabilities		
Closure liabilities	126	120
Environmental liabilities	837	239
Total long-term liabilities	963	359
Total liabilities	<u>\$ 1,319</u>	<u>\$ 1,264</u>

(1) net of accumulated depreciation of \$10,000 for each period presented.

The Company's discontinued operations include a note receivable in the original amount of approximately \$375,000 recorded in May 2016 resulting from the sale of property at our Perma-Fix of Michigan, Inc. ("PFMI") subsidiary. This note requires 60 equal monthly installment payments by the buyer of approximately \$7,250 (which includes interest). At December 31, 2018, the outstanding amount on this note receivable totaled approximately \$202,000, of which approximately \$84,000 is included in "Current assets related to discontinued operations" and approximately \$118,000 is included in "Other assets related to discontinued operations" in the accompanying Consolidated Balance Sheets.

Environmental Liabilities

The Company has three remediation projects, which are currently in progress at our PFD, Perma-Fix of Memphis, Inc. ("PFM" – closed location), and PFSG (in closure status) subsidiaries. The Company divested PFD in 2008; however, the environmental liability of PFD was retained by the Company upon the divestiture of PFD. These remediation projects principally entail the removal/remediation of contaminated soil and, in most cases, the remediation of surrounding ground water. The remediation activities are closely reviewed and monitored by the applicable state regulators.

At December 31, 2018, we had total accrued environmental remediation liabilities of \$887,000, of which \$50,000 are recorded as a current liability, an increase of \$16,000 from the December 31, 2017 balance of \$871,000. The net increase presents an increase of approximately \$50,000 made to the reserve at our PFD subsidiary due to reassessment of the remediation reserve and payments of approximately \$34,000 on remediation projects for our PFD and PFSG subsidiaries.

The current and long-term accrued environmental liability at December 31, 2018 is summarized as follows (in thousands).

	Current Accrual	Long-term Accrual	Total
PFD	\$ 50	\$ 60	\$ 110
PFM	—	15	15
PFSG	—	762	762
Total liability	<u>\$ 50</u>	<u>\$ 837</u>	<u>\$ 887</u>

NOTE 10 LONG-TERM DEBT

Long-term debt consists of the following at December 31, 2018 and December 31, 2017:

(Amounts in Thousands)	December 31, 2018	December 31, 2017
Revolving Credit facility dated October 31, 2011, as amended, borrowings based upon eligible accounts receivable, subject to monthly borrowing base calculation, balance due March 24, 2021. Effective interest rate for 2018 and 2017 was 5.8% and 4.1%, respectively. ^{(1) (2)}	\$ 639	\$ —
Term Loan dated October 31, 2011, as amended, payable in equal monthly installments of principal of \$102, balance due on March 24, 2021. Effective interest rate for 2018 and 2017 was 5.5% and 4.6%, respectively. ^{(1) (2)}	2,663 ⁽³⁾	3,847 ⁽³⁾
Total debt	<u>3,302</u>	<u>3,847</u>
Less current portion of long-term debt	1,184	1,184
Long-term debt	<u>\$ 2,118</u>	<u>\$ 2,663</u>

⁽¹⁾ Our revolving credit facility is collateralized by our accounts receivable and our term loan is collateralized by our property, plant, and equipment.

⁽²⁾ See below "Revolving Credit and Term Loan Agreement" for monthly payment interest options.

⁽³⁾ Net of debt issuance costs of (\$80,000) and (\$115,000) at December 31, 2018 and December 31, 2017, respectively.

Revolving Credit and Term Loan Agreement

The Company entered into an Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated October 31, 2011 (“Amended Loan Agreement”), with PNC National Association (“PNC”), acting as agent and lender. The Amended Loan Agreement has been amended from time to time since the execution of the Amended Loan Agreement. The Amended Loan Agreement, as subsequently amended (“Revised Loan Agreement”), provides the Company with the following credit facility with a maturity date of March 24, 2021: (a) up to \$12,000,000 revolving credit (“revolving credit”) and (b) a term loan (“term loan”) of approximately \$6,100,000, which requires monthly installments of approximately \$101,600 (based on a seven-year amortization). The maximum that we can borrow under the revolving credit is based on a percentage of eligible receivables (as defined) at any one time reduced by outstanding standby letters of credit and borrowing reductions that our lender may impose from time to time.

Under the Revised Loan Agreement, we have the option of paying an annual rate of interest due on the revolving credit at prime (5.50% at December 31, 2018) plus 2% or London Inter Bank Offer Rate (“LIBOR”) plus 3% and the term loan at prime plus 2.5% or LIBOR plus 3.5%.

Pursuant to the Revised Loan Agreement, the Company may terminate the Revised Loan Agreement, upon 90 days’ prior written notice upon payment in full of its obligations under the Revised Loan Agreement. The Company agreed to pay PNC 1.0% of the total financing had the Company paid off its obligations on or before March 23, 2017, .50% of the total financing had the Company paid off its obligations after March 23, 2017 but prior to or on March 23, 2018, and .25% of the total financing if the Company pays off its obligations after March 23, 2018 but prior to or on March 23, 2019. No early termination fee shall apply if the Company pays off its obligations after March 23, 2019.

At December 31, 2018, the borrowing availability under our revolving credit was approximately \$2,368,000, based on our eligible receivables and includes an indefinite reduction of borrowing availability of \$1,000,000 that the Company’s lender has imposed. The Company’s borrowing availability under our revolving credit was also reduced by outstanding standby letters of credit totaling approximately \$2,648,000. Previously, the Company’s lender had imposed an indefinite reduction of borrowing availability of \$2,000,000; however, on July 26, 2018, the Company entered into an amendment to our Revised Loan Agreement with our lender which provided, among other things, for the release of \$1,000,000 of the \$2,000,000 reduction in borrowing availability by our lender. The release of this \$1,000,000 in borrowing availability reduction is to be used by the Company for working capital purposes. Most of the other terms of the Revised Loan Agreement remain principally unchanged.

The Company’s credit facility with PNC contains certain financial covenants, along with customary representations and warranties. A breach of any of these financial covenants, unless waived by PNC, could result in a default under our credit facility allowing our lender to immediately require the repayment of all outstanding debt under our credit facility and terminate all commitments to extend further credit. Our Revised Loan Agreement prohibits us from paying cash dividends on our Common Stock without prior approval from our lender. The Company met all of its financial covenant requirements in 2018 with the exception of its quarterly minimum fixed charge coverage ratio requirement for the fourth quarter of 2018. In March 2019, the Company entered into another amendment to its Revised Loan Agreement which provided a waiver for this non-compliance in addition to further amendments to our fixed charge coverage ratio requirements (see “Note 19 – Subsequent Events - Revolving Credit and Term Loan Agreement” for a discussion of this amendment). As a result of this amendment, the Company expects to meet its financial covenant requirements in 2019 and into the first quarter of 2020.

The following table details the amount of the maturities of long-term debt maturing in future years at December 31, 2018 (excludes debt issuance costs of \$80,000).

Year ending December 31:
(In thousands)

2019	1,219
2020	1,219
2021	944
Total	<u>\$ 3,382</u>

NOTE 11
CAPITAL LEASES

The following table details the amount of the maturities of capital leases maturing in future years at December 31, 2018 (in thousands):

Year ending December 31:	Capital Leases
2019	\$ 181
2020	226
2021	42
Total	<u>449(1)</u>

(1) Interest at rate ranging from 5.8% to 11.9%

The Company had no capital leases in 2017.

NOTE 12
ACCRUED EXPENSES

Accrued expenses include the following (in thousands) at December 31:

	2018	2017
Salaries and employee benefits	\$ 3,228	\$ 2,988
Accrued sales, property and other tax	404	402
Interest payable	7	3
Insurance payable	710	630
Other	665	759
Total accrued expenses	<u>\$ 5,014</u>	<u>\$ 4,782</u>

Each of our executives has an individual Management Incentive Plan ("MIP") for fiscal years 2018 and 2017 which provides for the potential payment of performance compensation (see "Note 17 – Related Party Transactions – MIPs" for further discussion of the MIPs). No performance compensation payments were earned under any of the MIPs for 2018 and 2017.

NOTE 13
ACCRUED CLOSURE COSTS AND ARO

Accrued closure costs represent our estimated environmental liability to clean up our fixed-based regulated facilities as required by our permits, in the event of closure. Changes to reported closure liabilities (current and long-term) for the years ended December 31, 2018 and 2017, were as follows:

Amounts in thousands	
Balance as of December 31, 2016	\$ 7,315
Accretion expense	460
Spending	(2,037)
Adjustment to closure liability	2,657
Balance as of December 31, 2017	<u>8,395</u>
Accretion expense	325
Spending	(5,293)
Adjustment to closure liability	3,323
Balance as of December 31, 2018	<u>\$ 6,750</u>

The Company recorded an additional \$3,323,000 and \$1,400,000 in closure liabilities in 2018 and 2017, respectively, due to changes in estimated future closure costs for our M&EC subsidiary which is in closure status (see "Note 4 – M&EC Facility" for further information of these additional closure liabilities recorded). The Company also recorded an additional \$1,257,000 in closure liabilities in 2017 for its DSSI subsidiary due to changes in estimated future closure costs.

In 2018 and 2017, the Company had spending of approximately \$4,991,000 and \$1,872,000, respectively, in closure related activities for the M&EC subsidiary. In 2018 and 2017, the Company had spending of approximately \$302,000 and \$165,000, respectively, in closure related activities for the PFNWR subsidiary in connection with the closure of certain processing equipment/enclosure.

At December 31, 2018 and 2017, M&EC's closure liabilities totaled approximately \$1,142,000 and \$2,791,000, respectively, with the entire amount classified as current.

The reported closure asset or ARO, is reported as a component of "Net Property and equipment" in the Consolidated Balance Sheets at December 31, 2018 and 2017 with the following activity for the years ended December 31, 2018 and 2017:

Amounts in thousands	
Balance as of December 31, 2016	\$ 4,148
Amortization of closure and post-closure asset	(1,071)
Impairment of closure and post-closure asset	(413)
Adjustment to closure and post-closure asset	1,257
Balance as of December 31, 2017	<u>3,921</u>
Amortization of closure and post-closure asset	(191)
Balance as of December 31, 2018	<u>\$ 3,730</u>

The impairment of ARO for 2017 resulted from the impairment of M&EC's remaining tangible assets recorded in 2017 (See "Note 4 – M&EC Facility"). The adjustment made to ARO for 2017 was due to the increase in closure liabilities recorded for the DSSI subsidiary as discussed above.

NOTE 14
INCOME TAXES

The components of current and deferred federal and state income tax (benefit) expense for continuing operations for the years ended December 31, consisted of the following (in thousands):

	2018	2017
Federal income tax benefit - current	\$ —	\$ (780)
Federal income tax benefit - deferred	(1,171)	(778)
State income tax expense - current	173	163
State income tax expense - deferred	62	110
Total income tax benefit	<u>\$ (936)</u>	<u>\$ (1,285)</u>

An overall reconciliation between the expected tax benefit using the federal statutory rate of 21% and 34% for the years ended 2018 and 2017, respectively, and the benefit for income taxes from continuing operations as reported in the accompanying Consolidated Statement of Operations is provided below (in thousands).

	2018	2017
Tax benefit at statutory rate	\$ (392)	\$ (1,640)
State tax benefit, net of federal benefit	(178)	(295)
Change in deferred tax rates	(78)	1,711
Impact of Tax Act	—	(1,695)
Permanent items	(388)	104
Difference in foreign rate	13	170
Change in deferred tax liabilities	114	881
Other	(99)	(135)
Decrease in valuation allowance	72	(386)
Income tax benefit	<u>\$ (936)</u>	<u>\$ (1,285)</u>

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the "TCJA") was signed into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017, the transition of U.S international taxation from a worldwide tax system to a territorial system, the elimination of AMT for corporations and a one-time transition tax on the mandatory deemed repatriation of foreign earnings.

As of December 31, 2018, the Company has completed its accounting for the tax effects of the enactment of the TCJA under the guidance of Staff Accounting Bulletin No. 118 ("SAB 118") (issued December 22, 2017), which provides registrants a one-year measurement period to report the impact of the TCJA.

Specific to the enactment of the TCJA, the Company recognized a tax benefit of \$1,695,000 in the fourth quarter of 2017 which consisted of \$916,000 related to the re-measurement of deferred tax assets and liabilities, based on the rates at which they are expected to reverse in the future and \$779,000 related to the reversal of valuation allowance and refunding of AMT credit carryforwards.

An additional provision of the TCJA was to provide an indefinite carryforward period for net operating losses ("NOLs") generated starting in 2018. Also, the law limits the utilization of these NOLs to 80% of taxable income in the year in which the NOL is utilized. The Company has been carrying on its balance sheet a deferred tax liability related to indefinite-lived intangible assets. A common accounting interpretation of the new TCJA provisions is that deferred tax assets related to indefinite-lived NOLs may now be used to offset indefinite-lived deferred tax liabilities, up to 80% of the amount of the liability. During 2018, the Company forecasted a substantial tax loss for the full year due to the closure of the M&EC facility. As a result, the Company released a portion of the valuation allowance against deferred tax assets equal to 80% of the deferred tax liability related to indefinite-lived intangible assets and recorded a tax benefit in the amount of approximately \$1,235,000 in accordance to the provisions of the TCJA.

The global intangible low-taxed income ("GILTI") provisions under the TCJA require the Company to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary's tangible assets. The Company has elected to account for GILTI tax in the period in which it is incurred, and therefore has not provided any deferred tax impacts of GILTI in its consolidated financial statements for the years ended December 31, 2017 and 2018. As the foreign subsidiaries are all in loss positions for 2018, there is no GILTI inclusion for the current year.

The base-erosion and anti-abuse tax provisions (“BEAT”) in the TCJA eliminates the deduction of certain base-erosion payments made to related foreign corporations, and imposes a minimum tax if greater than regular tax. The Company does not expect it will be subject to this tax due to the immaterial amounts of outbound U.S. payments and therefore has not included any tax impacts of BEAT in its consolidated financial statements for the years ended December 31, 2017 and 2018.

The TCJA imposes a one-time transition tax on previously untaxed earnings and profits of foreign subsidiaries. As of December 31, 2018, the Company has current and accumulated deficits in earnings and profits for all of its foreign subsidiaries. As such, the Company does not expect any exposure to the one-time transition tax.

The Company had temporary differences and net operating loss carry forwards from both our continuing and discontinued operations, which gave rise to deferred tax assets and liabilities at December 31, 2018 and 2017 as follows (in thousands):

	2018	2017
Deferred tax assets:		
Net operating losses	\$ 9,540	\$ 5,992
Environmental and closure reserves	2,124	2,158
Depreciation and amortization	—	907
Other	1,263	1,252
Deferred tax liabilities:		
Depreciation and amortization	(2,418)	—
Goodwill and indefinite lived intangible assets	(586)	(1,694)
Prepaid expenses	(30)	(50)
	9,893	8,565
Valuation allowance	(10,479)	(10,259)
Net deferred income tax liabilities	<u>(586)</u>	<u>(1,694)</u>

In 2018 and 2017, the Company concluded that it was more likely than not that \$10,479,000 and \$10,259,000 of our deferred income tax assets would not be realized, and as such, a full valuation allowance was applied against those deferred income tax assets.

The Company has estimated net operating loss carryforwards (“NOLs”) for federal and state income tax purposes of approximately \$21,277,000 and \$76,312,000, respectively, as of December 31, 2018. The estimated consolidated federal and state NOLs include approximately \$2,629,000 and \$3,797,000, respectively, of our majority-owned subsidiary, PF Medical, which is not part of our consolidated group for tax purposes. These net operating losses can be carried forward and applied against future taxable income, if any, and expire in various amounts starting in 2021. However, as a result of various stock offerings and certain acquisitions, which in the aggregate constitute a change in control, the use of these NOLs will be limited under the provisions of Section 382 of the Internal Revenue Code of 1986, as amended. Additionally, NOLs may be further limited under the provisions of Treasury Regulation 1.1502-21 regarding Separate Return Limitation Years.

The tax years 2016 through 2018 remain open to examination by taxing authorities in the jurisdictions in which the Company operates.

No uncertain tax positions were identified by the Company for the years currently open under statute of limitations, including 2018 and 2017.

The Company had no federal income tax payable for the years ended December 31, 2018 and 2017.

NOTE 15
COMMITMENTS AND CONTINGENCIES

Hazardous Waste

In connection with our waste management services, we process both hazardous and non-hazardous waste, which we transport to our own, or other, facilities for destruction or disposal. As a result of disposing of hazardous substances, in the event any cleanup is required at the disposal site, we could be a potentially responsible party for the costs of the cleanup notwithstanding any absence of fault on our part.

Legal Matters

In the normal course of conducting our business, we are involved in various litigation. We are not a party to any litigation or governmental proceeding which our management believes could result in any judgments or fines against us that would have a material adverse effect on our financial position, liquidity or results of future operations.

Insurance

The Company has a 25-year finite risk insurance policy entered into in June 2003 ("2003 Closure Policy") with AIG, which provides financial assurance to the applicable states for our permitted facilities in the event of unforeseen closure. The 2003 Closure Policy, as amended, provides for a maximum allowable coverage of \$39,000,000 and has available capacity to allow for annual inflation and other performance and surety bond requirements. At December 31, 2018, our financial assurance coverage amount under this 2003 Closure Policy totaled approximately \$29,977,000. The Company has recorded \$15,971,000 and \$15,676,000 in sinking fund related to this policy in other long term assets on the accompanying Consolidated Balance Sheets at December 31, 2018 and 2017, respectively, which includes interest earned of \$1,500,000 and \$1,205,000 on the sinking fund as of December 31, 2018 and 2017, respectively. Interest income for the years ended 2018 and 2017 was approximately \$295,000 and \$130,000, respectively. If the Company so elects, AIG is obligated to pay the Company an amount equal to 100% of the sinking fund account balance in return for complete release of liability from both us and any applicable regulatory agency using this policy as an instrument to comply with financial assurance requirements.

The Company also had a finite risk insurance policy dated August 2007 for our PFNWR facility with AIG ("PFNWR policy") which provided financial assurance to the State of Washington in the event of closure of the PFNWR facility. In April 2017, the Company received final releases from state and federal regulators for the PFNWR policy which enabled the Company to cancel the PFNWR policy resulting in the release of approximately \$5,951,000 (which had been recorded in other long term assets on the Company's Consolidated Balance Sheets) on May 1, 2017 in finite sinking funds previously held by AIG as collateral for the PFNWR policy. The Company used the released finite sinking funds to pay off our revolving credit with the remaining funds used for general working capital needs. The Company acquired new bonds in the required amount of approximately \$7,000,000 ("new bonds") to replace the PFNWR policy in providing financial assurance for the PFNWR facility. Upon receipt of the \$5,951,000 in finite sinking funds from AIG, the Company and its lender executed a standby letter of credit in the amount of \$2,500,000 as collateral for the new bonds for the PFNWR facility.

Letter of Credits and Bonding Requirements

From time to time, the Company is required to post standby letters of credit and various bonds to support contractual obligations to customers and other obligations, including facility closures. At December 31, 2018, the total amount of standby letters of credit outstanding totaled approximately \$2,648,000 and the total amount of bonds outstanding totaled approximately \$11,284,000.

Operating Leases

The Company leases certain facilities and equipment under non-cancelable operating leases. The following table lists future minimum rental payments at December 31, 2018 under these (in thousands):

Year ending December 31:	
2019	575
2020	406
2021	308
2022	103
Total	<u>\$ 1,392</u>

Total rent expense under these leases was \$766,000 and \$754,000 for the years ended 2018 and 2017, respectively.

NOTE 16 PROFIT SHARING PLAN

The Company adopted a 401(k) Plan in 1992, which is intended to comply with Section 401 of the Internal Revenue Code and the provisions of the Employee Retirement Income Security Act of 1974. All full-time employees who have attained the age of 18 are eligible to participate in the 401(k) Plan. Eligibility is immediate upon employment but enrollment is only allowed during four quarterly open periods of January 1, April 1, July 1, and October 1. Participating employees may make annual pretax contributions to their accounts up to 100% of their compensation, up to a maximum amount as limited by law. The Company, at its discretion, may make matching contributions of 25% based on the employee's elective contributions. Company contributions vest over a period of five years. In 2018 and 2017, the Company contributed approximately \$338,000 and \$326,000 in 401(k) matching funds, respectively.

NOTE 17 RELATED PARTY TRANSACTIONS

David Centofanti

David Centofanti serves as our Vice President of Information Systems. For such position, he received annual compensation of \$173,000 and \$168,000 for 2018 and 2017, respectively. David Centofanti is the son of our EVP of Strategic Initiatives and a Board member, Dr. Louis Centofanti. Dr. Louis Centofanti previously held the position of President and CEO until September 8, 2017.

Robert Ferguson

Robert Ferguson serves as an advisor to our Board and was also a member of the Supervisory Board of PF Medical (until May 11, 2018), our majority-owned Polish subsidiary of the Company. Robert Ferguson previously served as our Board member from June 2007 to February 2010 and again from August 2011 to September 2012. As an advisor to our Board, Robert Ferguson is paid \$4,000 monthly plus reasonable expenses. For such services, Robert Ferguson received compensation of approximately \$50,000 and \$51,000 for the years 2018 and 2017, respectively. Robert Ferguson is also a consultant to the Company in connection with our TBI at our PFNWR facility (see "Note 6 – Capital Stock, Stock Plan, Warrants, and Stock Based Compensation" for a discussion of the options granted to Robert Ferguson in connection with the TBI initiatives).

Employment Agreements

The Company entered into employment agreements with each of Mark Duff (President and CEO effective September 8, 2017, who previously held the position of EVP and COO), Ben Naccarato (CFO), and Dr. Louis Centofanti, (EVP of Strategic Initiatives, who retired from the position of President and CEO effective September 8, 2017) with each employment agreement dated September 8, 2017. Each of the employment agreements is effective for three years from September 8, 2017 (the "Initial Term") unless earlier terminated by us or by the executive officer. At the end of the Initial Term of each employment agreement, each employment agreement will automatically be extended for one additional year, unless at least six months prior to the expiration of the Initial Term, the Company or the executive officer provides written notice not to extend the terms of the employment agreement. Each employment agreement provides for annual base salaries, performance bonuses as provided in the MIP as approved by our Board, and other benefits commonly found in such agreements. In addition, each employment agreement provides that in the event the executive officer terminates his employment for "good reason" (as defined in the agreements) or is terminated by the Company without cause (including the executive officer terminating his employment for "good reason" or is terminated by us without cause within 24 months after a Change in Control (as defined in the agreement)), the Company will pay the executive officer the following: (a) a sum equal to any unpaid base salary; (b) accrued unused vacation time and any employee benefits accrued as of termination but not yet been paid ("Accrued Amounts"); (c) two years of full base salary; (d) performance compensation under the MIP earned with respect to the fiscal year immediately preceding the date of termination; and (e) an additional year of performance compensation as provided under the MIP earned, if not already paid, with respect to the fiscal year immediately preceding the date of termination. If the executive terminates his employment for a reason other than for good reason, the Company will pay to the executive the amount equal to the Accrued Amounts plus any performance compensation payable pursuant to the MIP.

If there is a Change in Control (as defined in the agreements), all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full commencing on the date of termination through the original term of the options. In the event of the death of an executive officer, all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full commencing on the date of death, with such options exercisable for the lesser of the original option term or twelve months from the date of the executive officer's death. In the event of an executive officer terminating his employment for "good reason" or is terminated by us without cause, all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full commencing on the date of termination, with such options exercisable for the lesser of the original option term or within 60 days from the date of the executive's date of termination.

The Company had previously entered into an employment agreement with each of Dr. Louis Centofanti and Ben Naccarato on July 10, 2014 which both employment agreements were due to expire on July 10, 2018, as amended (the "July 10, 2014 Employment Agreements"). The Company also had previously entered into an employment agreement dated January 19, 2017 (which was effective June 11, 2016) with Mark Duff which is due to expire on June 11, 2019 (the "January 19, 2017 Employment Agreement"). The July 10, 2014 Employment Agreements and the January 19, 2017 Employment Agreement were terminated effective September 8, 2017.

MIPs

On January 18, 2018, our Board and the Compensation Committee approved individual MIP for each Mark Duff, CEO and President, Ben Naccarato, CFO, and Dr. Louis Centofanti, EVP of Strategic Initiatives. The MIPs are effective January 1, 2018 and applicable for year ended December 31, 2018. Each MIP provides guidelines for the calculation of annual cash incentive based compensation, subject to Compensation Committee oversight and modification. Each MIP awards cash compensation based on achievement of performance thresholds, with the amount of such compensation established as a percentage of the executive's 2018 annual base salary on the approval date of the MIP. The potential target performance compensation ranges from 5% to 100% (\$13,350 to \$267,000) of the base salary for the CEO and President; 5% to 100% (\$11,475 to \$229,494) of the base salary for the CFO; and 5% to 100% (\$11,170 to \$223,400) of the base salary for the EVP of Strategic Initiatives. Pursuant to the MIPs, the Compensation Committee has the right to modify, change or terminate the MIPs at any time and for any reason. No performance compensation was earned or payable under each of the 2018 MIPs as discussed above.

NOTE 18 SEGMENT REPORTING

In accordance with ASC 280, "Segment Reporting", we define an operating segment as a business activity:

- from which we may earn revenue and incur expenses;
- whose operating results are regularly reviewed by the chief operating decision maker ("CODM") to make decisions about resources to be allocated to the segment and assess its performance; and
- for which discrete financial information is available.

We currently have three reporting segments, which include Treatment and Services Segments, which are based on a service offering approach; and Medical, whose primary purpose at this time is the R&D of a new medical isotope production technology. The Medical Segment has not generated any revenues and all costs incurred are reflected within R&D in the accompanying Consolidated Statements of Operations. As previously disclosed, the Medical Segment ceased a substantial portion of its R&D activities for the medical isotope production technology due to the need for substantial capital to fund such activities. Additionally, the Company is reviewing further strategic options for the Medical Segment. The Company does not anticipate that the Medical Segment will restart such activities until it obtains such funding. Our reporting segments exclude our corporate headquarter and our discontinued operations (see "Note 9 – Discontinued Operations") which do not generate revenues.

The table below shows certain financial information of our reporting segments as of and for the years ended December 31, 2018 and 2017 (in thousands).

Segment Reporting as of and for the year ended December 31, 2018

	Treatment	Services	Medical	Segments Total	Corporate ⁽²⁾	Consolidated Total
Revenue from external customers	\$ 36,271	\$ 13,268	—	\$ 49,539 ⁽³⁾	\$ —	\$ 49,539
Intercompany revenues	509	70	—	579	—	—
Gross profit	7,197	1,264	—	8,461	—	8,461
Research and development	483	—	811	1,294	76	1,370
Interest income	—	—	—	—	295	295
Interest expense	(22)	(2)	—	(24)	(227)	(251)
Interest expense-financing fees	—	—	—	—	(38)	(38)
Depreciation and amortization	943	465	—	1,408	47	1,455
Segment income (loss) before income taxes	4,550 ⁽⁶⁾	(756)	(811)	2,983	(4,993)	(2,010)
Income tax (benefit) expense	(943) ⁽⁷⁾	—	—	(943)	7	(936)
Segment income (loss)	5,493	(756)	(811)	3,926	(5,000)	(1,074)
Segment assets ⁽¹⁾	32,800	5,188	25	38,013	19,429 ⁽⁴⁾	57,442
Expenditures for segment assets	1,311	117	—	1,428	4	1,432
Total debt	—	—	—	—	3,302 ⁽⁵⁾	3,302

Segment Reporting as of and for the year ended December 31, 2017

	Treatment	Services	Medical	Segments Total	Corporate ⁽²⁾	Consolidated Total
Revenue from external customers	\$ 37,750	\$ 12,019	—	\$ 49,769 ⁽³⁾	\$ —	\$ 49,769
Intercompany revenues	362	31	—	393	—	—
Gross profit	7,916	704	—	8,620	—	8,620
Research and development	439	—	1,141	1,580	15	1,595
Interest income	—	—	—	—	140	140
Interest expense	(35)	(5)	—	(40)	(275)	(315)
Interest expense-financing fees	—	—	—	—	(35)	(35)
Depreciation and amortization	3,228	536	—	3,764	39	3,803
Segment income (loss) before income taxes	3,577 ⁽⁸⁾	(2,286)	(1,141)	150	(4,973)	(4,823)
Income tax (benefit) expense	(1,290) ⁽⁷⁾	—	—	(1,290)	5	(1,285)
Segment income (loss)	4,867	(2,286)	(1,141)	1,440	(4,978)	(3,538)
Segment assets ⁽¹⁾	32,724	6,324	548	39,596	19,942 ⁽⁴⁾	59,538
Expenditures for segment assets	396	43	—	439	—	439
Total debt	—	—	—	—	3,847 ⁽⁵⁾	3,847

(1) Segment assets have been adjusted for intercompany accounts to reflect actual assets for each segment.

(2) Amounts reflect the activity for corporate headquarters not included in the segment information.

- (3) The Company performed services relating to waste generated by the domestic government clients (includes U.S federal, state and local), either directly as a prime contractor or indirectly for others as a subcontractor to government entities, representing approximately \$34,811,000 or 70.3% of total revenue for 2018 and \$37,019,000 or 74.4% of total revenue for 2017. The following reflects such revenue generated by our two segments:

	2018	2017
Treatment	\$ 25,181,000	\$ 27,956,000
Services	9,630,000	9,063,000
Total	\$ 34,811,000	\$ 37,019,000

- (4) Amount includes assets from our discontinued operations of \$306,000 and \$365,000 at December 31, 2018 and 2017, respectively.
- (5) Net of debt issuance costs of (\$80,000) and (\$115,000) for 2018 and 2017, respectively (see “Note 10 – “Long-Term Debt” for additional information).
- (6) Amount includes a net gain of \$1,596,000 recorded resulting from the exchange offer of the Series B Preferred Stock of the Company’s M&EC subsidiary (see “Note 8 – Series B Preferred Stock”)
- (7) For the year ended December 31, 2018 and 2017, amount includes a tax benefit recorded in the amount of approximately \$1,235,000 and \$1,695,000, respectively, resulting from the TCJA enacted on December 22, 2017 (see “Note 14 – Income Taxes” for further information of this tax benefit).
- (8) Amount includes tangible asset impairment loss of \$672,000 recorded in connection with the closure of M&EC (see “Note 4 – M&EC Facility”).

**NOTE 19
SUBSEQUENT EVENTS**

MIPs

On January 17, 2019, the Company’s Compensation Committee and the Board approved individual MIP for the CEO, CFO, and EVP of Strategic Initiatives. Each MIP is effective January 1, 2019 and applicable for the year ended December 31, 2019. Each MIP provides guidelines for the calculation of annual cash incentive based compensation, subject to Compensation Committee oversight and modification. Each MIP awards cash compensation based on achievement of performance thresholds, with the amount of such compensation established as a percentage of the executive’s annual 2019 base salary on the approval date of the MIP. The potential target performance compensation ranges from 5% to 150% of the 2019 base salary for the CEO (\$14,350 to \$430,500), 5% to 100% of the 2019 base salary for the CFO (\$11,762 to \$235,231), and 5% to 100% of the 2019 base salary for the EVP of Strategic Initiatives (\$11,449 to \$228,985).

Grant of Options

On January 17, 2019 the Company’s Compensation Committee and the Board approved the grant of 105,000 ISOs from the 2017 Stock Option Plan to certain employees, which included our named executive officers as follows: 25,000 ISOs to our CEO, Mark Duff; 15,000 ISOs to our CFO, Ben Naccarato; and 15,000 ISOs to our EVP of Strategic Initiatives, Dr. Louis Centofanti. The ISOs granted were for a contractual term of six years with one-fifth vesting annually over a five year period. The exercise price of the ISO was \$3.15 per share, which was equal to the fair market value of the Company’s Common Stock on the date of grant.

Stock Option to Consultant

As discussed in “Note 6 – Capital Stock, Stock Plans, Warrants, and Stock Based Compensation – Stock Options to Consultant”, the Company granted a NQSO to Robert Ferguson for the purchase of up to 100,000 shares of the Company’s Common Stock (“Ferguson Stock Option”) in connection with his work as a consultant to the Company’s TBI. The vesting of the Ferguson Stock Option is subject to the achievement of three separate milestones by certain date. On January 17, 2019, the Company’s Compensation Committee and Board approved an amendment to the Ferguson Stock Option whereby the vesting date for the second milestone was amended from “by January 27, 2019” to “by March 31, 2020.” All other terms of the Ferguson Stock Option remain unchanged.

Loan and Securities Purchase Agreement, Promissory Note and Subordination Agreement

On April 1, 2019, the Company completed a lending transaction with Robert Ferguson (the “Lender”), whereby the Company borrowed from the Lender the sum of \$2,500,000 pursuant to the terms of a Loan and Security Purchase Agreement and promissory note (the “Loan”). The Lender is a shareholder of the Company. The Lender also currently serves as a consultant to the Company’s PFNWR subsidiary (see Note 17 - Related Party Transactions – Robert Ferguson” for further information). The proceeds from the Loan will be used for general working capital purposes. The Loan is unsecured, with a term of two years with interest payable at a fixed interest rate of 4.00% per annum. The Loan provides for monthly payments of accrued interest only during the first year of the Loan, with the first interest payment due May 1, 2019 and monthly payments of approximately \$208,333 in principal plus accrued interest starting in the second year of the Loan. The Loan also allows for prepayment of principal payments over the term of the Loan without penalty. In connection with the above Loan, the Lender entered into a Subordination Agreement with our credit facility lender, whereby the Lender agreed to subordinate payment under the Loan, and agreed that the Loan will be junior in right of payment to the credit facility in the event of default or bankruptcy or other insolvency proceeding by us. As consideration for us receiving the Loan, the Company issued a Warrant to the Lender to purchase up to 60,000 shares of our Common Stock at an exercise price of \$3.51, which was the closing bid price for a share of our Common Stock on NASDAQ.com immediately preceding the execution of the Loan and Warrant. The Warrant is exercisable six months from April 1, 2019 and expires on April 1, 2024. As further consideration for the Loan, the Company also will issue an aggregate 75,000 shares of our Common Stock to the Lender. The 75,000 shares of Common Stock and 60,000 Common Stock purchase warrant will be and was issued in a private placement that was exempt from registration under the Securities Act and bear a restrictive legend against resale except in a transaction registered under the Securities Act or in a transaction exempt from registration thereunder.

Upon default, the Lender will have the right to elect to receive in full and complete satisfaction of the Company’s obligations under the Loan either: (a) the cash amount equal to the sum of the unpaid principal balance owing under the loan and all accrued and unpaid interest thereon (the “Payoff Amount”) or (b) upon meeting certain conditions, the number of whole shares of the Company’s Common Stock (the “Payoff Shares”) determined by dividing the Payoff Amount by the dollar amount equal to the closing bid price of our Common Stock on the date immediately prior to the date of default, as reported or quoted on the primary nationally recognized exchange or automated quotation system on which our Common Stock is listed; provided however, that the dollar amount of such closing bid price shall not be less than \$3.51, the closing bid price for our Common Stock as disclosed on NASDAQ.com immediately preceding the signing of this loan agreement.

If issued, the Payoff Shares will not be registered and the Lender will not be entitled to registration rights with respect to the Payoff Shares. The aggregate number of shares, warrant shares, and Payoff Shares that are or will be issued to the Lender pursuant to the Loan, together with the aggregate shares of the Company’s Common Stock and other voting securities owned by the Lender as of the date of issuance of the Payoff Shares, shall not exceed the number of shares of the Company’s Common Stock equal to 14.9% of the number of shares of the Company’s Common Stock issued and outstanding as of the date immediately prior to the default, less the number of shares of the Company’s Common Stock owned by the Lender immediately prior to the date of such default plus the number of shares of our Common Stock that may be acquired by the Lender under warrants and/or options outstanding immediately prior to the date of such default.

The Company is currently evaluating the accounting treatment of this transaction and the impact to our financial statements.

Revolving Credit and Term Loan Agreement

On March 29, 2019, the Company entered into an amendment to its Revised Loan Agreement with its lender under the credit facility which provided the following:

- waived the Company’s failure to meet the minimum quarterly fixed charge coverage ratio (“FCCR”) requirement for the fourth quarter of 2018;
- waived the quarterly FCCR testing requirement for the first quarter of 2019;
- revised the methodology to be used in calculating the FCCR in each of the second and third quarters of 2019 (with continued requirement to maintain a minimum 1.15:1 ratio in each of the quarters);
- revised the minimum Tangible Adjusted Net Worth requirement (as defined in the Revised Loan Agreement) from \$26,000,000 to \$25,000,000;
- eliminated the LIBOR interest payment option of paying annual rate of interest due on our term loan and revolving credit until the Company becomes compliant with its FCCR requirement again. As a result of this amendment, the Company’s payment of annual rate of interest due on our term loan will be at prime plus 2.5% and prime plus 2.0% for our revolving credit;
- provided consent for the \$2,500,000 loan that the Company entered into with Robert Ferguson as discussed above. The Company is not allowed to make any principal prepayment on this loan until it receives the restricted finite risk sinking funds held as collateral by AIG under our financial assurance policy. The Company expects to receive this restricted funds resulting from the closure of our M&EC facility (see “Note 1 – Description of Business and Basis of Presentation - Financial Position and Liquidity” for a discussion of this expected receipt); and
- revised the annual rate used to calculate the Facility Fee (as defined in the Revised Loan Agreement) (unused revolving credit line fee) from 0.250% to 0.375%.

Most of the other terms of the Revised Loan Agreement remain principally unchanged. In connection with this amendment, the Company paid its lender a fee of \$20,000 (see “Note 10 – Long Term Debt – Revolving Credit and Term Loan Agreement” for a discussion of the Revised Loan Agreement prior to this amendment).

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures.

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our periodic reports filed with the Securities and Exchange Commission (the "Commission") is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Commission and that such information is accumulated and communicated to our management, including the Chief Executive Officer ("CEO") (Principal Executive Officer), and Chief Financial Officer ("CFO") (Principal Financial Officer), as appropriate to allow timely decisions regarding the required disclosure. In designing and assessing our disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their stated control objectives and are subject to certain limitations, including the exercise of judgment by individuals, the difficulty in identifying unlikely future events, and the difficulty in eliminating misconduct completely. Our management, with the participation of our CEO and CFO, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended. Based upon this assessment, our CEO and CFO have concluded that our disclosure controls and procedures were effective as of December 31, 2018.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) of the Securities Exchange Act of 1934. Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements or fraudulent acts. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. A control system, no matter how well designed, can provide only reasonable assurance with respect to financial statement preparation and presentation.

Internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit the preparation of the consolidated financial statements in accordance with generally accepted accounting principles in the United States of America, and that receipts and expenditures of the Company are being made only in accordance with appropriate authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the consolidated financial statements.

Management, with the participation of our CEO and CFO, conducted an assessment of the effectiveness of internal control over financial reporting as of December 31, 2018 based on the framework in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on this assessment, management, with the participation of our CEO and CFO, concluded that the Company’s internal control over financial reporting was effective as of December 31, 2018.

This Form 10-K does not include an attestation report of the Company’s independent registered public accounting firm regarding internal control over financial reporting. Since the Company is not a large accelerated filer or an accelerated filer, management’s report was not subject to attestation by the Company’s independent registered public accounting firm pursuant to the rules of the Commission that permit the Company to provide only management’s report in this Form 10-K.

Changes in Internal Control over Financial Reporting

There was no other change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fiscal quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

DIRECTORS

The following table sets forth, as of the date of this Report, information concerning our Board of Directors (“Board”):

<u>NAME</u>	<u>AGE</u>	<u>POSITION</u>
Dr. Louis F. Centofanti	75	Director; EVP of Strategic Initiatives; President of PF Medical
Mr. S. Robert Cochran	65	Director
Honorable Joe R. Reeder	71	Director
Mr. Larry M. Shelton	65	Chairman of the Board
Mr. Zach P. Wamp	61	Director
Mr. Mark A. Zwecker	68	Director

Each director is elected to serve until the next annual meeting of stockholders.

Director Information

Our directors and executive officers, their ages, the positions with us held by each of them, the periods during which they have served in such positions and a summary of their recent business experience is set forth below. Each of the biographies of the current directors listed below also contains information regarding such person’s service as a director, business experience, director positions with other public companies held currently or at any time during the past five years, and the experience, qualifications, attributes and skills that our Board considered in nominating or appointing each of them to serve as one of our directors.

Dr. Louis F. Centofanti

Dr. Centofanti, the founder of the Company and a director of the Company since its inception in 1991, currently holds the position of EVP of Strategic Initiatives. Effective January 26, 2018, Dr. Centofanti was appointed to the position of President of PF Medical and was no longer a member of the Supervisory Board of PF Medical (a position he had held since June 2, 2015). From March 1996 to September 8, 2017 and from February 1991 to September 1995, Dr. Centofanti held the position of President and CEO of the Company. Dr. Centofanti served as Chairman of the Board from the Company's inception in February 1991 until December 16, 2014. In January 2015, Dr. Centofanti was appointed by the U.S. Secretary of Commerce Penny Prizker to serve on the U.S. Department of Commerce's Civil Nuclear Trade Advisory Committee (CINTAC). The CINTAC is composed of industry representatives from the civil nuclear industry and meets periodically throughout the year to discuss the critical trade issues facing the U.S. civil nuclear sector. From 1985 until joining the Company, Dr. Centofanti served as Senior Vice President ("SVP") of USPCI, Inc., a large publicly-held hazardous waste management company, where he was responsible for managing the treatment, reclamation and technical groups within USPCI. In 1981, he and Mark Zwecker founded PPM, Inc. (later sold to USPCI), a hazardous waste management company specializing in treating PCB-contaminated oil. From 1978 to 1981, Dr. Centofanti served as Regional Administrator of the U.S. Department of Energy for the southeastern region of the United States. Dr. Centofanti has a Ph.D. and a M.S. in Chemistry from the University of Michigan, and a B.S. in Chemistry from Youngstown State University.

As founder of Perma-Fix and PPM, Inc., and as a senior executive at USPCI, Dr. Centofanti combines extensive business experience in the waste management industry with a drive for innovative technology which is critical for a waste management company. In addition, his service in the government sector provides a solid foundation for the continuing growth of the Company, particularly within the Company's Nuclear business. Dr. Centofanti's comprehensive understanding of the Company's operations and his extensive knowledge of its history, coupled with his drive for innovation and excellence, positions Dr. Centofanti to optimize our role in this competitive, evolving market, and led the Board to conclude that he should serve as a director.

Mr. S. Robert Cochran

Mr. Cochran, a director since January 2017, has served as President and CEO of CTG, LLC, a company that provides strategic business development support, as well as acquisitions and business/management restructuring activity support, since November 2015. Since November 1, 2018, Mr. Cochran has served as interim President of Westinghouse Government Services through a consulting arrangement with CTG, LLC, in addition to providing previous consulting services to Westinghouse Government Services through CTG, LLC. Since April 2012, Mr. Cochran has been a director of Longenecker & Associates, Inc., a privately held consulting firm that provides highly specialized, fast-response technical-management support to nuclear and environmental industries. From March 2012 to November 2015, Mr. Cochran served as President and Officer Director of CB&I Federal Services, LLC (a subsidiary of Chicago Bridge & Iron Company, NYSE: CBI), which provides mission-critical services primarily to the U.S. federal government. From 2006 to 2011, Mr. Cochran served as President of B&W Technical Service Group, Inc., an operating group of The Babcock & Wilcox Company (NYSE: BW), which provides support to government and commercial clients, including management and operation of complex high-consequence nuclear facilities, nuclear material processing and manufacturing, classified component manufacturing, engineering, procurement and construction of major capital projects, nuclear safeguards and security, environmental cleanup and remediation, and nuclear-facility deactivation. From 2007 to 2011, Mr. Cochran served as Chairman of the Board of Pantex LLC and B&W Y-12, where he had direct responsibility for the performance and operations associated with nuclear weapons production enterprise. Before joining The Babcock & Wilcox Company, Mr. Cochran worked for more than 20 years in operations and development within the engineering, construction, facilities management and operations, environmental technology, and remediation industries. This experience includes serving as President and CEO of MAGma LLC, a privately-held company that provided management and operational restructuring, strategic development, and acquisition/divestiture services to the public utility, engineering and construction, and Department of Energy business sectors. Additionally, as its SVP, Mr. Cochran led Tyco Infrastructure's development and delivery of services, opening new markets and service areas valued at more than \$1 billion. Mr. Cochran received an executive M.B.A. from the University of Richmond's Robins School of Business and a B.S. from James Madison University.

Mr. Cochran has had an extensive career in solving and overseeing solutions to complex issues involving both domestic and international concerns. In addition, his government related services provide solid experience for the continuing growth of the Company's Treatment and Services Segments. His extensive knowledge and problem-solving experience enhances the Board's ability to address significant challenges in the nuclear market, and led the Board to conclude that he should serve as a director.

Honorable Joe R. Reeder

Mr. Reeder, a director since 2003, served as Shareholder-in-Charge of the Mid-Atlantic Region (1999-2008) for Greenberg Traurig LLP, the nation's largest U.S.-based law firm, with 38 offices and approximately 2,100 attorneys worldwide. As a principal shareholder in the law firm, Mr. Reeder's clientele includes celebrities, sovereign nations, international corporations, and law firms. As the 14th Undersecretary of the U.S. Army (1993-97), Mr. Reeder also served three years as Chairman of the Panama Canal Commission's Board, overseeing a multibillion-dollar infrastructure program. For the past 18 years, he has served on the Canal's International Advisory Board. He has served on the boards of the National Defense Industry Association, chairing NDIA's Ethics Committee, the Armed Services YMCA, and many other private companies and charitable organizations. After successive 4-year appointments by Virginia Governors Mark Warner and Tim Kaine, Mr. Reeder served seven years as Chairman of two Commonwealth of Virginia military boards, and ten years on the National USO Board. Mr. Reeder was appointed by Governor Terry McAuliffe to the Virginia Military Institute's Board of Visitors (2014), and reappointed in 2018 by new Governor Ralph Northam. Mr. Reeder is also a television commentator on legal and national security issues. Among other corporate positions, he has been a director since September 2005 for ELBIT Systems of America, LLC, a subsidiary of Elbit Systems Ltd. (NASDAQ: ESLT), that provides product and system solutions focusing on defense, homeland security, and commercial aviation. Mr. Reeder served on the Washington First Bank Board from 2004 to 2017, and, since January 2018, has served on the Board of Sandy Spring Bancorp, Inc. (NASDAQ: SASR), and, since April 2018, its Audit Committee.

In May 2018 Mr. Reeder was appointed to the Advisory Council Bid Protest Committee to the United States Court of Federal Claims.

A West Point graduate who served in the 82nd Airborne Division after Ranger School, Mr. Reeder earned his J.D. from the University of Texas, and L.L.M. from Georgetown University.

Mr. Reeder's career has focused on solving and overseeing solutions to complex domestic and international issues. His problem-solving experience has enhanced the Board's ability to address major challenges in the nuclear market, as well as day-to-day corporate challenges. These factors led the Board to conclude that he should serve as a director.

Mr. Larry M. Shelton

Mr. Shelton, a director since July 2006, has also held the position of Chairman of the Board of the Company since December 16, 2014. Mr. Shelton served as the Chief Financial Officer ("CFO") of S K Hart Management, LLC, a private investment management company from 1999 until August 31, 2018, when he resigned from his duties as CFO to pursue personal interests. Mr. Shelton remains an employee of and provides advisory services to S K Hart Management, LLC. Mr. Shelton served as President of Pony Express Land Development, Inc. (an affiliate of SK Hart Management, LLC), a privately-held land development company, from January 2013 to until August 2017 and has served on its board since December 2005. In March 2012, he was appointed Director and CFO of S K Hart Ranches (PTY) Ltd, a private South African Company involved in agriculture. Mr. Shelton served as a member of the Supervisory Board of PF Medical from April 2014 to December 2016. Mr. Shelton has over 19 years of experience as an executive financial officer for several waste management companies, including as CFO of Envirocare of Utah, Inc. (now Energy Solutions (1995-1999)) and CFO of USPCI, Inc. (1982-1987), a NYSE- listed company. Since July 1989, Mr. Shelton has served on the Board of Subsurface Technologies, Inc., a privately-held company specializing in providing environmentally sound innovative solutions for water well rehabilitation and development. Mr. Shelton has a B.A. in accounting from the University of Oklahoma.

With his years of accounting experience as CFO for various companies, including a number of waste management companies, Mr. Shelton combines extensive industry knowledge and understanding of accounting principles, financial reporting requirements, evaluating and overseeing financial reporting processes and business matters. These factors led the Board to conclude that he should serve as a director.

Mr. Zach P. Wamp

Mr. Wamp, a director since January 2018, is currently the President of Zach Wamp Consulting, a position he has held since 2011. As the President and owner of Zach Wamp Consulting, he has served some of the most prominent companies from Silicon Valley to Wall Street as a business development consultant and advisor. From September 2013 to November 2017, Mr. Wamp chaired the Board of Directors for Chicago Bridge and Iron Federal Services, LLC (a subsidiary of Chicago Bridge & Iron Company, NYSE: CBI, which provides critical services primarily to the U.S. government). From January 1995 to January 2011, Mr. Wamp served as a member of the U.S. House of Representatives from Tennessee's 3rd district. His district included the Oak Ridge National Laboratory, with strong science and research missions from energy to homeland security. Among his many accomplishments, which included various leadership roles in the advancement of education and science, Mr. Wamp was instrumental in the formation and success of the Tennessee Valley Technology Corridor, which created thousands of jobs for Tennesseans in the areas of high-tech research, development, and manufacturing. During his career in the political arena, Mr. Wamp served on several prominent subcommittees during his 14 years on the House Appropriations Committee, including serving as a "ranking member" of the Subcommittee on Military Construction and Veterans Affairs and Related Agencies. Mr. Wamp has been a regular panelist on numerous media outlets and has been featured in a number of national publications effectively articulating sound social and economic policy. Mr. Wamp's business career has also included work in the real estate sector for a number of years as a licensed industrial-commercial real estate broker where he was named Chattanooga's Small Business Person of the Year. He is a founding partner in Learning Blade, the nation's premiere STEM education platform, which is now operating at some level in 28 states.

Mr. Wamp has an extensive career in solving and overseeing solutions to complex issues involving domestic concerns. In addition, his wide-ranging career, particularly with respect to his government-related work, provides solid experience for the continuing growth of the Company's Treatment and Services Segments. His extensive knowledge and problem-solving experience enhances the Board's ability to address significant challenges in the nuclear market, and led the Board to conclude that he should serve as a director.

Mr. Mark A. Zwecker

Mark Zwecker, a director since the Company's inception in January 1991, currently serves as the CFO and a Board member for JCI US Inc., a telecommunications company and wholly-owned subsidiary of Japan Communications, Inc. (Tokyo Stock Exchange (Securities Code: 9424)), which provides cellular service for M2M (machine to machine) applications. From 2006 to 2013, Mr. Zwecker served as Director of Finance for Communications Security and Compliance Technologies, Inc., a wholly-owned subsidiary of JCI US Inc. that develops security software products for the mobile workforce. From 1997 to 2006, Mr. Zwecker served as President of ACI Technology, LLC, an IT services provider, and from 1986 to 1998, he served as Vice President of Finance and Administration for American Combustion, Inc., a combustion technology solutions provider. In 1983, with Dr. Centofanti, Mr. Zwecker co-founded a start-up, PPM, Inc., a hazardous waste management company. He remained with PPM, Inc. until its acquisition in 1985 by USPCI. Mr. Zwecker has a B.S. in Industrial and Systems Engineering from the Georgia Institute of Technology and an M.B.A. from Harvard University.

As a director since our inception, Mr. Zwecker's understanding of our business provides valuable insight to the Board. With years of experience in operations and finance for various companies, including a number of waste management companies, Mr. Zwecker combines extensive knowledge of accounting principles, financial reporting rules and regulations, the ability to evaluate financial results, and understanding of financial reporting processes. He has an extensive background in operating complex organizations. Mr. Zwecker's experience and background position him well to serve as a member of our Board. These factors led the Board to conclude that he should serve as a director.

BOARD LEADERSHIP STRUCTURE

We currently separate the roles of Chairman of the Board and CEO. The Board believes that this leadership structure promotes balance between the Board's independent authority to oversee our business, and the CEO and his management team, who manage the business on a day-to-day basis.

The Company does not have a written policy with respect to the separation of the positions of Chairman of the Board and CEO. The Company believes it is important to retain its flexibility to allocate the responsibilities of the offices of the Chairman and CEO in any way that is in the best interests of the Company at a given point in time; therefore, the Company's leadership structure may change in the future as circumstances may dictate.

Mr. Mark Zwecker, a current member of our Board, continues to serve as the Independent Lead Director, a position he has held since February 2010. The Lead Director's role includes:

- convening and chairing meetings of the non-employee directors as necessary from time to time and Board meetings in the absence of the Chairman of the Board;
- acting as liaison between directors, committee chairs and management;
- serving as information sources for directors and management; and
- carrying out responsibilities as the Board may delegate from time to time.

AUDIT COMMITTEE

We have a separately designated standing Audit Committee of our Board established in accordance with Section 3(a)(58)(A) of the Exchange Act. The members of the Audit Committee are Mark A. Zwecker (Chairperson), S. Robert Cochran, and Larry M. Shelton, who replaced Dr. Gary G. Kugler as a member of the Audit Committee, effective April 19, 2018. Dr. Kugler elected to retire as a director and did not stand for re-election at the Company's 2018 Annual Meeting of Stockholder's held on July 26, 2018.

Our Board has determined that each of our Audit Committee members is and was independent within the meaning of the rules of the NASDAQ and is an "audit committee financial expert" as defined by Item 407(d)(5)(ii) of Regulation S-K of the Securities Exchange Act of 1934, as amended (the "Exchange Act").

The Audit Committee has also discussed with Grant Thornton, LLP, the Company's independent registered accounting firm, the matters required to be discussed by Public Company Accounting Oversight Board ("PCAOB") Auditing Standard No. 16 (Communications with Audit Committee).

BOARD OF DIRECTOR INDEPENDENCE

The Board has determined that each director, other than Dr. Centofanti, is "independent" within the meaning of the applicable NASDAQ rules. Dr. Centofanti is not deemed to be an "independent director" because of his employment as a senior executive of the Company.

COMPENSATION AND STOCK OPTION COMMITTEE

The Compensation and Stock Option Committee ("Compensation Committee") reviews and recommends to the Board the compensation and benefits of all of the Company's officers and reviews general policy matters relating to compensation and benefits of the Company's employees. The Compensation Committee also administers the Company's stock option plans. The Compensation Committee has the sole authority to retain and terminate a compensation consultant, as well as to approve the consultant's fees and other terms of engagement. It also has the authority to obtain advice and assistance from internal or external legal, accounting or other advisors. No compensation consultant was employed during 2018. Members of the Compensation Committee are Larry M. Shelton (Chairperson), Joe R. Reeder, and Mark A. Zwecker, who replaced Dr. Gary G. Kugler as a member of the Compensation Committee, effective April 19, 2018. Effective April 19, 2018, Larry M. Shelton became the Chairperson of the Compensation Committee, which position was previously held by Dr. Gary G. Kugler. None of the members of the Compensation Committee has been an officer or employee of the Company or has had any relationship with the Company requiring disclosure under applicable Securities and Exchange Commission regulations.

CORPORATE GOVERNANCE AND NOMINATING COMMITTEE

We have a separately-designated standing Corporate Governance and Nominating Committee (“Nominating Committee”). Members of the Nominating Committee are Joe R. Reeder (Chairperson), S. Robert Cochran, and Zach P. Wamp, who replaced Dr. Gary G. Kugler as a member effective April 19, 2018. All members of the Nominating Committee are and were “independent” as that term is defined by current NASDAQ listing standards.

The Nominating Committee recommends to the Board candidates to fill vacancies on the Board and the nominees for election as the directors at each annual meeting of stockholders. In making such recommendation, the Nominating Committee takes into account information provided to them from the candidate, as well as the Nominating Committee’s own knowledge and information obtained through inquiries to third parties to the extent the Nominating Committee deems appropriate. The Company’s Amended and Restated Bylaws, as amended (the “Bylaws”), sets forth certain minimum director qualifications to qualify for nomination for elections as a Director. To qualify for nomination or election as a director, an individual must:

- be an individual at least 21 years of age who is not under legal disability;
- have the ability to be present, in person, at all regular and special meetings of the Board;
- not serve on the boards of more than three other publicly held companies;
- satisfy the director qualification requirements of all environmental and nuclear commissions, boards or similar regulatory or law enforcement authorities to which the Corporation is subject so as not to cause the Corporation to fail to satisfy any of the licensing requirements imposed by any such authority;
- not be affiliated with, employed by or a representative of, or have or acquire a material personal involvement with, or material financial interest in, any “Business Competitor” (as defined);
- not have been convicted of a felony or of any misdemeanor involving moral turpitude; and
- have been nominated for election to the Board in accordance with the terms of the Bylaws.

In addition to the minimum director qualifications mentioned above, each candidate’s qualifications are also reviewed to include:

- standards of integrity, personal ethics and value, commitment, and independence of thought and judgment;
- ability to represent the interests of the Company’s stockholders;
- ability to dedicate sufficient time, energy and attention to fulfill the requirements of the position; and
- diversity of skills and experience with respect to accounting and finance, management and leadership, business acumen, vision and strategy, charitable causes, business operations, and industry knowledge.

The Nominating Committee does not assign specific weight to any particular criteria and no particular criterion is necessarily applicable to all prospective nominees. The Nominating Committee does not have a formal policy for the consideration of diversity in identifying nominees for directors; however, the Company believes that the backgrounds and qualifications of the directors, considered as a group, should provide a significant composite mix of experience, knowledge, and abilities that will allow the Board to fulfill its responsibilities.

Stockholder Nominees

There have been no changes to the stockholder nomination process since the Company’s last proxy statement. The procedure for stockholder nominees to the Board is set out below.

The Nominating Committee will consider properly submitted stockholder nominations for candidates for membership on the Board from stockholders who meet each of the requirements set forth in the Bylaws, including, but not limited to, the requirements that any such stockholder own at least 1% of the Company's shares of the Common Stock entitled to vote at the meeting on such election, has held such shares continuously for at least one full year, and continuously holds such shares through and including the time of the annual or special meeting. Nominations of persons for election to the Board may be made at any Annual Meeting of Stockholders, or at any Special Meeting of Stockholders called for the purpose of electing directors. Any stockholder nomination ("Proposed Nominee") must comply with the requirements of the Bylaws and the Proposed Nominee must meet the minimum qualification requirements as discussed above. For a nomination to be made by a stockholder, such stockholder must provide advance written notice to the Nominating Committee, delivered to the Company's principal executive office address (i) in the case of an Annual Meeting of Stockholders, no later than the 90th day nor earlier than the 120th day prior to the anniversary date of the immediately preceding Annual Meeting of Stockholders; and (ii) in the case of a Special Meeting of Stockholders called for the purpose of electing directors, not later than the 10th day following the day on which public disclosure of the date of the Special Meeting of Stockholders was made.

The Nominating Committee will evaluate the qualification of the Proposed Nominee and the Proposed Nominee's disclosure and compliance requirements in accordance with the Company's Bylaws. If the Board, upon the recommendation of the Nominating Committee, determines that a nomination was not made in accordance with the Bylaws, the Chairman of the Meeting shall declare the nomination defective and it will be disregarded.

RESEARCH AND DEVELOPMENT COMMITTEE

Until April 19, 2018, we had a separately-designated standing Research and Development Committee (the "R&D Committee"). The R&D Committee outlined the structures and functions of the Company's research and development strategies, the acquisition and protection of the Company's intellectual property rights and assets, and provided its perspective on such matter to the Board. Members of the R&D Committee included Dr. Louis Centofanti and Dr. Gary G. Kugler. Effective April 19, 2018, the R&D Committee was dissolved. Upon the dissolution of the R&D Committee, all R&D activities are managed and reviewed by senior management and oversight of these activities is conducted by the Board as deemed necessary. The R&D Committee did not have a charter.

STRATEGIC ADVISORY COMMITTEE

We have a separately-designated Strategic Advisory Committee (the "Strategic Committee"). The primary functions of the Strategic Committee are to investigate and evaluate strategic alternatives available to the Company and to work with management on long-range strategic planning and identifying potential new business opportunities. The members of the Strategic Advisory Committee are S. Robert Cochran (Chairperson), Joe R. Reeder, Mark A. Zwecker, and Larry M. Shelton. The Strategic Advisory Committee does not have a charter.

EXECUTIVE OFFICERS OF THE REGISTRANT

The following table sets forth, as of the date hereof, information concerning our executive officers:

NAME	AGE	POSITION
Mr. Mark Duff	56	President and CEO
Mr. Ben Naccarato	56	CFO, Vice President, and Secretary; CFO of PF Medical
Dr. Louis Centofanti	75	EVP of Strategic Initiatives; President of PF Medical

Mr. Mark Duff

Mr. Mark Duff was appointed President and CEO by the Company's Board on September 8, 2017, succeeding Dr. Louis Centofanti. In September 2016, Mr. Duff was named as the Chief Operating Officer ("COO") of the Company and continued to serve as EVP of the Company, a position he had held since joining the Company in June 2016. Duff has over 30 years of management and technical experience in the U.S. Department of Energy ("DOE") and U.S. Department of Defense ("DOD") environmental and construction markets as a corporate officer, senior project manager, co-founder of a consulting firm, and federal employee. For the immediate five years prior to joining the Company in June 2016, Mr. Duff was responsible for the successful completion of over 70 performance-based projects at the Paducah Gaseous Diffusion Plant ("PGDP") in Paducah, KY. At the PGDP, he served as the Project Manager for the Paducah Remediation Contract, which was a five-year project with a total value of \$458 million. Prior to the PGDP project, Mr. Duff was a senior manager supporting Babcock and Wilcox ("B&W"), leading several programs that included building teams to solve complex technical problems. These programs included implementation of the American Recovery and Reinvestment Act ("ARRA") at the DOE Y-12 facility with a \$245 million budget for new cleanup projects completed over a two-year period. During this period, Mr. Duff served as project manager leading a team of senior experts in support of Toshiba Corporation in Tokyo, Japan to integrate United States technology in the recovery of the Fukushima Daiichi Nuclear Reactor disaster. Prior to joining B&W, Mr. Duff served as the president of Safety and Ecology Corporation ("SEC"). As President of SEC, he helped grow the company from \$50 million to \$80 million in annual revenues with significant growth in infrastructure, marketing, and client diversification. Mr. Duff has an MBA from the University of Phoenix and received his B.S. from the University of Alabama.

Mr. Ben Naccarato

Mr. Naccarato has served as the Company's CFO since February 26, 2009. Mr. Naccarato joined the Company in September 2004 and served as Vice President, Finance of the Company's Industrial Segment until May 2006, when he was named Vice President, Corporate Controller/Treasurer. Since July 2015 and December 2015, Mr. Naccarato has served as the CFO of PF Medical and a member of the Management Board of PF Medical, respectively. PF Medical is the Company's majority-owned Polish subsidiary involved in the research and development of a new medical isotope production technology. Mr. Naccarato has over 30 years of experience in senior financial positions in the waste management and used oil industries. From December 2002 to September 2004, Mr. Naccarato was the CFO of a privately held company in the fuel distribution and used waste oil industry. Mr. Naccarato is a graduate of University of Toronto with a Bachelor of Commerce and Finance Degree and is a Chartered Professional Accountant, Certified Management Accountant (CPA, CMA).

Dr. Louis Centofanti

See "Director – Dr. Louis F. Centofanti" in this section for information on Dr. Centofanti.

Certain Relationships

There are no family relationships between any of the directors or executive officers.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act, and the regulations promulgated thereunder require our executive officers and directors and beneficial owners of more than 10% of our Common Stock to file reports of ownership and changes of ownership of our Common Stock with the Securities and Exchange Commission, and to furnish us with copies of all such reports. Based solely on a review of the copies of such reports furnished to us and written information provided to us, we believe that during 2018 none of our executive officers, directors, or beneficial owners of more than 10% of our Common Stock failed to timely file reports under Section 16(a).

Capital Bank–Grawe Gruppe AG ("Capital Bank") has advised us that it is a banking institution regulated by the banking regulations of Austria, which holds shares of our Common Stock as agent on behalf of numerous investors. Capital Bank has represented that all of its investors are accredited investors under Rule 501 of Regulation D promulgated under the Act. In addition, Capital Bank has advised us that none of its investors, individually or as a group, beneficially own more than 4.9% of our Common Stock as calculated in accordance with Rule 13d-3 of the Exchange Act. Capital Bank has further informed us that its clients (and not Capital Bank) maintain full voting and dispositive power over such shares. Consequently, Capital Bank has advised us that it believes it is not the beneficial owner, as such term is defined in Rule 13d-3 of the Exchange Act, of the shares of our Common Stock registered in the name of Capital Bank because it has neither voting nor investment power, as such terms are defined in Rule 13d-3, over such shares. Capital Bank has informed us that it does not believe that it is required to file, and has not filed, (a) reports under Section 16(a) of the Exchange Act or (b) either Schedule 13D or Schedule 13G in connection with the shares of our Common Stock registered in the name of Capital Bank.

If the representations of, or information provided by Capital Bank, are incorrect or Capital Bank was historically acting on behalf of its investors as a group, rather than on behalf of each investor independent of other investors, then Capital Bank and/or the investor group would have become a beneficial owner of more than 10% of our Common Stock on February 9, 1996, as a result of the acquisition of 1,100 shares of our Preferred Stock that were convertible into a maximum of 256,560 shares of our Common Stock. If either Capital Bank or a group of Capital Bank's investors became a beneficial owner of more than 10% of our Common Stock on February 9, 1996, or at any time thereafter, and thereby required to file reports under Section 16(a) of the Exchange Act, then Capital Bank has failed to file a Form 3 or any Forms 4 or 5 since February 9, 1996. (See "Item 12 - Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matter – Security Ownership of Certain Beneficial Owners" for a discussion of Capital Bank's current record ownership of our securities).

Code of Ethics

Our Code of Ethics applies to all our executive officers and is available on our website at www.perma-fix.com. If any amendments are made to the Code of Ethics or any grants of waivers are made to any provision of the Code of Ethics to any of our executive officers, we will promptly disclose the amendment or waiver and nature of such amendment or waiver on our website at the same web address.

ITEM 11. EXECUTIVE COMPENSATION

Summary Compensation

The following table summarizes the total compensation paid or earned by each of the named executive officers ("NEOs") for the fiscal years ended December 31, 2018 and 2017.

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Option Awards (\$) ⁽⁴⁾	Non-Equity Incentive Plan Compensation (\$) ⁽⁵⁾	All other Compensation (\$) ⁽⁶⁾	Total Compensation (\$)
Mark Duff ⁽¹⁾ President and CEO	2018	275,125	—	—	—	29,555	304,680
	2017	267,000	—	188,118	—	32,362	487,480
Ben Naccarato Vice President and CFO	2018	229,494	—	—	—	40,732	270,226
	2017	226,552 ⁽²⁾	—	94,059	—	36,706	357,317
Dr. Louis Centofanti ⁽¹⁾ EVP of Strategic Initiatives	2018	223,400	—	—	—	32,177	255,577
	2017	262,959 ⁽³⁾	—	94,059	—	30,464	387,482

(1) On September 8, 2017, Mr. Duff was named as President and CEO, succeeding Dr. Louis Centofanti, who retired from the position of President and CEO and was named to the position of EVP of Strategic Initiatives. Since joining the Company (effective June 11, 2016), Mr. Duff earned an annual salary of \$267,000. On April 19, 2018, the Compensation Committee and the Board approved Mr. Duff's annual to \$280,000 from \$267,000.

(2) Effective April, 20, 2017, the Compensation Committee and the Board approved Mr. Naccarato's annual salary to \$229,494 from \$220,667.

(3) As EVP of Strategic Initiatives, Dr. Centofanti's annual salary was amended to \$223,400 from \$279,248 effective September 8, 2017.

(4) Reflects the aggregate grant date fair value of awards computed in accordance with ASC 718, "Compensation – Stock Compensation." Assumptions used in the calculation of this amount are included in "Note 6 – Capital Stock, Stock Plans, Warrants and Stock Based Compensation" to "Notes to Consolidated Financial Statement."

(5) Represents performance compensation earned under the Company's MIP with respect to each NEO. The MIP for each NEO is described under the heading "2018 MIPs." No compensation was earned by any NEO under his respective MIP for 2018 and 2017.

(6) The amount shown includes a monthly automobile allowance of \$750, insurance premiums (health, disability and life) paid by the Company on behalf of the executive, and 401(k) matching contributions.

Name	Insurance Premium	Auto Allowance	401(k) match	Total
Mark Duff	\$ 14,430	\$ 9,000	\$ 6,125	\$ 29,555
Ben Naccarato	\$ 27,109	\$ 9,000	\$ 4,623	\$ 40,732
Dr. Louis Centofanti	\$ 18,687	\$ 9,000	\$ 4,490	\$ 32,177

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth unexercised options held by the NEOs as of the fiscal year-end.

Outstanding Equity Awards at December 31, 2018

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) ⁽¹⁾ Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price (\$)	Option Expiration Date
Dr. Louis Centofanti	10,000	40,000 ⁽²⁾	—	3.65	7/27/2023
Ben Naccarato	10,000	40,000 ⁽²⁾	—	3.65	7/27/2023
Mark Duff	20,000 33,333 ⁽³⁾	80,000 ⁽²⁾ 16,667 ⁽³⁾	— —	3.65 3.97	7/27/2023 5/15/2022

- (1) Pursuant to the NEO's employment agreements with the Company, each dated September 9, 2017, in the event of a change in control, death of the executive officer, the executive officer terminates his employment for "good reason" or the executive officer is terminated by the Company without cause, each outstanding option and award shall immediately become exercisable in full (see "Employment Agreements" below for further discussion of the exercisability terms of the option under these events) .
- (2) Incentive stock option granted on July 27, 2017 under the Company's 2017 Stock Option Plan. The option has a contractual term of six years with one-fifth yearly vesting over a five-year period.
- (3) Incentive stock option granted on May 15, 2016 under the Company's 2010 Stock Option Plan. The option has a contractual term of six years with one-third yearly vesting over a three-year period.

None of the Company's NEOs exercised options during 2018.

Employment Agreements

Each of Messrs. Duff, Centofanti and Naccarato have entered into employment agreements with the Company (each, an "Employment Agreement" and collectively, the "Employment Agreements"), effective September 8, 2017, with annual base salaries of \$267,000, \$223,400, and \$229,494, respectively. Each annual base salary is subject to adjustment as determined by the Compensation Committee. In addition, each of these executive officers is entitled to participate in the Company's broad-based benefits plans and to certain performance compensation payable under separate MIPs as approved by the Company's Compensation Committee and Board. The Company's Compensation Committee and the Board approved individual 2018 MIPs on January 18, 2018 (which were effective January 1, 2018 and applicable for year 2018) for each of Mark Duff, Dr. Louis Centofanti, and Ben Naccarato (see discussion of the 2018 MIPs below under "2018 MIPs"). No compensation was earned under each of the 2018 MIPs.

Each of the Employment Agreements is effective for three years from September 8, 2017 (the "Initial Term") unless earlier terminated by the Company or by the executive officer. At the end of the Initial Term of each Employment Agreement, each Employment Agreement will automatically be extended for one additional year, unless at least six months prior to the expiration of the Initial Term, the Company or the executive officer provides written notice not to extend the terms of the Employment Agreement.

Pursuant to the Employment Agreements, if the executive officer's employment is terminated due to death/disability or for cause (as defined in the agreements), the Company will pay to the executive officer or to his estate an amount equal to the sum of any unpaid base salary, accrued unused vacation time through the date of termination, any benefits due to the executive officer under any employee benefit plan (the "Accrued Amounts") and any performance compensation payable pursuant to the MIP.

If the executive officer terminates his employment for "good reason" (as defined in the agreements) or is terminated by the Company without cause (including any such termination for "good reason" or without cause within 24 months after a Change in Control (as defined in the agreement)), the Company will pay the executive officer the Accrued Amounts, two years of full base salary, performance compensation (under the MIP) earned with respect to the fiscal year immediately preceding the date of termination, and an additional year of performance compensation (under the MIP) earned, if not already paid, with respect to the fiscal year immediately preceding the date of termination. If the executive terminates his employment for a reason other than for good reason, the Company will pay to the executive an amount equal to the Accrued Amounts plus any performance compensation payable pursuant to the MIP.

If there is a Change in Control (as defined in the agreements), all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full commencing on the date of termination through the original term of the options. In the event of the death of an executive officer, all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full commencing on the date of death, with such options exercisable for the lesser of the original option term or twelve months from the date of the executive officer's death. In the event an executive officer terminates his employment for "good reason" or is terminated by the Company without cause, all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full commencing on the date of termination, with such options exercisable for the lesser of the original option term or within 60 days from the date of the executive's date of termination. Severance benefits payable with respect to a termination (other than Accrued Amounts) shall not be payable until the termination constitutes a "separation from service" (as defined under Treasury Regulation Section 1.409A-1(h)).

Potential Payments

The following table sets forth the potential (estimated) payments and benefits to which our NEOs - Mark Duff, Ben Naccarato, and Dr. Centofanti - would be entitled upon termination of employment or following a Change in Control of the Company, as specified under each of their respective agreements with the Company, assuming each circumstance described below occurred on December 31, 2018, the last day of our fiscal year.

Name and Principal Position Potential Payment/Benefit	Disability or For Cause	Death	By Executive for Good Reason or by Company Without Cause	Change in Control of the Company
Mark Duff President and CEO				
Salary	\$ —	\$ —	\$ 560,000 ⁽¹⁾	\$ 560,000 ⁽¹⁾
Performance compensation	\$ — ⁽²⁾	\$ — ⁽²⁾	\$ — ⁽²⁾	\$ — ⁽²⁾
Stock Options	\$ — ⁽³⁾	\$ — ⁽⁴⁾	\$ — ⁽⁴⁾	\$ — ⁽⁴⁾
Ben Naccarato CFO				
Salary	\$ —	\$ —	\$ 458,988 ⁽¹⁾	\$ 458,988 ⁽¹⁾
Performance compensation	\$ — ⁽²⁾	\$ — ⁽²⁾	\$ — ⁽²⁾	\$ — ⁽²⁾
Stock Options	\$ — ⁽³⁾	\$ — ⁽⁴⁾	\$ — ⁽⁴⁾	\$ — ⁽⁴⁾
Dr. Louis Centofanti EVP of Strategic Initiatives				
Salary	\$ —	\$ —	\$ 446,800 ⁽¹⁾	\$ 446,800 ⁽¹⁾
Performance compensation	\$ — ⁽²⁾	\$ — ⁽²⁾	\$ — ⁽²⁾	\$ — ⁽²⁾
Stock Options	\$ — ⁽³⁾	\$ — ⁽⁴⁾	\$ — ⁽⁴⁾	\$ — ⁽⁴⁾

(1) Represents two times the base salary of executive at December 31, 2018.

(2) No amount was earned and payable under the 2018 MIP (see “2018 MIPs” below).

(3) Benefit is zero since the number of stock options vested was out-of-the money at December 31, 2018 (as reported on the NASDAQ).

(4) All outstanding options become vested immediately upon circumstances noted; however, benefit is zero since the number of stock options that was outstanding was out-of-the money at December 31, 2018.

2018 Executive Compensation Components

For the fiscal year ended December 31, 2018, the principal components of compensation for executive officers were:

- base salary;
- performance-based incentive compensation;
- long term incentive compensation;
- retirement and other benefits; and
- perquisites.

Based on the amounts set forth in the Summary Compensation table, during 2018, salary accounted for approximately 87.7% of the total compensation of our NEOs, while equity option awards, MIP compensation, and other compensation accounted for approximately 12.3% of the total compensation of the NEOs.

Base Salary

The NEOs, other officers, and other employees of the Company receive a base salary during the fiscal year. Base salary ranges for executive officers are determined for each executive based on his or her position and responsibility by using market data and comparisons to the Peer Group.

During its review of base salaries for executives, the Compensation Committee primarily considers:

- market data and Peer Group comparisons;
- internal review of the executive’s compensation, both individually and relative to other officers; and
- individual performance of the executive.

Salary levels are typically considered annually as part of the performance review process as well as upon a promotion or other change in job responsibility. Merit-based salary increases for executives are based on the Compensation Committee's assessment of the individual's performance. The base salary and potential annual base salary adjustments for the NEOs are set forth in their respective employment agreements. On January 17, 2019, the Compensation Committee and the Board approved a base salary increase of 2.5% for each named NEO, which became effective January 1, 2019.

Performance-Based Incentive Compensation

The Compensation Committee has the latitude to design cash and equity-based incentive compensation programs to promote high performance and achievement of our corporate objectives by directors and the NEOs, encourage the growth of stockholder value and enable employees to participate in our long-term growth and profitability. The Compensation Committee may grant stock options and/or performance bonuses. In granting these awards, the Compensation Committee may establish any conditions or restrictions it deems appropriate. In addition, the CEO has discretionary authority to grant stock options to certain high-performing executives or officers, subject to the approval of the Compensation Committee. The exercise price for each stock options granted is at or above the market price of our Common Stock on the date of grant. Stock options may be awarded to newly hired or promoted executives at the discretion of the Compensation Committee. Grants of stock options to eligible newly hired executive officers are generally made at the next regularly scheduled Compensation Committee meeting following the hire date.

2018 MIPs

On January 18, 2018, the Board and the Compensation Committee approved individual MIPs for our CEO, CFO and EVP of Strategic Initiatives. The MIPs are effective January 1, 2018 and applicable for fiscal 2018. Each MIP provides guidelines for the calculation of annual cash incentive-based compensation, subject to Compensation Committee oversight and modification. Each MIP awards cash compensation based on achievement of performance thresholds, with the amount of such compensation established as a percentage of the executive's 2018 annual base salary on the approval date of the MIP. The potential target performance compensation ranges from 5% to 100% of the base salary for the CEO (\$13,350 to \$267,000), 5% to 100% of the base salary for the CFO (\$11,475 to \$229,494) and 5% to 100% of the base salary for the EVP of Strategic Initiatives (\$11,170 to \$223,400).

Performance compensation is paid on or about 90 days after year-end, or sooner, based on finalization of our audited financial statements for 2018. The Compensation Committee retains the right to modify, change or terminate each MIP and may adjust the various target amounts described below, at any time and for any reason.

The total performance compensation paid to the CEO, CFO and EVP of Strategic Initiatives as a group is not to exceed 50% of the Company's pre-tax net income (exclusive of PF Medical) prior to the calculation of performance compensation.

No cash performance incentive based compensation was earned by any of the NEOs under his respective 2018 MIP.

The following describes the principal terms of each 2018 MIP as approved on January 18, 2018:

CEO MIP:

2018 CEO performance compensation was based upon meeting corporate revenue, EBITDA (earnings before interest, taxes, depreciation and amortization), health and safety, and environmental compliance (permit and license violations) objectives during fiscal 2018 from our continuing operations (excluding PF Medical). The Compensation Committee believes performance compensation payable under each of the 2018 MIPs as discussed herein and below should be based on achievement of an EBITDA target, which excludes certain non-cash items, as this target provides a better indicator of operating performance. However, EBITDA has certain limitations as it does not reflect all items of income or cash flows that affect the Company's financial performance under accounting principles generally accepted in the United States of America ("GAAP"). At achievement of 60% to 110% of each of the revenue and EBITDA targets, the potential performance compensation was payable at 5% to 50% of the 2018 base salary. For this compensation, 60% was based on EBITDA goal, 10% on revenue goal, 15% on the number of health and safety claim incidents that occurred during fiscal 2018, and the remaining 15% on the number of notices alleging environmental, health or safety violations under our permits or licenses that occurred during fiscal 2018. Upon achievement of 111% to 150%+ of each of the revenue and EBITDA targets, the potential performance compensation was payable at 65% to 100% of the CEO's 2018 base salary. For this compensation, the amount payable was based on the four objectives noted above, with the payment of such performance compensation being weighted more heavily toward the EBITDA objective. Each of the revenue and EBITDA components was based on our Board-approved revenue target and EBITDA target. The 2018 target performance incentive compensation for our CEO was as follows:

Annualized Base Pay:	\$ 267,000
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$ 133,500</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$ 400,500</u>

Perma-Fix Environmental Services, Inc.
2018 Management Incentive Plan
CEO MIP MATRIX

	Performance Target Achieved						
	<u><60%</u>	<u>60%-74%</u>	<u>75%-89%</u>	<u>90%-110%</u>	<u>111%-129%</u>	<u>130%-150%</u>	<u>>150%</u>
Revenue (1) (5)	\$ -	\$ 1,334	\$ 6,674	\$ 13,350	\$ 19,071	\$ 26,700	\$ 32,421
EBITDA (2)	-	8,010	40,050	80,100	114,429	160,200	194,529
Health & Safety (3) (5)	-	2,003	10,013	20,025	20,025	20,025	20,025
Permit & License Violations (4) (5)	<u>-</u>	<u>2,003</u>	<u>10,013</u>	<u>20,025</u>	<u>20,025</u>	<u>20,025</u>	<u>20,025</u>
	<u>\$ -</u>	<u>\$ 13,350</u>	<u>\$ 66,750</u>	<u>\$ 133,500</u>	<u>\$ 173,550</u>	<u>\$ 226,950</u>	<u>\$ 267,000</u>

- Revenue was defined as the total consolidated third-party top line revenue from continuing operations (excluding PF Medical) as publicly reported in the Company's 2018 financial statements. The percentage achieved was determined by comparing the actual consolidated revenue from continuing operations to the Board-approved revenue target from continuing operations, which was \$63,398,000. The Board reserved the right to modify or change the revenue targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- EBITDA was defined as earnings before interest, taxes, depreciation, and amortization from continuing operations (excluding PF Medical). The percentage achieved was determined by comparing the actual EBITDA to the Board-approved EBITDA target for 2018, which was \$7,682,000. The Board reserved the right to modify or change the EBITDA targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- The health and safety incentive target was based upon the actual number of Worker's Compensation Lost Time Accidents, as provided by the Company's Worker's Compensation carrier. The Corporate Controller submitted a report on a quarterly basis documenting and confirming the number of Worker's Compensation Lost Time Accidents, supported by the Worker's Compensation Loss Report provided by the company's carrier or broker. Such claims were identified on the loss report as "indemnity claims." The following number of Worker's Compensation Lost Time Accidents and corresponding Performance Target Thresholds was established for the annual incentive compensation plan calculation for 2018.

Work Comp. Claim Number	Performance Target Payable Under Column
6	60%-74%
5	75%-89%
4	90%-110%
3	111%-129%
2	130%-150%
1	>150%

- 4) Permits or license incentive was earned/determined according to the scale set forth below: An “official notice of non-compliance” was defined as an official communication during 2018 from a local, state, or federal regulatory authority alleging one or more violations of an otherwise applicable Environmental, Health or Safety requirement or permit provision, which resulted in a facility’s implementation of corrective action(s).

Permit and License Violations	Performance Target Payable Under Column
6	60%-74%
5	75%-89%
4	90%-110%
3	111%-129%
2	130%-150%
1	>150%

- 5) No performance incentive compensation was payable for achieving the health and safety, permit and license violation, and revenue targets unless a minimum of 60% of the EBITDA target was achieved.

CFO MIP:

2018 CFO performance compensation was based upon meeting corporate revenue, EBITDA, health and safety, and environmental compliance (permit and license violations) objectives during fiscal 2018 from our continuing operations (excluding PF Medical). At achievement of 60% to 110% of each of the revenue and EBITDA targets, the potential performance compensation was payable at 5% to 50% of the 2018 base salary. For this compensation, 60% was based on EBITDA goal, 10% on revenue goal, 15% on the number of health and safety claim incidents that occurred during fiscal 2018, and the remaining 15% on the number of notices alleging environmental, health or safety violations under our permits or licenses that occurred during fiscal 2018. Upon achievement of 111% to 150%+ of each of the revenue and EBITDA targets, the potential performance compensation was payable at 65% to 100% of the CFO’s 2018 base salary. For this compensation, the amount payable was based on the four objectives noted above, with the payment of such performance compensation being weighted more heavily toward the EBITDA objective. Each of the revenue and EBITDA components was based on our Board-approved revenue target and EBITDA target. The 2018 target performance incentive compensation for our CFO was as follows:

Annualized Base Pay:	\$	229,494
Performance Incentive Compensation Target (at 100% of Plan):	\$	114,747
Total Annual Target Compensation (at 100% of Plan):	\$	344,241

Perma-Fix Environmental Services, Inc.
2018 Management Incentive Plan
CFO MIP MATRIX

	Performance Target Achieved						
	<60%	60%-74%	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (5)	\$ -	\$ 1,146	\$ 5,736	\$ 11,475	\$ 16,392	\$ 22,949	\$ 27,867
EBITDA (2)	-	6,885	34,424	68,848	98,355	137,696	167,203
Health & Safety (3) (5)	-	1,722	8,607	17,212	17,212	17,212	17,212
Permit & License Violations (4) (5)	-	1,722	8,607	17,212	17,212	17,212	17,212
	<u>\$ -</u>	<u>\$ 11,475</u>	<u>\$ 57,374</u>	<u>\$ 114,747</u>	<u>\$ 149,171</u>	<u>\$ 195,069</u>	<u>\$ 229,494</u>

- 1) Revenue was defined as the total consolidated third-party top line revenue from continuing operations (excluding Medical) as publicly reported in the Company's 2018 financial statements. The percentage achieved was determined by comparing the actual consolidated revenue from continuing operations to the Board-approved revenue target from continuing operations, which was \$63,398,000. The Board reserved the right to modify or change the revenue targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- 2) EBITDA was defined as earnings before interest, taxes, depreciation, and amortization from continuing operations (excluding PF Medical). The percentage achieved was determined by comparing the actual EBITDA to the Board-approved EBITDA target for 2018, which was \$7,682,000. The Board reserved the right to modify or change the EBITDA targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- 3) The health and safety incentive target was based upon the actual number of Worker's Compensation Lost Time Accidents, as provided by the Company's Worker's Compensation carrier. The Corporate Controller submitted a report on a quarterly basis documenting and confirming the number of Worker's Compensation Lost Time Accidents, supported by the Worker's Compensation Loss Report provided by the company's carrier or broker. Such claims were identified on the loss report as "indemnity claims." The following number of Worker's Compensation Lost Time Accidents and corresponding Performance Target Thresholds was established for the annual incentive compensation plan calculation for 2018.

Work Comp. Claim Number	Performance Target Payable Under Column
6	60%-74%
5	75%-89%
4	90%-110%
3	111%-129%
2	130%-150%
1	>150%

- 4) Permits or license incentive was earned/determined according to the scale set forth below: An "official notice of non-compliance" was defined as an official communication during 2018 from a local, state, or federal regulatory authority alleging one or more violations of an otherwise applicable Environmental, Health or Safety requirement or permit provision, which resulted in a facility's implementation of corrective action(s).

Permit and License Violations	Performance Target Payable Under Column
6	60%-74%
5	75%-89%
4	90%-110%
3	111%-129%
2	130%-150%
1	>150%

- 5) No performance incentive compensation was payable for achieving the health and safety, permit and license violation, and revenue targets unless a minimum of 60% of the EBITDA target was achieved.

EVP of Strategic Initiatives MIP:

2018 EVP of Strategic Initiatives performance compensation was based upon meeting corporate revenue, EBITDA, health and safety, and environmental compliance (permit and license violations) objectives during fiscal 2018 from our continuing operations (excluding PF Medical). At achievement of 60% to 110% of each of the revenue and EBITDA targets, the potential performance compensation was payable at 5% to 50% of the 2018 base salary. For this compensation, 60% was based on EBITDA goal, 10% on revenue goal, 15% on the number of health and safety claim incidents that occurred during fiscal 2018, and the remaining 15% on the number of notices alleging environmental, health or safety violations under our permits or licenses that occurred during fiscal 2018. Upon achievement of 111% to 150%+ of each of the revenue and EBITDA targets, the potential performance compensation was payable at 65% to 100% of the EVP of Strategic Initiative's 2018 base salary. For this compensation, the amount payable was based on the four objectives noted above, with the payment of such performance compensation being weighted more heavily toward the EBITDA objective. Each of the revenue and EBITDA components was based on our Board-approved revenue target and EBITDA target. The 2018 target performance incentive compensation for our EVP of Strategic Initiatives was as follows:

Annualized Base Pay:	\$	223,400
Performance Incentive Compensation Target (at 100% of Plan):	\$	111,700
Total Annual Target Compensation (at 100% of Plan):	\$	335,100

Perma-Fix Environmental Services, Inc.
2018 Management Incentive Plan
EVP OF STRATEGIC INITIATIVES MIP MATRIX

	Performance Target Achieved						
	<60%	60%-74%	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (5)	\$ -	\$ 1,116	\$ 5,584	\$ 11,170	\$ 15,957	\$ 22,340	\$ 27,127
EBITDA (2)	-	6,702	33,510	67,020	95,743	134,040	162,763
Health & Safety (3) (5)	-	1,676	8,378	16,755	16,755	16,755	16,755
Permit & License Violations (4) (5)	-	1,676	8,378	16,755	16,755	16,755	16,755
	<u>\$ -</u>	<u>\$ 11,170</u>	<u>\$ 55,850</u>	<u>\$ 111,700</u>	<u>\$ 145,210</u>	<u>\$ 189,890</u>	<u>\$ 223,400</u>

- 1) Revenue was defined as the total consolidated third-party top line revenue from continuing operations (excluding Medical) as publicly reported in the Company's 2018 financial statements. The percentage achieved was determined by comparing the actual consolidated revenue from continuing operations to the Board-approved revenue target from continuing operations, which was \$63,398,000. The Board reserved the right to modify or change the revenue targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.

- 2) EBITDA was defined as earnings before interest, taxes, depreciation, and amortization from continuing operations (excluding PF Medical). The percentage achieved was determined by comparing the actual EBITDA to the Board-approved EBITDA target for 2018, which was \$7,682,000. The Board reserved the right to modify or change the EBITDA targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- 3) The health and safety incentive target was based upon the actual number of Worker's Compensation Lost Time Accidents, as provided by the Company's Worker's Compensation carrier. The Corporate Controller submitted a report on a quarterly basis documenting and confirming the number of Worker's Compensation Lost Time Accidents, supported by the Worker's Compensation Loss Report provided by the company's carrier or broker. Such claims were identified on the loss report as "indemnity claims." The following number of Worker's Compensation Lost Time Accidents and corresponding Performance Target Thresholds was established for the annual incentive compensation plan calculation for 2018.

Work Comp. Claim Number	Performance Target Payable Under Column
6	60%-74%
5	75%-89%
4	90%-110%
3	111%-129%
2	130%-150%
1	>150+

- 4) Permits or license incentive was earned/determined according to the scale set forth below: An "official notice of non-compliance" was defined as an official communication during 2018 from a local, state, or federal regulatory authority alleging one or more violations of an otherwise applicable Environmental, Health or Safety requirement or permit provision, which resulted in a facility's implementation of corrective action(s).

Permit and License Violations	Performance Target Payable Under Column
6	60%-74%
5	75%-89%
4	90%-110%
3	111%-129%
2	130%-150%
1	>150%

- 5) No performance incentive compensation was payable for achieving the health and safety, permit and license violation, and revenue targets unless a minimum of 60% of the EBITDA target was achieved.

2018 MIP Targets

As discussed above, 2018 MIPs approved by the Board and the Compensation Committee for the CEO, CFO and EVP of Strategic Initiatives provided for the award of cash compensation based on achievement of performance targets which included revenue and EBITDA targets as approved by our Board. The 2018 MIP revenue target of \$63,398,000 and EBITDA target of \$7,682,000 were set by the Compensation Committee taking into account the Board-approved budget for 2018 as well as the committee's expectations for performance that in its estimation would warrant payment of incentive cash compensation. In formulating the revenue target of \$63,398,000, the Board considered 2017 results, current economic conditions, and forecasts for 2018 government (U.S DOE) spending. The Compensation Committee believed the performance targets were likely to be achieved, but not assured.

2019 MIPs

On January 17, 2019, the Board and the Compensation Committee approved individual MIP for our CEO, CFO and EVP of Strategic Initiatives. The MIPs are effective January 1, 2019 and applicable for fiscal 2019. Each MIP provides guidelines for the calculation of annual cash incentive-based compensation, subject to Compensation Committee oversight and modification. Each MIP awards cash compensation based on achievement of performance thresholds, with the amount of such compensation established as a percentage of the executive's 2019 annual base salary on the approval date of the MIP. The potential target performance compensation ranges from 5% to 150% of the base salary for the CEO (\$14,350 to \$430,500), 5% to 100% of the base salary for the CFO (\$11,762 to \$235,231) and 5% to 100% of the base salary for the EVP of Strategic Initiatives (\$11,449 to \$228,985).

Performance compensation is paid on or about 90 days after year-end, or sooner, based on finalization of our audited financial statements for 2019. The Compensation Committee retains the right to modify, change or terminate each MIP and may adjust the various target amounts described below, at any time and for any reason.

The total performance compensation paid to the CEO, CFO and EVP of Strategic Initiatives as a group is not to exceed 50% of the Company's pre-tax net income (exclusive of PF Medical) prior to the calculation of performance compensation.

The following describes the principal terms of each 2019 MIP as approved on January 17, 2019:

CEO MIP:

2019 CEO performance compensation is based upon meeting corporate revenue, EBITDA, health and safety, and environmental compliance (permit and license violations) objectives during fiscal 2019 from our continuing operations (excluding PF Medical). The Compensation Committee believes performance compensation payable under each of the 2019 MIPs as discussed herein and below should be based on achievement of an EBITDA target, which excludes certain non-cash items, as this target provides a better indicator of operating performance. However, EBITDA has certain limitations as it does not reflect all items of income or cash flows that affect the Company's financial performance under GAAP. At achievement of 60% to 110% of each of the revenue and EBITDA targets, the potential performance compensation is payable at 5% to 50% of the 2019 base salary. For this compensation, 60% is based on EBITDA goal, 10% on revenue goal, 15% on the number of health and safety claim incidents that occur during fiscal 2019, and the remaining 15% on the number of notices alleging environmental, health or safety violations under our permits or licenses that occur during the fiscal 2019. Upon achievement of 111% to 150%+ of each of the revenue and EBITDA targets, the potential performance compensation is payable at 75% to 150% of the CEO's 2019 base salary. For this compensation, the amount payable is based on the four objectives noted above, with the payment of such performance compensation being weighted more heavily toward the EBITDA objective. Each of the revenue and EBITDA components is based on our Board-approved revenue target and EBITDA target. The 2019 target performance incentive compensation for our CEO is as follows:

Annualized Base Pay:	\$	287,000
Performance Incentive Compensation Target (at 100% of Plan):	\$	143,500
Total Annual Target Compensation (at 100% of Plan):	\$	430,500

Perma-Fix Environmental Services, Inc.
2019 Management Incentive Plan
CEO MIP MATRIX

	Performance Target Achieved						
	<60%	60%-74%	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (5)	\$ -	\$ 1,435	\$ 7,175	\$ 14,350	\$ 24,600	\$ 34,850	\$ 55,350
EBITDA (2)	-	8,609	43,049	86,100	147,600	209,100	332,100
Health & Safety (3) (5)	-	2,153	10,763	21,525	21,525	21,525	21,525
Permit & License Violations (4) (5)	-	2,153	10,763	21,525	21,525	21,525	21,525
	<u>\$ -</u>	<u>\$ 14,350</u>	<u>\$ 71,750</u>	<u>\$ 143,500</u>	<u>\$ 215,250</u>	<u>\$ 287,000</u>	<u>\$ 430,500</u>

- 1) Revenue is defined as the total consolidated third-party top line revenue from continuing operations (excluding PF Medical) as publicly reported in the Company's 2019 financial statements. The percentage achieved is determined by comparing the actual consolidated revenue from continuing operations to the Board-approved revenue target from continuing operations, which is \$63,124,000. The Board reserves the right to modify or change the revenue targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- 2) EBITDA is defined as earnings before interest, taxes, depreciation, and amortization from continuing operations (excluding PF Medical). The percentage achieved is determined by comparing the actual EBITDA to the Board-approved EBITDA target for 2019, which is \$6,777,000. The Board reserves the right to modify or change the EBITDA targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- 3) The health and safety incentive target is based upon the actual number of Worker's Compensation Lost Time Accidents, as provided by the Company's Worker's Compensation carrier. The Corporate Controller will submit a report on a quarterly basis documenting and confirming the number of Worker's Compensation Lost Time Accidents, supported by the Worker's Compensation Loss Report provided by the company's carrier or broker. Such claims will be identified on the loss report as "indemnity claims." The following number of Worker's Compensation Lost Time Accidents and corresponding Performance Target Thresholds has been established for the annual incentive compensation plan calculation for 2019.

Work Comp. Claim Number	Performance Target Payable Under Column
4	60%-74%
3	75%-89%
2	90%-110%
1	111%-129%
1	130%-150%
1	>150%

- 4) Permits or license incentive is earned/determined according to the scale set forth below: An "official notice of non-compliance" is defined as an official communication during 2019 from a local, state, or federal regulatory authority alleging one or more violations of an otherwise applicable Environmental, Health or Safety requirement or permit provision, which result in a facility's implementation of corrective action(s).

Permit and License Violations	Performance Target Payable Under Column
4	60%-74%
3	75%-89%
2	90%-110%
1	111%-129%
1	130%-150%
1	>150%

- 5) No performance incentive compensation will be payable for achieving the health and safety, permit and license violation, and revenue targets unless a minimum of 60% of the EBITDA target is achieved.

CFO MIP:

2019 CFO performance compensation is based upon meeting corporate revenue, EBITDA, health and safety, and environmental compliance (permit and license violations) objectives during fiscal 2019 from our continuing operations (excluding PF Medical). At achievement of 60% to 110% of each of the revenue and EBITDA targets, the potential performance compensation is payable at 5% to 50% of the 2019 base salary. For this compensation, 75% is based on EBITDA goal, 10% on revenue goal, 7.5% on the number of health and safety claim incidents that occur during fiscal 2019, and the remaining 7.5% on the number of notices alleging environmental, health or safety violations under our permits or licenses that occur during fiscal 2019. Upon achievement of 111% to 150%+ of each of the revenue and EBITDA targets, the potential performance compensation is payable at 65% to 100% of the CFO's 2019 base salary. For this compensation, the amount payable is based on the four objectives noted above, with the payment of such performance compensation being weighted more heavily toward the EBITDA objective. Each of the revenue and EBITDA components is based on our Board-approved revenue target and EBITDA target. The 2019 target performance incentive compensation for our CFO is as follows:

Annualized Base Pay:	\$ 235,231
Performance Incentive Compensation Target (at 100% of Plan):	\$ 117,616
Total Annual Target Compensation (at 100% of Plan):	\$ 352,847

Perma-Fix Environmental Services, Inc.
2019 Management Incentive Plan
CFO MIP MATRIX

	Performance Target Achieved						
	<60%	60%-74%	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (5)	\$ -	\$ 1,175	\$ 5,881	\$ 11,762	\$ 19,323	\$ 26,043	\$ 31,084
EBITDA (2)	-	8,821	44,105	88,212	115,935	156,261	186,505
Health & Safety (3) (5)	-	883	4,411	8,821	8,821	8,821	8,821
Permit & License Violations (4) (5)	-	883	4,411	8,821	8,821	8,821	8,821
	<u>\$ -</u>	<u>\$ 11,762</u>	<u>\$ 58,808</u>	<u>\$ 117,616</u>	<u>\$ 152,900</u>	<u>\$ 199,946</u>	<u>\$ 235,231</u>

- 1) Revenue is defined as the total consolidated third-party top line revenue from continuing operations (excluding Medical) as publicly reported in the Company's 2019 financial statements. The percentage achieved is determined by comparing the actual consolidated revenue from continuing operations to the Board-approved revenue target from continuing operations, which is \$63,124,000. The Board reserves the right to modify or change the revenue targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.

- 2) EBITDA is defined as earnings before interest, taxes, depreciation, and amortization from continuing operations (excluding PF Medical). The percentage achieved is determined by comparing the actual EBITDA to the Board-approved EBITDA target for 2019, which is \$6,777,000. The Board reserves the right to modify or change the EBITDA targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- 3) The health and safety incentive target is based upon the actual number of Worker's Compensation Lost Time Accidents, as provided by the Company's Worker's Compensation carrier. The Corporate Controller will submit a report on a quarterly basis documenting and confirming the number of Worker's Compensation Lost Time Accidents, supported by the Worker's Compensation Loss Report provided by the company's carrier or broker. Such claims will be identified on the loss report as "indemnity claims." The following number of Worker's Compensation Lost Time Accidents and corresponding Performance Target Thresholds has been established for the annual incentive compensation plan calculation for 2019.

Work Comp. Claim Number	Performance Target Payable Under Column
4	60%-74%
3	75%-89%
2	90%-110%
1	111%-129%
1	130%-150%
1	>150%

- 4) Permits or license incentive is earned/determined according to the scale set forth below: An "official notice of non-compliance" is defined as an official communication during 2019 from a local, state, or federal regulatory authority alleging one or more violations of an otherwise applicable Environmental, Health or Safety requirement or permit provision, which result in a facility's implementation of corrective action(s).

Permit and License Violations	Performance Target Payable Under Column
4	60%-74%
3	75%-89%
2	90%-110%
1	111%-129%
1	130%-150%
1	>150%

- 5) No performance incentive compensation will be payable for achieving the health and safety, permit and license violation, and revenue targets unless a minimum of 60% of the EBITDA target is achieved.

EVP of Strategic Initiatives MIP:

2019 EVP of Strategic Initiatives performance compensation is based upon meeting corporate revenue, EBITDA, health and safety, and environmental compliance (permit and license violations) objectives during fiscal 2019 from our continuing operations (excluding PF Medical). At achievement of 60% to 110% of each of the revenue and EBITDA targets, the potential performance compensation is payable at 5% to 50% of the 2019 base salary. For this compensation, 75% is based on EBITDA goal, 10% on revenue goal, 7.5% on the number of health and safety claim incidents that occur during fiscal 2019, and the remaining 7.5% on the number of notices alleging environmental, health or safety violations under our permits or licenses that occur during fiscal 2019. Upon achievement of 111% to 150%+ of each of the revenue and EBITDA targets, the potential performance compensation is payable at 65% to 100% of the EVP of Strategic Initiative's 2019 base salary. For this compensation, the amount payable is based on the four objectives noted above, with the payment of such performance compensation being weighted more heavily toward the EBITDA objective. Each of the revenue and EBITDA components is based on our Board-approved revenue target and EBITDA target. The 2019 target performance incentive compensation for our EVP of Strategic Initiatives is as follows:

Annualized Base Pay:	\$ 228,985
Performance Incentive Compensation Target (at 100% of Plan):	\$ 114,493
Total Annual Target Compensation (at 100% of Plan):	\$ 343,478

Perma-Fix Environmental Services, Inc.
2019 Management Incentive Plan
EVP OF STRATEGIC INITIATIVES MIP MATRIX

	Performance Target Achieved						
	<u><60%</u>	<u>60%-74%</u>	<u>75%-89%</u>	<u>90%-110%</u>	<u>111%-129%</u>	<u>130%-150%</u>	<u>>150%</u>
Revenue (1) (5)	\$ -	\$ 1,145	\$ 5,725	\$ 11,449	\$ 18,809	\$ 25,352	\$ 30,259
EBITDA (2)	-	8,586	42,935	85,870	112,857	152,111	181,552
Health & Safety (3) (5)	-	859	4,293	8,587	8,587	8,587	8,587
Permit & License Violations (4) (5)	-	859	4,293	8,587	8,587	8,587	8,587
	<u>\$ -</u>	<u>\$ 11,449</u>	<u>\$ 57,246</u>	<u>\$ 114,493</u>	<u>\$ 148,841</u>	<u>\$ 194,637</u>	<u>\$ 228,985</u>

- 1) Revenue is defined as the total consolidated third-party top line revenue from continuing operations (excluding Medical) as publicly reported in the Company's 2019 financial statements. The percentage achieved is determined by comparing the actual consolidated revenue from continuing operations to the Board-approved revenue target from continuing operations, which is \$63,124,000. The Board reserves the right to modify or change the revenue targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- 2) EBITDA is defined as earnings before interest, taxes, depreciation, and amortization from continuing operations (excluding PF Medical). The percentage achieved is determined by comparing the actual EBITDA to the Board-approved EBITDA target for 2019, which is \$6,777,000. The Board reserves the right to modify or change the EBITDA targets as defined herein in the event of the sale or disposition of any of the assets of the Company or in the event of an acquisition.
- 3) The health and safety incentive target is based upon the actual number of Worker's Compensation Lost Time Accidents, as provided by the Company's Worker's Compensation carrier. The Corporate Controller will submit a report on a quarterly basis documenting and confirming the number of Worker's Compensation Lost Time Accidents, supported by the Worker's Compensation Loss Report provided by the company's carrier or broker. Such claims will be identified on the loss report as "indemnity claims." The following number of Worker's Compensation Lost Time Accidents and corresponding Performance Target Thresholds is established for the annual incentive compensation plan calculation for 2019.

Work Comp. Claim Number	Performance Target Payable Under Column
4	60%-74%
3	75%-89%
2	90%-110%
1	111%-129%
1	130%-150%
1	>150+

- 4) Permits or license incentive is earned/determined according to the scale set forth below: An “official notice of non-compliance” is defined as an official communication during 2019 from a local, state, or federal regulatory authority alleging one or more violations of an otherwise applicable Environmental, Health or Safety requirement or permit provision, which result in a facility’s implementation of corrective action(s).

Permit and License Violations	Performance Target Payable Under Column
4	60%-74%
3	75%-89%
2	90%-110%
1	111%-129%
1	130%-150%
1	>150%

- 5) No performance incentive compensation will be payable for achieving the health and safety, permit and license violation, and revenue targets unless a minimum of 60% of the EBITDA target is achieved.

2019 MIP Targets

As discussed above, 2019 MIPs approved by the Board and the Compensation Committee for the CEO, CFO and EVP of Strategic Initiatives provide for the award of cash compensation based on achievement of performance targets which included revenue and EBITDA targets as approved by our Board. The 2019 MIP revenue target of \$63,124,000 and EBITDA target of \$6,777,000 were set by the Compensation Committee taking into account the Board-approved budget for 2019 as well as the committee’s expectations for performance that in its estimation would warrant payment of incentive cash compensation. In formulating the revenue target of \$63,124,000, the Board considered 2018 results, current economic conditions, and forecasts for 2019 government (U.S DOE) spending. The Compensation Committee believes the performance targets are likely to be achieved, but not assured.

Long-Term Incentive Compensation

Employee Stock Option Plans

The 2010 Stock Option Plan and the 2017 Stock Option Plan (together, the “Option Plans”) encourage participants to focus on long-term performance and provides an opportunity for executive officers and certain designated key employees to increase their stake in the Company. Stock options succeed by delivering value to executives only when the value of our stock increases. The Option Plans authorize the grant of Non-Qualified Stock Options (“NQSOs”) and Incentive Stock Options (“ISOs”) for the purchase of our Common Stock.

The Option Plans assist the Company to:

- enhance the link between the creation of stockholder value and long-term executive incentive compensation;
- provide an opportunity for increased equity ownership by executives; and
- maintain competitive levels of total compensation;

Stock option award levels are determined based on market data, vary among participants based on their positions with us and are granted generally at the Compensation Committee's regularly scheduled July or August meeting. Newly hired or promoted executive officers who are eligible to receive options are generally awarded such options at the next regularly scheduled Compensation Committee meeting following their hire or promotion date.

Options are awarded with an exercise price equal to or not less than the closing price of the Company's Common Stock on the date of the grant as reported on the NASDAQ. In certain limited circumstances, the Compensation Committee may grant options to an executive at an exercise price in excess of the closing price of the Company's Common Stock on the grant date.

The Company's NEOs have outstanding options from the 2017 Stock Option Plan which were granted on July 27, 2017 as follows: 100,000 ISOs to Mr. Mark Duff; 50,000 ISOs to Dr. Louis Centofanti; and 50,000 ISOs to Mr. Ben Naccarato. The ISOs granted were for a contractual term of six years with one-fifth yearly vesting over a five year period. The exercise price of each ISO was \$3.65 per share, which was equal to the fair market value of the Company's Common Stock on the date of grant.

Additionally, Mr. Duff has outstanding 50,000 ISOs granted to him by the Company on May 15, 2016 from the 2010 Stock Option Plan. The ISOs granted were for a contractual term of six years with one-third vesting annually over a three-year period. The exercise price of each ISO was \$3.97 per share, which was equal to the fair market value of the Company's Common Stock on the date of grant.

On January 17, 2019 the Company's Compensation Committee and the Board approved the grant of ISOs from the 2017 Stock Option Plan to our NEOs as follows: 25,000 ISOs to Mark Duff; 15,000 ISOs to Ben Naccarato; and 15,000 ISOs to Dr. Louis Centofanti. The ISOs granted were for a contractual term of six years with one-fifth vesting annually over a five year period. The exercise price of the ISO was \$3.15 per share, which was equal to the fair market value of the Company's common stock on the date of grant.

In cases of termination of an executive officer's employment due to death, by the executive for "good reason", by the Company without cause, and due to a "change of control," all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full (see further discussion of the exercisability term of these options in each of these circumstances in "Item 11 – EXECUTIVE COMPENSATION – Employment Agreements"). Otherwise, vesting of option awards ceases upon termination of employment and exercise right of the vested option amount ceases upon three months from termination of employment except in the case of retirement (subject to a six-month limitation) and disability (subject to a one-year limitation).

Accounting for Stock-Based Compensation

We account for stock-based compensation in accordance with Accounting Standards Codification ("ASC") 718, "Compensation – Stock Compensation." ASC 718 establishes accounting standards for entity exchanges of equity instruments for goods or services. It also addresses transactions in which an entity incurs liabilities in exchange for goods or services that are based on the fair value of the entity's equity instruments or that may be settled by the issuance of those equity instruments. ASC 718 requires all stock-based payments to employees, including grants of employee stock options, to be recognized in the income statement based on their fair values. The Company uses the Black-Scholes option-pricing model to determine the fair-value of stock-based awards which requires subjective assumptions. Assumptions used to estimate the fair value of stock options granted include the exercise price of the award, the expected term, the expected volatility of the Company's stock over the option's expected term, the risk-free interest rate over the option's expected term, and the expected annual dividend yield. We recognize stock-based compensation expense using a straight-line amortization method over the requisite period, which is the vesting period of the stock option grant.

Retirement and Other Benefits

401(k) Plan

We adopted the Perma-Fix Environmental Services, Inc. 401(k) Plan (the “401(k) Plan”) in 1992, which is intended to comply with Section 401 of the Internal Revenue Code and the provisions of the Employee Retirement Income Security Act of 1974. All full-time employees who have attained the age of 18 are eligible to participate in the 401(k) Plan. Eligibility is immediate upon employment but enrollment is only allowed during four quarterly open periods of January 1, April 1, July 1, and October 1. Participating employees may make annual pretax contributions to their accounts up to 100% of their compensation, up to a maximum amount as limited by law. We, at our discretion, may make matching contributions based on the employee’s elective contributions. Company contributions vest over a period of five years. In 2018, the Company contributed approximately \$338,000 in 401(k) matching funds, of which approximately \$15,000 was for our NEOs (see the “Summary Compensation” table in this section for 401(k) matching fund contributions made for the NEOs for 2017). In 2017, the Company contributed approximately \$326,000 in 401(k) matching funds, of which approximately \$15,000 was for our NEOs.

Perquisites and Other Personal Benefits

The Company provides executive officers with limited perquisites and other personal benefits (health/disability/life insurance) that the Company and the Compensation Committee believe are reasonable and consistent with its overall compensation program to better enable the Company to attract and retain superior employees for key positions. The Compensation Committee periodically reviews the levels of perquisites and other personal benefits provided to executive officers. The executive officers are provided an auto allowance.

Consideration of Stockholder Say-On-Pay Advisory Vote.

At our Annual Meeting of Stockholders held on July 26, 2018, our stockholders voted, on a non-binding, advisory basis, on the compensation of our NEOs for 2017. A substantial majority (approximately 90%) of the total votes cast on our say-on-pay proposal at that meeting approved the compensation of our NEOs for 2017 on a non-binding, advisory basis. The Compensation Committee and the Board believes that this affirms our stockholders’ support of our approach to executive compensation. The Compensation Committee expects to continue to consider the results of future stockholder say-on-pay advisory votes when making future compensation decisions for our NEOs. We will hold an advisory vote on the compensation of our NEOs at our 2018 annual meeting of stockholders.

Compensation of Directors

Directors who are employees receive no additional compensation for serving on the Board or its committees. In 2018, we provided the following annual compensation to directors who are not employees:

- options to purchase 2,400 shares of our Common Stock with each option having a 10-year term and being fully vested after six months from grant date;
- a quarterly director fee of \$8,000;
- an additional quarterly fee of \$5,500 and \$7,500 to the Chairman of our Audit Committee and Chairman of the Board (non-employee), respectively; and
- a fee of \$1,000 for each board meeting attendance and a \$500 fee for meeting attendance via conference call.

Each director may elect to have either 65% or 100% of such fees payable in Common Stock under the 2003 Outside Directors Stock Plan (“2003 Outside Directors Plan”), with the balance payable in cash.

Dr. Louis Centofanti, a current member of the Board, is not eligible to receive compensation for his service as a director of the Company as he is an employee (named executive officer) of the Company (see “Summary Compensation” table in this section for Dr. Centofanti’s annual salary as an employee of the Company).

The table below summarizes the director compensation expenses recognized by the Company for the director options and stock awards (resulting from fees earned) for the year ended December 31, 2018. The terms of the 2003 Outside Directors Plan are further described below under “2003 Outside Directors Plan.”

Director Compensation

Name	Fees Earned or Paid In	Stock Awards	Option Awards	Non-Equity Incentive Plan Compensation	Nonqualified Deferred Compensation Earnings	All Other Compensation	Total
	Cash (\$) ⁽¹⁾						
S. Robert Cochran	—	48,002	22,548	—	—	—	70,550
Dr. Gary G. Kugler ⁽⁵⁾	7,091	17,558	—	—	—	—	24,649
Joe R. Reeder	—	47,336	7,248	—	—	—	54,584
Larry M. Shelton	23,100	57,203	7,248	—	—	—	87,551
Zach P. Wamp ⁽⁴⁾	11,721	29,021	7,248	—	—	—	47,990
Mark A. Zwecker	20,300	50,269	7,248	—	—	—	77,817

- (1) Under the 2003 Outside Directors Plan, each director elects to receive 65% or 100% of the director’s fees in shares of our Common Stock. The amounts set forth above represent the portion of the director’s fees paid in cash and exclude the value of the directors’ fee elected to be paid in Common Stock under the 2003 Outside Directors Plan, which values are included under “Stock Awards.”
- (2) The number of shares of Common Stock comprising stock awards granted under the 2003 Outside Directors Plan is calculated based on 75% of the closing market value of the Common Stock as reported on the NASDAQ on the business day immediately preceding the date that the quarterly fee is due. Such shares are fully vested on the date of grant. The value of the stock award is based on the market value of our Common Stock at each quarter end times the number of shares issuable under the award. The amount shown is the fair value of the Common Stock on the date of the award.
- (3) Options granted under the Company’s 2003 Outside Directors Plan resulting from re-election to the Board of Directors on July 26, 2018. Options are for a 10-year period with an exercise price of \$4.30 per share and are fully vested in six months from grant date. The value of the option award for each outside director is calculated based on the fair value of the option per share (\$3.02) on the date of grant times the number of options granted, which was 2,400 for each director, pursuant to ASC 718, “Compensation – Stock Compensation.” Option awards for Zach Wamp also included 6,000 options granted to him upon initial appointment to the Board on January 18, 2018. The options are for a 10-year period with an exercise price of \$4.05 per share and are fully vested six months from date of grant. The fair value of the 6,000 options was determined to be approximately \$15,300 based on fair value of \$2.55 per share. The following table reflects the aggregate number of outstanding non-qualified stock options held by the Company’s directors at December 31, 2018. As an employee of the Company or its subsidiaries, Dr. Centofanti is not eligible to participate in the 2003 Outside Directors Plan. Options reflected below for Dr. Centofanti were granted from the 2017 Option Plan as discussed previously:

Name	Options Outstanding at December 31, 2018
S. Robert Cochran	10,800
Dr. Louis Centofanti	50,000
Joe R. Reeder	24,000
Larry M. Shelton	24,000
Zach P. Wamp	8,400
Mark A. Zwecker	24,000
Total	141,200

- (4) Mr. Wamp was appointed by the Board to fill a vacancy on the Board effective January 18, 2018.
- (5) Dr. Kugler elected not to stand for re-election at the Company’s Annual Meeting of Stockholders held on July 26, 2018.

2003 Outside Directors Plan

We believe that it is important for our directors to have a personal interest in our success and growth and for their interests to be aligned with those of our stockholders; therefore, under our 2003 Outside Directors Stock Plan, as amended (“2003 Outside Directors Plan”), each outside director is granted a 10-year option to purchase up to 6,000 shares of Common Stock on the date such director is initially elected to the Board, and receives on each re-election date an option to purchase up to another 2,400 shares of our Common Stock, with the exercise price being the fair market value of the Common Stock preceding the option grant date. No option granted under the 2003 Outside Directors Plan is exercisable until after the expiration of six months from the date the option is granted and no option shall be exercisable after the expiration of ten years from the date the option is granted. At December 31, 2018, options to purchase 156,000 shares of Common Stock were outstanding under the 2003 Outside Directors Plan, of which 144,000 were vested at December 31, 2018.

As a member of the Board, each director may elect to receive either 65% or 100% of the director’s fee in shares of our Common Stock. The number of shares received by each director is calculated based on 75% of the fair market value of the Common Stock determined on the business day immediately preceding the date that the quarterly fee is due. The balance of each director’s fee, if any, is payable in cash. In 2018, the fees earned by our outside directors totaled approximately \$312,000. Reimbursements of expenses for attending meetings of the Board are paid in cash at the time of the applicable Board meeting. As a management director, Dr. Centofanti is not eligible to participate in the 2003 Outside Directors Plan.

As of December 31, 2018, we have issued 608,583 shares of our Common Stock in payment of director fees since the inception of the 2003 Outside Directors Plan.

In the event of a “change of control” (as defined in the 2003 Outside Directors Plan), each outstanding stock option and stock award shall immediately become exercisable in full notwithstanding the vesting or exercise provisions contained in the stock option agreement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Security Ownership of Certain Beneficial Owners

The table below sets forth information as to the shares of Common Stock beneficially owned as of February 15, 2019 by each person known by us to be the beneficial owners of more than 5% of any class of our voting securities.

Name of Beneficial Owner	Title Of Class	Amount and Nature of Ownership	Percent Of Class ⁽¹⁾
Heartland Advisors, Inc. ⁽²⁾	Common	1,355,864	11.3%
TALANTA Investment Group, LLC ⁽³⁾	Common	772,356	6.5%

⁽¹⁾ The number of shares and the percentage of outstanding Common Stock shown as beneficially owned by a person are based upon 11,961,537 shares of Common Stock outstanding on February 15, 2019, and the number of shares of Common Stock which such person has the right to acquire beneficial ownership of within 60 days. Beneficial ownership by our stockholders has been determined in accordance with the rules promulgated under Section 13(d) of the Exchange Act.

⁽²⁾ This information is based on the Schedule 13F-HR of Heartland Advisors, Inc., an investment advisor, filed with the Securities and Exchange Commission on February 12, 2019, disclosing that at December 31, 2018, Heartland Advisors, Inc. had dispositive power over all shares shown above, but shared voting power over 1,236,512 of such shares and no voting power over 119,352 of the shares. The address of Heartland Advisors, Inc. is 789 North Water Street, Milwaukee, WI 53202.

⁽³⁾ This information is based on the Schedule 13D of TALANTA Investment Group, LLC, a private investment firm, filed with the Securities and Exchange Commission on August 2, 2017, disclosing that as of July 25, 2017, (i) TALANTA Investment Group, LLC, (ii) TALANTA Fund, L.P, and (iii) Justyn R. Putnam (collectively, the “Reporting Persons”), had shared dispositive power and shared voting power over all shares shown in the table above. The address of the Reporting Persons is 401N. Tryon Street, 10th Floor, Charlotte, North Carolina 28202.

As of February 12, 2019, Capital Bank–Grawe Gruppe AG (“Capital Bank”), a banking institution regulated by the banking regulations of Austria, holds of record as a nominee for, and as an agent of, certain accredited investors, 1,859,499 shares of our Common Stock. None of Capital Bank’s investors beneficially own more than 4.9% of our Common Stock and to its best knowledge, as far as stocks held in accounts with Capital Bank, none of Capital Bank’s investors act together as a group or otherwise act in concert for the purpose of voting on matters subject to the vote of our stockholders or for purpose of disposition or investment of such stock. Additionally, Capital Bank’s investors maintain full voting and dispositive power over the Common Stock beneficially owned by such investors, and Capital Bank has neither voting nor investment power over such shares. Accordingly, Capital Bank believes that (i) it is not the beneficial owner, as such term is defined in Rule 13d-3 of the Exchange Act, of the shares of Common Stock registered in Capital Bank’s name because (a) Capital Bank holds the Common Stock as a nominee only, (b) Capital Bank has neither voting nor investment power over such shares, and (c) Capital Bank has not nominated or sought to nominate, and does not intend to nominate in the future, any person to serve as a member of our Board; and (ii) it is not required to file reports under Section 16(a) of the Exchange Act or to file either Schedule 13D or Schedule 13G in connection with the shares of our Common Stock registered in the name of Capital Bank.

Notwithstanding the previous paragraph, if Capital Bank’s representations to us described above are incorrect or if Capital Bank’s investors are acting as a group, then Capital Bank or a group of Capital Bank’s investors could be a beneficial owner of more than 5% of our voting securities. If Capital Bank was deemed the beneficial owner of such shares, the following table sets forth information as to the shares of voting securities that Capital Bank may be considered to beneficially own on February 15, 2019:

Name of Record Owner	Title Of Class	Amount and Nature of Ownership	Percent Of Class (*)
Capital Bank-Grawe Gruppe	Common	1,859,499 (+)	15.5%

(*) This calculation is based upon 11,961,537 shares of Common Stock outstanding on February 15, 2019, plus the number of shares of Common Stock which Capital Bank, as agent for certain accredited investors has the right to acquire within 60 days, which is none.

(+) This amount is the number of shares that Capital Bank has represented to us that it holds of record as nominee for, and as an agent of, certain of its accredited investors. As of the date of this report, Capital Bank has no warrants or options to acquire, as agent for certain investors, additional shares of our Common Stocks. Although Capital Bank is the record holder of the shares of Common Stock described in this note, Capital Bank has advised us that it does not believe it is a beneficial owner of the Common Stock or that it is required to file reports under Section 16(a) or Section 13(d) of the Exchange Act. Because Capital Bank (a) has advised us that it holds the Common Stock as a nominee only and that it does not exercise voting or investment power over the Common Stock held in its name and that no one investor of Capital Bank for which it holds our Common Stock holds more than 4.9% of our issued and outstanding Common Stock and (b) has not nominated, and has not sought to nominate, and does not intend to nominate in the future, any person to serve as a member of our Board, we do not believe that Capital Bank is our affiliate. Capital Bank’s address is Burgring 16, A-8010 Graz, Austria.

Security Ownership of Management

The following table sets forth information as to the shares of voting securities beneficially owned as of February 15, 2019, by each of our directors and NEOs and by all of our directors and NEOs as a group. Beneficial ownership has been determined in accordance with the rules promulgated under Section 13(d) of the Exchange Act. A person is deemed to be a beneficial owner of any voting securities for which that person has the right to acquire beneficial ownership within 60 days.

Name of Beneficial Owner ⁽²⁾	Amount and Nature of Beneficial Owner ⁽¹⁾	Percent of Class ⁽¹⁾
Dr. Louis F. Centofanti ⁽³⁾	233,325(3)	1.95%
S. Robert Cochran ⁽⁴⁾	35,558(4)	*
Joe R. Reeder ⁽⁵⁾	174,075(5)	1.45%
Larry M. Shelton ⁽⁶⁾	128,278(6)	1.07%
Zack P. Wamp ⁽⁷⁾	16,664(7)	*
Mark A. Zwecker ⁽⁸⁾	194,223(8)	1.62%
Ben Naccarato ⁽⁹⁾	12,000(9)	*
Mark Duff ⁽¹⁰⁾	63,384(10)	*
Directors and Executive Officers as a Group (8 persons)	857,507(11)	7.07%

*Indicates beneficial ownership of less than one percent (1%).

⁽¹⁾ See footnote (1) of the table under “Security Ownership of Certain Beneficial Owners.”

⁽²⁾ The business address of each person, for the purposes hereof, is c/o Perma-Fix Environmental Services, Inc., 8302 Dunwoody Place, Suite 250, Atlanta, Georgia 30350.

⁽³⁾ These shares include (i) 160,525 shares held of record by Dr. Centofanti, (ii) options to purchase 10,000 shares which are immediately exercisable, and (iii) 62,800 shares held by Dr. Centofanti’s wife. Dr. Centofanti has sole voting and investment power of these shares, except for the shares held by Dr. Centofanti’s wife, over which Dr. Centofanti shares voting and investment power. Dr. Centofanti also owns 700 shares of PF Medical’s Common Stock.

⁽⁴⁾ Mr. Cochran has sole voting and investment power over these shares which include: (i) 24,758 shares of Common Stock held of record by Mr. Cochran, and (ii) options to purchase 10,800 shares, which are immediately exercisable.

⁽⁵⁾ Mr. Reeder has sole voting and investment power over these shares which include: (i) 150,075 shares of Common Stock held of record by Mr. Reeder, and (ii) options to purchase 24,000 shares, which are immediately exercisable.

⁽⁶⁾ Mr. Shelton has sole voting and investment power over these shares which include: (i) 104,278 shares of Common Stock held of record by Mr. Shelton, and (ii) options to purchase 24,000 shares, which are immediately exercisable. Mr. Shelton also owns 750 shares of PF Medical’s Common Stock.

⁽⁷⁾ Mr. Wamp has sole voting and investment power over these shares which include: (i) 8,264 shares of Common Stock held of record by Mr. Wamp, and (ii) options to purchase 8,400 shares, which are immediately exercisable.

⁽⁸⁾ Mr. Zwecker has sole voting and investment power over these shares which include: (i) 170,223 shares of Common Stock held of record by Mr. Zwecker, and (ii) options to purchase 24,000 shares, which are immediately exercisable.

⁽⁹⁾ Mr. Naccarato has sole voting and investment power over all these shares which include: (i) 2,000 shares of Common Stock held of record by Mr. Naccarato, and (ii) options to purchase 10,000 shares which are immediately exercisable. Mr. Naccarato also owns 100 shares of PF Medical’s Common Stock.

⁽¹⁰⁾ Mr. Duff has sole voting and investment power over all these shares which include: (i) 10,051 shares of Common Stock held of record by Mr. Duff, and (ii) options to purchase 53,333 shares, which are immediately exercisable.

⁽¹¹⁾ Amount includes 164,533 options, which are immediately exercisable.

Equity Compensation Plans

The following table sets forth information as of December 31, 2018, with respect to our equity compensation plans.

Plan Category	Equity Compensation Plan		
	Number of securities to be issued upon exercise of outstanding options warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by stockholders	616,000	\$ 4.23	459,417
Equity compensation plans not approved by stockholders	—	—	—
Total	616,000	\$ 4.23	459,417

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

We describe below transactions to which we were a party during our last two fiscal years or to which we currently propose to be a party in the future, and in which:

- the amounts involved exceeded or will exceed the lesser of \$120,000 or one percent of the average of our total assets at year-end for the last two completed fiscal years; and
- any of our directors, executive officers or beneficial owners of more than 5% of any class of our voting securities, or any member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest.

Audit Committee Review

Our Audit Committee Charter provides for the review by the Audit Committee of any related party transactions, other than transactions involving an employment relationship with the Company, which are reviewed by the Compensation Committee. Although we do not have written policies for the review of related party transactions, the Audit Committee reviews transactions between the Company and its directors, executive officers, and their respective immediate family members. In reviewing a proposed transaction, the Audit Committee takes into account, among other factors it deems appropriate:

- (1) the extent of the related person's interest in the transaction;
- (2) whether the transaction is on terms generally available to an unaffiliated third-party under the same or similar circumstances;
- (3) the cost and benefit to the Company;
- (4) the impact or potential impact on a director's independence in the event the related party is a director, an immediate family member of a director or an entity in which a director is a partner, stockholder or executive officer;
- (5) the availability of other sources for comparable products or services;
- (6) the terms of the transaction; and
- (7) the risks to the Company.

Related party transactions are reviewed by the Audit Committee prior to the consummation of the transaction. With respect to a related party transaction arising between Audit Committee meetings, the CFO may present it to the Audit Committee Chairperson, who will review and may approve the related party transaction subject to ratification by the Audit Committee at the next scheduled meeting. Our Audit Committee shall approve only those transactions that, in light of known circumstances, are not inconsistent with the Company's best interests.

Related Party Transactions

David Centofanti

David Centofanti serves as our Vice President of Information Systems. For such position, he received annual compensation of \$173,000 and \$168,000 for 2018 and 2017, respectively. David Centofanti is the son of Dr. Louis F. Centofanti, our EVP of Strategic Initiatives and a Board member. Dr. Louis Centofanti previously held the position of President and CEO until September 8, 2017.

Robert Ferguson

Robert Ferguson serves as an advisor to our Board and was also a member of the Supervisory Board of PF Medical (until May 11, 2018), a majority-owned Polish subsidiary of the Company. Robert Ferguson previously served as a Board member of the Company from June 2007 to February 2010 and again from August 2011 to September 2012. Robert Ferguson is also a consultant for us in connection with our Test Bed Initiative (“TBI”) at our Perma-Fix Northwest Richland, Inc. (“PFNWR”) facility. As an advisor to our Board, Robert Ferguson is paid \$4,000 monthly plus reasonable expenses. For such services, Robert Ferguson received compensation of approximately \$50,000 and \$51,000 for the year ended December 31, 2018 and 2017, respectively. For Robert Ferguson’s consulting work in connection with our TBI, on July 27, 2017 (“grant date”) we granted Robert Ferguson a stock option from our 2017 Stock Option Plan for the purchase of up to 100,000 shares of our Common Stock at an exercise price of \$3.65 a share, which was the fair market value of our common stock on the date of grant (“Ferguson Stock Option”). The vesting of the Ferguson Stock Option is subject to the achievement of the following milestones (“waste” as noted below is defined as liquid LAW (“low activity waste”) and/or liquid TRU (“transuranic waste”)):

- Upon treatment and disposal of three gallons of waste at the PFNWR facility by January 27, 2018, 10,000 shares of the Ferguson Stock Option shall become exercisable;
- Upon treatment and disposal of 2,000 gallons of waste at the PFNWR facility by January 27, 2019, 30,000 shares of the Ferguson Stock Option shall become exercisable; and
- Upon treatment and disposal of 50,000 gallons of waste at the PFNWR facility and assistance, on terms satisfactory to the Company, in preparing certain justifications of cost and pricing data for the waste and obtaining a long-term commercial contract relating to the treatment, storage and disposal of waste by January 27, 2021, 60,000 shares of the Ferguson Stock Option shall become exercisable.

The term of the Ferguson Stock Option is seven (7) years from the grant date. Each of the milestones is exclusive of each other; therefore, achievement of any of the milestones above by Robert Ferguson by the designated date will provide Robert Ferguson the right to exercise the number of options in accordance with the milestone attained. The 10,000 options as noted above became vested by Robert Ferguson on December 19, 2017. On May 1, 2018, Robert Ferguson exercised the 10,000 options for the purchase of 10,000 shares of our Common Stock, resulting in total proceeds paid to us of approximately \$36,500.

On January 17, 2019, the Ferguson Stock Option was amended whereby the vesting date of the Ferguson Stock Option for the second milestone as discussed above was amended from “by January 27, 2019” to “by March 31, 2020.” All other terms of the Ferguson Stock Option remain unchanged.

On April 1, 2019, we completed a lending transaction with Robert Ferguson (the “Lender”), whereby we borrowed from the Lender the sum of \$2,500,000 pursuant to the terms of a Loan and Security Purchase Agreement and promissory note (the “Loan”). The Lender is a shareholder of the Company and also currently serves as a consultant to our PFNWR subsidiary. The proceeds from the Loan will be used for general working capital purposes. The Loan is unsecured, with a term of two years with interest payable at a fixed interest rate of 4.00% per annum. The Loan provides for monthly payments of accrued interest only during the first year of the Loan, with the first interest payment due May 1, 2019 and monthly payments of approximately \$208,333 in principal plus accrued interest starting in the second year of the Loan. The Loan also allows for prepayment of principal payments over the term of the Loan without penalty. In connection with the above Loan, the Lender entered into a Subordination Agreement with our credit facility lender, whereby the Lender agreed to subordinate payment under the Loan, and agreed that the Loan will be junior in right of payment to the credit facility in the event of default or bankruptcy or other insolvency proceeding by us. As consideration for us receiving the Loan, we issued a Warrant to the Lender to purchase up to 60,000 shares of our Common Stock at an exercise price of \$3.51, which was the closing bid price for a share of our Common Stock on NASDAQ.com immediately preceding the execution of the Loan and Warrant. The Warrant is exercisable six months from April 1, 2019 and expires on April 1, 2024. As further consideration for the Loan, we also will issue an aggregate 75,000 shares of our Common Stock to the Lender. The 75,000 shares of Common Stock and 60,000 Common Stock purchase warrant will be and was issued in a private placement that was exempt from registration under the Securities Act and bear a restrictive legend against resale except in a transaction registered under the Securities Act or in a transaction exempt from registration thereunder.

Upon default, the Lender will have the right to elect to receive in full and complete satisfaction of our obligations under the Loan either: (a) the cash amount equal to the sum of the unpaid principal balance owing under the loan and all accrued and unpaid interest thereon (the "Payoff Amount") or (b) upon meeting certain conditions, the number of whole shares of our Common Stock (the "Payoff Shares") determined by dividing the Payoff Amount by the dollar amount equal to the closing bid price of our Common Stock on the date immediately prior to the date of default, as reported or quoted on the primary nationally recognized exchange or automated quotation system on which our Common Stock is listed; provided however, that the dollar amount of such closing bid price shall not be less than \$3.51, the closing bid price for our Common Stock as disclosed on NASDAQ.com immediately preceding the signing of this loan agreement.

If issued, the Payoff Shares will not be registered and the Lender will not be entitled to registration rights with respect to the Payoff Shares. The aggregate number of shares, warrant shares, and Payoff Shares that are or will be issued to the Lender pursuant to the Loan, together with the aggregate shares of our Common Stock and other voting securities owned by the Lender as of the date of issuance of the Payoff Shares, shall not exceed the number of shares of our Common Stock equal to 14.9% of the number of shares of our Common Stock issued and outstanding as of the date immediately prior to the default, less the number of shares of our Common Stock owned by the Lender immediately prior to the date of such default plus the number of shares of our Common Stock that may be acquired by the Lenders under warrants and/or options outstanding immediately prior to the date of such default.

Employment Agreements

We entered into employment agreements with each of our NEOs, Mark Duff (President and CEO), Ben Naccarato (CFO), and Dr. Louis Centofanti, (EVP of Strategic Initiatives), with each employment agreement dated September 8, 2017 (see "Item 11. Executive Compensation – Employment Agreements" for a discussion of these employment agreements).

Board Independence

Our Common Stock is listed on the Nasdaq Capital Market. Rule 5605 of the Nasdaq Marketplace Rules requires a majority of a listed company's board of directors to be comprised of independent directors. In addition, the Nasdaq Marketplace Rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and corporate governance committees be independent under applicable provisions of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Audit committee members must also satisfy independence criteria set forth in Rule 10A-3 under the Exchange Act, and compensation committee members must also satisfy the independence criteria set forth in Rule 10C-1 under the Exchange Act. Under Nasdaq Rule 5605(a)(2), a director will only qualify as an "independent director" if, in the opinion of our Board, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3 under the Exchange Act, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee, accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries. In order to be considered independent for purposes of Rule 10C-1, the board must consider, for each member of a compensation committee of a listed company, all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: the source of compensation of the director, including any consulting advisory or other compensatory fee paid by such company to the director; and whether the director is affiliated with the company or any of its subsidiaries or affiliates.

Our Board annually undertakes a review of the composition of our Board of Directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our Board of Directors has determined that each of S. Robert Cochran, Dr. Gary Kugler (a director until July 26, 2018), Joe R. Reeder, Larry M. Shelton, Zach P. Wamp and Mark A. Zwecker is/was an “independent director” as defined under the Nasdaq Marketplace Rules. Our Board of Directors has also determined that each member of our Audit Committee in 2018, consisting of Mark A. Zwecker (Chairperson), S. Robert Cochran, Dr. Gary G. Kugler (who was a member of the Audit Committee until April 19, 2018), and Larry M. Shelton (who became a member effective April 19, 2018), and each member of our Compensation and Stock Option Committee in 2018, consisting of Dr. Gary G. Kugler (who was the Chairperson and a member until April 19, 2018), Larry M. Shelton (who became the Chairperson effective April 19, 2018), Joe R. Reeder, and Mark A. Zwecker (who became a member effective April 19, 2018), satisfy/satisfied the independence standards for such committees established by the Securities and Exchange Commission and the Nasdaq Marketplace Rules, as applicable. In making such determination, our Board of Directors considered the relationships that each such non-employee director has with our Company and all other facts and circumstances our Board of Directors deemed relevant in determining independence, including the beneficial ownership of our capital stock by each non-employee director.

Our Board of Directors has determined that Dr. Centofanti is not deemed to be an “independent director” because of his employment as a senior executive of the Company.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table reflects the aggregate fees for the audit and other services provided by Grant Thornton LLP, the Company’s independent registered public accounting firm, for fiscal years 2018 and 2017:

Fee Type	<u>2018</u>	<u>2017</u>
Audit Fees ⁽¹⁾	\$ 535,000	454,000
Tax Fees ⁽²⁾	<u>110,000</u>	<u>92,000</u>
Total	<u>\$ 645,000</u>	<u>546,000</u>

⁽¹⁾ Audit fees consist of audit work performed in connection with the annual financial statements, the reviews of unaudited quarterly financial statements, and work generally only the independent registered accounting firm can reasonably provide, such as consents and review of regulatory documents filed with the Securities and Exchange Commission.

⁽²⁾ Fees for income tax planning, filing, and consulting.

The Audit Committee of the Company’s Board has considered whether Grant Thornton’s provision of the services described above for the fiscal years 2018 and 2017 was compatible with maintaining its independence.

Engagement of the Independent Auditor

The Audit Committee approves in advance all engagements with the Company's independent accounting firm to perform audit or non-audit services for us. All services under the headings Audit Fees and Tax Fees were approved by the Audit Committee pursuant to paragraph (c)(7)(i)(C) of Rule 2-01 of Regulation S-X of the Exchange Act. The Audit Committee's pre-approval policy provides as follows:

- The Audit Committee will review and pre-approve on an annual basis all audits, audit-related, tax and other services, along with acceptable cost levels, to be performed by the independent accounting firm and any member of the independent accounting firm's alliance network of firms, and may revise the pre-approved services during the period based on later determinations. Pre-approved services typically include: audits, quarterly reviews, regulatory filing requirements, consultation on new accounting and disclosure standards, employee benefit plan audits, reviews and reporting on management's internal controls and specified tax matters.
- Any proposed service that is not pre-approved on the annual basis requires a specific pre-approval by the Audit Committee, including cost level approval.
- The Audit Committee may delegate pre-approval authority to one or more of the Audit Committee members. The delegated member must report to the Audit Committee, at the next Audit Committee meeting, any pre-approval decisions made.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULE

The following documents are filed as a part of this report:

(a)(1) Consolidated Financial Statements

See Item 8 for the Index to Consolidated Financial Statements.

(a)(2) Financial Statement Schedule

Schedules are not required, are not applicable or the information is set forth in the consolidated financial statements or notes thereto.

(a)(3) Exhibits

The Exhibits listed in the Exhibit Index are filed or incorporated by reference as a part of this report.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Perma-Fix Environmental Services, Inc.

By /s/ Mark Duff Date April 1, 2019
Mark Duff
Chief Executive Officer, President and
Principal Executive Officer

By /s/ Ben Naccarato Date April 1, 2019
Ben Naccarato
Chief Financial Officer and
Principal Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in capacities and on the dates indicated.

By /s/ Dr. Louis F. Centofanti Date April 1, 2019
Dr. Louis F. Centofanti, Director

By /s/ S. Robert Cochran Date April 1, 2019
S. Robert Cochran, Director

By /s/ Joe R. Reeder Date April 1, 2019
Joe R. Reeder, Director

By /s/ Larry M. Shelton Date April 1, 2019
Larry M. Shelton, Chairman of the Board

By /s/ Zach P. Wamp Date April 1, 2019
Zach P. Wamp, Director

By /s/ Mark A. Zwecker Date April 1, 2019
Mark A. Zwecker, Director

EXHIBIT INDEX

Exhibit No.	Description
3(i)	<u>Restated Certificate of Incorporation, as amended, of Perma-Fix Environmental Services, Inc.</u>
3(ii)	<u>Amended and Restated Bylaws, as amended effective July 28, 2016, of Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 3(ii) to the Company's 8-K filed on August 1, 2016.</u>
4.1	<u>Shareholder Rights Agreement dated and effective as of May 2, 2018 between Perma-Fix Environmental Services, Inc. as the Company and Continental Stock Transfer & Trust Company, as Rights Agent, as incorporated by reference from Exhibit 4.1 to the Company's Form 8-K filed on May 2, 2018.</u>
4.2	<u>Amended and Restated Revolving Credit, Term Loan and Security Agreement between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association (as Lender and as Agent), dated October 31, 2011, as incorporated by reference from Exhibit 4.8 to the Company 2016 Form 10-K filed on March 24, 2017.</u>
4.3	<u>First Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated November 7, 2012, between the Company and PNC Bank, National Association, as incorporated by reference from Exhibit 4.4 to the Company 2017 Form 10-K filed on March 16, 2018.</u>
4.4	<u>Second Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement and Waiver, dated May 9, 2013, between the Company and PNC Bank, National Association.</u>
4.5	<u>Third Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated August 2, 2013.</u>
4.6	<u>Third Amended, Restated and Substituted Revolving Credit Note between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated August 2, 2013.</u>
4.7	<u>Fourth Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement and Waiver between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated April 14, 2014, as incorporated by reference from Exhibit 4.17 to the Company's 2013 Form 10-K filed on April 15, 2014.</u>
4.8	<u>Fifth Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated July 25, 2014, as incorporated by reference from Exhibit 4.1 to the Company's 8-K filed on July 31, 2014.</u>
4.9	<u>Sixth Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated July 28, 2014, as incorporated by reference from Exhibit 4.2 to the Company's 8-K filed on July 31, 2014.</u>
4.10	<u>Seventh Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated March 24, 2016, as incorporated by reference from Exhibit 4.17 to the Company's 2015 Form 10-K filed on March 24, 2016.</u>
4.11	<u>Eighth Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated August 22, 2016, as incorporated by reference from Exhibit 4.9 to the Company's Form 10-Q for the quarter ended June 30, 2016 filed on August 22, 2016.</u>

- 4.12 [Ninth Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated November 17, 2016, as incorporated by reference from Exhibit 4.10 to the Company's Form 10-Q for the quarter ended September 30, 2016 filed on November 18, 2016.](#)
- 4.13 [Tenth Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated July 26, 2018, as incorporated by reference from Exhibit 4.1 to the Company's Form 8-K filed on July 30, 2018.](#)
- 4.14 [Eleventh Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement and Waiver between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated March 29, 2019](#)
- 4.15 [Loan and Securities Purchase Agreement, dated April 1, 2019 between Robert L. Ferguson and Perma-Fix Environmental Services, Inc.](#)
- 4.16 [Common Stock Purchase Warrant dated April 1, 2019 for Robert L. Ferguson.](#)
- 10.1 [2003 Outside Directors' Stock Plan of the Company, as incorporated by reference from Exhibit 10.2 to the Company's 2014 Form 10-K filed on March 31, 2015.](#)
- 10.2 [First Amendment to 2003 Outside Directors Stock Plan, as incorporated by reference from Exhibit 10.3 to the Company's 2014 Form 10-K filed on March 31, 2015.](#)
- 10.3 [Second Amendment to 2003 Outside Directors Stock Plan, as incorporated by reference from Exhibit 10.3 to the Company's 2017 Form 10-K filed on March 16, 2018.](#)
- 10.4 [Third Amendment to 2003 Outside Directors Stock Plan, as incorporated by reference from Exhibit 10.4 to the Company's 2017 Form 10-K filed on March 16, 2018.](#)
- 10.5 [Fourth Amendment to 2003 Outside Directors Stock Plan, as incorporated by reference from Exhibit A to the Company's Proxy Statement for its 2017 Annual Meeting of Stockholders filed on June 22, 2017.](#)
- 10.6 [2017 Stock Option Plan, as incorporated by reference from Exhibit B to the Company's Proxy Statement for its 2017 Annual Meeting of Stockholders filed on June 22, 2017.](#)
- 10.7 [Employment Agreement dated September 8, 2017 between Mark Duff, Chief Executive Officer, and Perma-Fix Environmental Services, Inc., which is incorporated by reference from Exhibit 99.1 to the Company's Form 8-K filed on September 12, 2017.](#)
- 10.8 [Employment Agreement dated September 8, 2017 between Dr. Louis Centofanti, Executive Vice President of Strategic Initiatives, and Perma-Fix Environmental Services, Inc., which is incorporated by reference from Exhibit 99.2 to the Company's Form 8-K filed on September 12, 2017.](#)
- 10.9 [Employment Agreement dated September 8, 2017 between Ben Naccarato, Chief Financial Officer, and Perma-Fix Environmental Services, Inc., which is incorporated by reference from Exhibit 99.3 to the Company's Form 8-K filed on September 12, 2017.](#)
- 10.10 [2018 Incentive Compensation Plan for Chief Executive Officer, effective January 1, 2018, as incorporated by reference from Exhibit 99.1 to the Company's Form 8-K filed on January 23, 2018.](#)
- 10.11 [2018 Incentive Compensation Plan for Chief Financial Officer, effective January 1, 2018, as incorporated by reference from Exhibit 99.2 to the Company's Form 8-K filed on January 23, 2018.](#)
- 10.12 [2018 Incentive Compensation Plan for Executive Vice President of Strategic Initiatives, effective January 1, 2018, as incorporated by reference from Exhibit 99.3 to the Company's Form 8-K filed on January 23, 2018.](#)
- 10.13 [2019 Incentive Compensation Plan for Chief Executive Officer, effective January 1, 2019, as incorporated by reference from Exhibit 99.1 to the Company's Form 8-K filed on January 23, 2019.](#)
- 10.14 [2019 Incentive Compensation Plan for Chief Financial Officer, effective January 1, 2019, as incorporated by reference from Exhibit 99.2 to the Company's Form 8-K filed on January 23, 2019.](#)

10.15	2019 Incentive Compensation Plan for Executive Vice President of Strategic Initiatives, effective January 1, 2019, as incorporated by reference from Exhibit 99.3 to the Company's Form 8-K filed on January 23, 2019.
10.16	Incentive Stock Option Agreement dated July 27, 2017 between Perma-Fix Environmental Services, Inc., and Chief Executive Officer, as incorporated by reference from Exhibit 99.1 to the Company's Form 8-K filed on August 2, 2017.
10.17	Incentive Stock Option Agreement dated July 27, 2017 between Perma-Fix Environmental Services, Inc., and Executive Vice President/Chief Operating Officer, as incorporated by reference from Exhibit 99.2 to the Company's Form 8-K filed on August 2, 2017.
10.18	Incentive Stock Option Agreement dated July 27, 2017 between Perma-Fix Environmental Services, Inc., and Chief Financial Officer, as incorporated by reference from Exhibit 99.3 to the Company's Form 8-K filed on August 2, 2017.
10.19	Incentive Stock Option Agreement dated January 17, 2019 between Perma-Fix Environmental Services, Inc., and Chief Executive Officer, as incorporated by reference from Exhibit 99.4 to the Company's Form 8-K filed on January 23, 2019.
10.20	Incentive Stock Option Agreement dated January 17, 2019 between Perma-Fix Environmental Services, Inc., and Chief Financial Officer, as incorporated by reference from Exhibit 99.5 to the Company's Form 8-K filed on January 23, 2019.
10.21	Incentive Stock Option Agreement dated January 17, 2019 between Perma-Fix Environmental Services, Inc., and Executive Vice President of Strategic Initiatives, as incorporated by reference from Exhibit 99.6 to the Company's Form 8-K filed on January 23, 2019.
10.22	Stock Option Agreement dated July 27, 2017 between Perma-Fix Environmental Services, Inc., and Mr. Robert L. Ferguson, as incorporated by reference from Exhibit 10.6 to the Company's third quarter Form 10-Q filed on August 9, 2017.
10.23	First Amendment to Stock Option Agreement dated July 27, 2017 between Perma-Fix Environmental Services, Inc. Mr. Robert L. Ferguson.
21.1	List of Subsidiaries
23.1	Consent of Grant Thornton, LLP
31.1	Certification by Mark Duff, Chief Executive Officer and Principal Executive Officer of the Company pursuant to Rule 13a-14(a) and 15d-14(a).
31.2	Certification by Ben Naccarato, Chief Financial Officer and Principal Financial Officer of the Company pursuant to Rule 13a-14(a) and 15d-14(a).
32.1	Certification by Mark Duff, Chief Executive Officer and Principal Executive Officer of the Company furnished pursuant to 18 U.S.C. Section 1350.
32.2	Certification by Ben Naccarato, Chief Financial Officer and Principal Financial Officer of the Company furnished pursuant to 18 U.S.C. Section 1350.
101.INS	XBRL Instance Document*
101.SCH	XBRL Taxonomy Extension Schema Document*
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document*
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document*
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document*
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document*

*Pursuant to Rule 406T of Regulation S-T, the Interactive Data File in Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Section 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purpose of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THAT "PERMA-FIX ENVIRONMENTAL SERVICES, INC." IS DULY INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL CORPORATE EXISTENCE NOT HAVING BEEN CANCELLED OR DISSOLVED SO FAR AS THE RECORDS OF THIS OFFICE SHOW AND IS DULY AUTHORIZED TO TRANSACT BUSINESS.

THE FOLLOWING DOCUMENTS HAVE BEEN FILED:

CERTIFICATE OF INCORPORATION, FILED THE NINETEENTH DAY OF DECEMBER, A.D. 1990, AT 9 O'CLOCK A.M.

RESTATED CERTIFICATE, FILED THE TWENTY-SIXTH DAY OF NOVEMBER, A.D. 1991, AT 10 O'CLOCK A.M.

CERTIFICATE OF AMENDMENT, CHANGING ITS NAME FROM "NATIONAL ENVIRONMENTAL INDUSTRIES, LTD." TO "PERMA-FIX ENVIRONMENTAL SERVICES, INC.", FILED THE SEVENTEENTH DAY OF DECEMBER, A.D. 1991, AT 4:30 O'CLOCK P.M.

CERTIFICATE OF AMENDMENT, FILED THE FOURTH DAY OF SEPTEMBER, A.D. 1992, AT 11:30 O'CLOCK A.M.


CERTIFICATE OF DESIGNATION, FILED THE SIXTH DAY OF FEBRUARY, A.D. 1996, AT 4 O'CLOCK P.M.

2249849 8310

090228186

You may verify this certificate online
at corp.delaware.gov/authver.shtml




Jeffrey W. Bullock, Secretary of State
AUTHENTICATION: 7162972

DATE: 03-03-09

CERTIFICATE OF DESIGNATION, FILED THE TWENTIETH DAY OF FEBRUARY, A.D. 1996, AT 10:45 O'CLOCK A.M.

CERTIFICATE OF DESIGNATION, FILED THE NINETEENTH DAY OF JULY, A.D. 1996, AT 12:30 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE SIXTEENTH DAY OF DECEMBER, A.D. 1996, AT 4:30 O'CLOCK P.M.

CERTIFICATE OF AMENDMENT, FILED THE SIXTH DAY OF JANUARY, A.D. 1997, AT 4:30 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE ELEVENTH DAY OF JUNE, A.D. 1997, AT 11 O'CLOCK A.M.

CERTIFICATE OF DESIGNATION, FILED THE FOURTEENTH DAY OF JULY, A.D. 1997, AT 11:15 O'CLOCK A.M.

CERTIFICATE OF DESIGNATION, FILED THE THIRTEENTH DAY OF NOVEMBER, A.D. 1997, AT 1:30 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE THIRTEENTH DAY OF NOVEMBER, A.D. 1997, AT 1:31 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE TWENTY-SIXTH DAY OF NOVEMBER, A.D. 1997, AT 10 O'CLOCK A.M.

CERTIFICATE OF DESIGNATION, FILED THE TENTH DAY OF JULY, A.D. 1998, AT 12 O'CLOCK P.M.



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You may verify this certificate online
at corp.delaware.gov/authver.shtml

A handwritten signature in black ink, appearing to read "JWBullock".

Jeffrey W. Bullock, Secretary of State
AUTHENTICATION: 7162972

DATE: 03-03-09

CERTIFICATE OF DESIGNATION, FILED THE SIXTEENTH DAY OF JULY, A.D. 1998, AT 1:30 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE SIXTEENTH DAY OF JULY, A.D. 1998, AT 1:31 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE SIXTEENTH DAY OF JULY, A.D. 1998, AT 1:32 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE FIFTEENTH DAY OF JULY, A.D. 1999, AT 12:30 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE FIFTEENTH DAY OF JULY, A.D. 1999, AT 12:31 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE FIFTEENTH DAY OF JULY, A.D. 1999, AT 12:32 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE FIFTEENTH DAY OF JULY, A.D. 1999, AT 12:33 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE TENTH DAY OF AUGUST, A.D. 1999, AT 12:30 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE TENTH DAY OF AUGUST, A.D. 1999, AT 12:31 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE TENTH DAY OF AUGUST, A.D. 1999, AT 12:32 O'CLOCK P.M.

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You may verify this certificate online
at corp.delaware.gov/authver.shtml



A handwritten signature in black ink, appearing to read "J. Bullock".

Jeffrey W. Bullock, Secretary of State
AUTHENTICATION: 7162972

DATE: 03-03-09

CERTIFICATE OF DESIGNATION, FILED THE TENTH DAY OF AUGUST, A.D. 1999, AT 12:33 O'CLOCK P.M.

CERTIFICATE OF DESIGNATION, FILED THE FOURTEENTH DAY OF JUNE, A.D. 2001, AT 10 O'CLOCK A.M.

CERTIFICATE OF DESIGNATION, FILED THE FOURTEENTH DAY OF JUNE, A.D. 2001, AT 10:01 O'CLOCK A.M.

CERTIFICATE OF AMENDMENT, FILED THE TWENTIETH DAY OF JUNE, A.D. 2002, AT 10 O'CLOCK A.M.

CERTIFICATE OF DESIGNATION, FILED THE SIXTH DAY OF MAY, A.D. 2008, AT 6:44 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID CERTIFICATES ARE THE ONLY CERTIFICATES ON RECORD OF THE AFORESAID CORPORATION, "PERMA-FIX ENVIRONMENTAL SERVICES, INC.".

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL REPORTS HAVE BEEN FILED TO DATE.


AND I DO HEREBY FURTHER CERTIFY THAT THE FRANCHISE TAXES HAVE BEEN PAID TO DATE.

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You may verify this certificate online
at corp.delaware.gov/authver.shtml





Jeffrey W. Bullock, Secretary of State
AUTHENTICATION: 7162972

DATE: 03-03-09

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 09:00 AM 12/19/1990
750353079 - 2249849

CERTIFICATE OF INCORPORATION

OF

NATIONAL ENVIRONMENTAL INDUSTRIES, LTD.

I, the undersigned, in order to form a corporation for the purposes hereinafter stated, under and pursuant to the provisions of the General Corporation Law of the State of Delaware, do hereby certify as follows:

FIRST: The name of the corporation is National Environmental Industries, Ltd. (hereinafter referred to as the "Corporation").

SECOND: The registered office of the Corporation is to be located at 32 Loockerman Square, Suite L-100, City of Dover, County of Kent, State of Delaware 19901. The name of its registered agent at that address is The Prentice-Hall Corporation System, Inc.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of the State of Delaware.

FOURTH: (1) The Corporation shall be authorized to issue 3,000 shares, all of which shall have no par value, all of which shall be of the same class and all of which are to be designated "Common Stock".

(2) Except as otherwise required by statute, the holders of the Common Stock of the Corporation shall possess the exclusive right to vote for the election of directors and for all other corporate purposes.

(3) Except as otherwise required by statute, the designations, and the powers, preferences and rights, and the qualifications or restrictions thereof, of any class or classes of stock or any series of any class of stock of the Corporation may be determined from time to time by resolution or resolutions of the Board of Directors.

FIFTH: The name and address of the incorporator are as follows:

Name	Address
Robert Scarboro	c/o Phillips, Nizer, Benjamin, Krim & Ballon 40 West 57th Street New York, New York 10019

SIXTH: The following provisions are inserted for the management of the business and for the conduct of the affairs of the Corporation, and for further definition, limitation and regulation of the powers of the Corporation and of its directors and stockholders:

(1) The number of directors of the Corporation shall be such as from time to time shall be fixed by, or in the manner provided in, the by-laws of the Corporation. Election of directors need not be by ballot unless the by-laws of the Corporation so provide.

(2) In furtherance and not in limitation of the powers conferred by the laws of the State of Delaware, the Board of Directors shall have power without the assent or vote of the stockholders:

(a) To make, alter, amend, change, add to or repeal the by-laws of the Corporation in any manner not inconsistent with the laws of the State of Delaware or this Certificate of Incorporation, subject to the power of the stockholders of the Corporation having voting power to alter, amend or repeal the by-laws made by the Board of Directors of the Corporation; to fix and vary the amount to be reserved for any proper purpose; to authorize and cause to be executed mortgages and liens upon all or any part of the property of the Corporation, to determine the use and disposition of any surplus or net profits; and to fix the times for the declaration and payment of dividends; and

(b) To determine from time to time whether, and to what extent, and at what times and places, and under what conditions the accounts and books of the Corporation (other than the stock ledger), or any of them, shall be open to the inspection of the stockholders.

(3) In addition to the powers and authorities hereinbefore or by statute expressly conferred upon it, the Board of Directors of the Corporation is hereby empowered to exercise all such powers and do such acts and things as may be exercised or done by the Corporation; subject, nevertheless, to the provisions of the laws of the State of Delaware, of this Certificate of Incorporation, and to the by-laws of the Corporation in effect from time to time.

SEVENTH: The corporation may, to the full extent permitted by Section 145 of the General Corporation Law of the State of Delaware, as amended from time to time, indemnify all persons whom it may indemnify pursuant thereto.

EIGHTH: Whenever a compromise or arrangement is proposed between the Corporation and its creditors or any class of them and/or between the Corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware, may, on the application in a summary way of the Corporation or of any creditor or stockholder thereof or on the application of any receiver or receivers appointed for the Corporation under the provisions of Section 291 of Title 8 of the Delaware Code or on the application of trustees in dissolution or of any receiver or receivers appointed for the Corporation under the provisions of Section 279 of Title 8 of the Delaware Code, order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of the Corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths (3/4) in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of the Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of the Corporation as consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of the Corporation, as the case may be, and also on the Corporation.

NINTH: The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation in the manner now or hereafter prescribed by law, and all rights and powers conferred herein on stockholders, directors and officers are subject to this reserved power.

IN WITNESS WHEREOF, I, Robert Scarboro, the sole incorporator of National Environmental Industries, Ltd., have hereunto signed my name and affirm that the statements made herein are true under the penalties of perjury, this 17th day of December, 1990.



Robert Scarboro
c/o Phillips, Nizer, Benjamin, Krim & Ballon
40 West 57th Street
New York, New York 10019

**RESTATED CERTIFICATE OF INCORPORATION
OF
NATIONAL ENVIRONMENTAL INDUSTRIES, LTD.**

1. The present name of the corporation (hereinafter called the "Corporation") is National Environmental Industries, Ltd., and the date of filing the original certificate of incorporation of the Corporation with the Secretary of State of the State of Delaware is December 19, 1990.

2. The certificate of incorporation of the corporation is hereby amended by striking out Articles FOURTH through NINTH thereof and by substituting in lieu thereof new Articles FOURTH through NINTH as set forth in the Restated Certificate of Incorporation hereinafter provided for.

3. The provisions of the certificate of incorporation as heretofore amended and/or supplemented, and as herein amended, are hereby restated and integrated into the single instrument which is hereinafter set forth, and which is entitled Restated Certificate of Incorporation of National Environmental Industries, Ltd. without any further amendment other than the amendment certified herein and without any discrepancy between the provisions of the certificate of incorporation as heretofore amended and supplemented and the provisions of the said single instrument hereinafter set forth.

4. The amendment and restatement of the certificate of incorporation herein certified have been duly adopted by the stockholders in accordance with the provisions of Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware. Prompt written notice of the adoption of the amendment and of the restatement of the certificate of incorporation herein certified has been given to those stockholders who have not consented in writing thereto, as provided in Section 228 of the General Corporation Law of the State of Delaware.

5. The certificate of incorporation of the Corporation, as amended and restated herein, shall at the effective time of this Restated Certificate of Incorporation, read as follows:

“Restated Certificate of Incorporation
of
National Environmental Industries, Ltd.

FIRST: The name of the Corporation is National Environmental Industries, Ltd.

SECOND: The address of the Corporation’s registered office in the State of Delaware is 32 Loockerman Square, Suite L-100, City of Dover, County of Dover. The name of its registered agent at such address is The Prentice-Hall Corporation System, Inc.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the laws of the General Corporation Law of the State of Delaware.

FOURTH: The total number of shares of capital stock which the Corporation shall have authority to issue is Twenty-Two Million (22,000,000) shares, of which Twenty Million (20,000,000) shares shall be Common Stock, par value \$.001 per share, and Two Million (2,000,000) shares shall be Preferred, Stock, \$.001 par value per share.

The Preferred Stock may be issued from time to time in one or more series. The Board of Directors is hereby expressly authorized to provide, by resolution or resolutions duly adopted by it prior to issuance, for the creation of each such series and to fix the designation and the powers, preferences, rights, qualifications, limitations and restrictions relating to the shares of each such series. The authority of the Board of Directors with respect to each such series of Preferred Stock shall include, but not be limited to, determining the following:

(a) the designation of such series, the number of shares to constitute such series and the stated value if different from the par value thereof;

(b) whether the shares of such series shall have voting rights, in addition to any voting rights provided by law, and, if so, the terms of such voting rights, which may be general or limited;

(c) the dividends, if any, payable on such series, whether any such dividends shall be cumulative, and, if so, from what dates, the conditions and dates upon which such dividends shall be payable, and the preference or relation which such dividends shall bear to the dividends payable on any shares of stock of any other class or any other series of Preferred Stock;

(d) whether the shares of such series shall be subject to redemption by the Corporation, and, if so, the times, prices and other conditions of such redemption;

(e) the amount or amounts payable upon shares of such series upon, and the rights of the holders of such series in, the voluntary or involuntary liquidation, dissolution or winding up, or upon any distribution of the assets, of the Corporation;

(f) whether the shares of such series shall be subject to the operation of a retirement or sinking fund and, if so, the extent to and manner in which any such retirement or sinking fund shall be applied to the purchase or redemption of the shares of such series for retirement or other corporate purposes and the terms and provisions relating to the operation thereof;

(g) whether the shares of such series shall be convertible into, or exchangeable for, shares of stock of any other class or any other series of Preferred Stock or any other securities and, if so, the price or prices or the rate or rates of conversion or exchange and the method, if any, of adjusting the same, and any other terms and conditions of conversion or exchange;

(h) the limitations and restrictions, if any, to be effective while any shares of such series are outstanding upon the payment of dividends or the making of other distributions on, and upon the purchase, redemption or other acquisition by the Corporation of, the Common Stock or shares of stock of any other class or any other series of Preferred Stock;

(i) the conditions or restrictions, if any, upon the creation of indebtedness of the Corporation or upon the issue of any additional stock, including additional shares of such series or of any other series of Preferred Stock or of any other class; and

(j) any other powers, preferences and relative, participating, optional and other special rights, and any qualifications, limitations and restrictions, thereof.

The powers, preferences and relative, participating, optional and other special rights of each series of Preferred Stock, and the qualifications, limitations or restrictions thereof, if any, may differ from those of any and all other series at any time outstanding. All shares of any one series of Preferred Stock shall be identical in all respects with all other shares of such series, except that shares of any one series issued at different times may differ as to the dates from which dividends thereof shall be cumulative.

FIFTH: Unless required by law or determined by the chairman of the meeting to be advisable, the vote by stockholders on any matter, including the election of directors, need not be by written ballot.

SIXTH: The Corporation reserves the right to increase or decrease its authorized capital stock, or any class or series thereof, and to reclassify the same, and to amend, alter, change or repeal any provision contained in the Certificate of Incorporation under which the Corporation is organized or in any amendment thereto, in the manner now or hereafter prescribed by law, and all rights conferred upon stockholders in said Certificate of Incorporation or any amendment thereto are granted subject to the aforementioned reservation.

SEVENTH: The Board of Directors shall have the power at any time, and from time to time, to adopt, amend and repeal any and all By-Laws of the Corporation.

EIGHTH: All persons who the Corporation is empowered to indemnify pursuant to the provisions of Section 145 of the General Corporation Law of the State of Delaware (or any similar provision or provisions of applicable law at the time in effect), shall be indemnified by the Corporation to the full extent permitted thereby. The foregoing right of indemnification shall not be deemed to be exclusive of any other rights to which those seeking indemnification may be entitled under any by-law, agreement, vote of stockholders or disinterested directors, or otherwise. No repeal or amendment of this Article EIGHTH shall adversely affect any rights of any person pursuant to this Article EIGHTH which existed at the time of such repeal or amendment with respect to acts or omissions occurring prior to such repeal or amendment.

NINTH: No director of the Corporation shall be personally liable to the Corporation or its stockholders for any monetary damages for breaches of fiduciary duty as a director, provided that this provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders; (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; (iii) under Section 174 of the General Corporation Law of the State of Delaware; or (iv) for any transaction from which the director derived an improper personal benefit. No repeal or amendment of this Article NINTH shall adversely affect any rights of any person pursuant to this Article NINTH which existed at the time of such repeal or amendment with respect to acts or omissions occurring prior to such repeal or amendment."

IN WITNESS WHEREOF, we have signed this Certificate this 22 day of November, 1991.

Louis F. Antofant

President

ATTEST:

Carol A. Nixon

Secretary

**CERTIFICATED OF AMENDMENT
TO THE
RESTATED CERTIFICATE OF INCORPORATION
OF
NATIONAL ENVIRONMENTAL INDUSTRIES, LTD.**

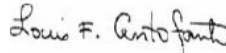
It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is National Environmental Industries, Ltd.
2. The Restated Certificate of Incorporation of the Corporation is hereby amended by striking out Article FIRST thereof and by substituting in lieu of said Article FIRST the following new Article.

"FIRST: The name of the Corporation is Perma-Fix Environmental services, Inc."

3. The amendment of the Certificate of Incorporation herein certified has been duly adopted in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware. Prompt written notice of the adoption of the amendment herein certified has been given to these Stockholders who have not consented in writing thereto, as provided in Section 228 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, we have signed this Certificate this 16th day of December, 1991.



Louis Centofanti, President

Attest:



Mark Zwecker, Secretary

**CERTIFICATE OF AMENDMENT
TO
RESTATED CERTIFICATE OF INCORPORATION, AS AMENDED
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services, Inc., a Delaware corporation (the "Corporation"), does hereby certify:

That the amendment set forth below to the Corporation's Restated Certificate of Incorporation, as amended was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware and written notice thereof has been given as provided in Section 228 thereof:

1) The first paragraph of Article FOURTH of the Corporation's Restated Certificate of Incorporation, as amended is hereby deleted and replaced in its entirety by the following:

Fourth: The total number of shares of capital stock that the Corporation shall have authority to issue is 22,000,000, shares of which 20,000,000 shares of the par value of \$.001 per share shall be designated Common Stock ("Common Stock"), and 2,000,000 shares of the par value of \$.001 per share shall be designated Preferred Stock.

As of September 4, 1992 (the "Effective Time"), each share of Common Stock issued and outstanding immediately prior to the Effective Time shall automatically be changed and converted, without any action on the part of the holder thereof, into 1/3.0236956 of a share of Common Stock and, in connection with fractional interests in shares of Common Stock of the Corporation, each holder whose aggregate holdings of shares of Common Stock prior to the Effective Time amounted to less than 3.0236955, or to a number not evenly divisible by 3.0236956 shares of Common Stock shall be entitled to receive for such fractional interest, and at such time, any such fractional interest in shares of Common Stock of the Corporation shall be converted into the right to receive, upon surrender of the stock certificates formerly representing shares of Common Stock of the Corporation, one whole share of Common Stock.

IN WITNESS whereof, Perma-Fix Environmental Services, Inc. has caused this Certificate to be signed and attested to by its duly authorized officers as of this first day of September, 1992.

Perma-Fix Environmental Services, Inc.

By: Louis F. Centofanti
Dr. Louis Centofanti President

ATTEST:

M. J. [Signature]
By: _____
Secretary

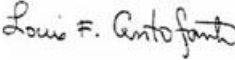
**CERTIFICATE OF DESIGNATIONS
OF SERIES I CLASS A PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, said Board of Directors, acting by unanimous written consent in lieu of a meeting dated February 2, 1996, hereby adopted the terms of the Series I Class A Preferred Stock, which resolutions are set forth on the attached page.

Dated: February 2, 1996

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: 

Dr. Louis P. Centofanti
Chairman of the Board

ATTEST:



Mark A. Zwecker, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE SERIES I CLASS A
PREFERRED STOCK**

WHEREAS,

- A. The Corporation's share capital includes Preferred Stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series with the directors of the Corporation (the "Board") being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences, and relative, participating, optional or other special rights, privileges, restrictions and conditions attaching to the shares of each such series; and
- B. It is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series I Class A Preferred Stock, par value \$.001.

NOW, THEREFORE, BE IT RESOLVED, THAT:

The Series I Class A Preferred Stock, par value \$.001 (the "Series I Class A Preferred Stock") of the Corporation shall consist of 1,100 shares and no more and shall be designated as the Series I Class A Preferred Stock and in addition to the preferences, rights, privileges, restrictions and conditions attaching to all the Series I Class A Preferred Stock as a series, the rights, privileges, restrictions and conditions attaching to the Series I Class A Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights.

1.1 Except as otherwise provided herein, in the Certificate of Incorporation (the "Articles") or the General Corporation Law of the State of Delaware (the "GCL"), each holder of Series I Class A Preferred Stock, by virtue of his ownership thereof, shall be entitled to cast that number of votes per share thereof on each matter submitted to the Corporation's shareholders for voting which equals the number of votes which could be cast by such holder of the number of shares of the Corporation's Common Stock, par value \$.001 per share (the "Common Shares") into which such shares of Series I Class A Preferred Stock would be converted into pursuant to Part 5 hereof immediately prior to the record date of such vote. The outstanding Series I Class A Preferred Stock and the Common Shares of the Corporation shall vote together as a single class, except as otherwise expressly required by the GCL or Part 7 hereof. The Series I Class A Preferred Stock shall not have cumulative voting rights.

1.2 The Series I Class A Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any Series I Class A Preferred Stock shall be outstanding, the holders of the then outstanding Series I Class A Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Common Shares equal to \$1,000 consideration per outstanding share of Series I Class A Preferred Stock, together with an amount equal to all unpaid dividends accrued thereon, if any, to the date of payment of such distribution, whether or not declared by the Board: provided, however, that the merger of the Corporation with any corporation or corporations in which the Corporation is not the survivor, or the sale or transfer by the Corporation of all or substantially all of its property, or any reduction by at least seventy percent (70%) of the then issued and outstanding Common Shares of the Corporation, shall be deemed to be a liquidation of the Corporation within the meaning of any of the provisions of this Part 2.

2.2 Subject to the provisions of Part 6 hereof, all amounts to be paid as preferential distributions to the holders of Series I Class A Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of Common Shares, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

Part 3 - Dividends.

3.1 Holders of record of Series I Class A Preferred Stock, out of funds legally available therefor and to the extent permitted by law, shall be entitled to receive dividends on their Series I Class A Preferred Stock, which dividends shall accrue at the rate per share of five percent (5%) per annum of consideration paid for each share of Series I Class A Preferred Stock (\$50.00 per share per year for each full year) commencing on the date of the issuance thereof, payable, at the option of the Corporation, (i) in cash, or (ii) by the issuance of that number of whole Common Shares computed by dividing the amount of the dividend by the market price applicable to such dividend.

3.2 For the purposes of this Part 3 and Part 4 hereof, "market price" means the average of the daily closing prices of Common Shares for a period of five (5) consecutive trading days ending on the date on which any dividend becomes payable or of any notice of redemption as the case may be. The closing price for each trading day shall be (i) for any period during which the Common Shares shall be listed for trading on a national securities exchange, the last reported bid price per share of Common Shares as reported by the primary stock exchange, or the Nasdaq Stock Market, if the Common Shares are quoted on the Nasdaq Stock Market, or (ii) If last sales price information is not available, the average closing bid price of Common Shares as reported by the Nasdaq Stock Market, or if not so listed or reported, then as reported by National Quotation Bureau, Incorporated, or (iii) in the event neither clause (i) nor (ii) is applicable, the average of the closing bid and asked prices as furnished by any member of the National Association of Securities Dealers, Inc., selected from time to time by the Corporation for that purpose.

3.3 Dividends on Series I Class A Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared and set aside for payment on the Common Shares until full cumulative dividends on all outstanding Series I Class A Preferred Stock shall have been paid or declared and set aside for payment.

3.4 Dividends shall be payable in arrears, at the rate of \$12.50 per share for each full calendar quarter on each February 28, May31, August 31, and November 30 of each calendar year, to the holders of record of the Series I Class A Preferred Stock as they appear in the securities register of the Corporation on such record dates not more than sixty (60) nor less than ten (10) days preceding the payment date thereof, as shall be fixed by the Board; provided, however, that the initial dividend for the Series I Class A Preferred Stock shall accrue for the period commencing on the date of the issuance thereof to and including December 31, 1995.

3.5 If, in any quarter, insufficient funds are available to pay such dividends as are then due and payable with respect to the Series I Class A Preferred Stock and all other classes and series of the capital stock of the Corporation ranking in parity therewith (or such payment is otherwise prohibited by provisions of the GCL, such funds as are legally available to pay such dividends shall be paid or Common Shares will be issued as stock dividends to the holders of Series I Class A Preferred Stock and to the holders of any other series of Class A Preferred Stock then outstanding as provided in Part 6 hereof, in accordance with the rights of each such holder, and the balance of accrued but undeclared and/or unpaid dividends, if any shall be declared and paid on the next succeeding dividend date to the extent that funds are then legally available for such purpose.

Part 4 - Redemption.

4.1 At any time, and from time to time, on and after one hundred twenty (120) days from the date of the issuance of any Series I Class A Preferred Stock, if the average of the closing bid prices for the Common Shares for five (5) consecutive trading days shall be in excess of \$1.50, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, the then outstanding Series I Class A Preferred Stock at a price per share of U. S. \$1,000 each (the "Redemption Price") (such price to be adjusted proportionately in the event of any change of the Series I Class A Shares into a different number of Shares).

4.2 Thirty (30) days prior to any date stipulated by the Corporation for the redemption of Series I Class A Preferred Stock (the "Redemption Date"), written notice (the "Redemption Notice") shall be mailed to each holder of record on such notice date of the Series I Class A Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such Shares, (ii) the number of Series I Class A Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated of a share certificate or share certificates representing the number of Series I Class A Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series I Class A Preferred Stock to be redeemed as provided in this Part 4, and the number of shares to be converted into Common Shares as provided in Part 5 hereof.

4.3 Upon receipt of the Redemption Notice, any Eligible Holder (as defined in Section 5.2 hereof) shall have the option, at its Sole election, to specify what portion of its Series I Class A Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 4 or converted into Common Shares in the manner provided in Part 5 hereof, except that, notwithstanding any provision of such Part 5 to the contrary, any Eligible Holder shall have the right to convert into Common Shares that number of Series I Class A Preferred Stock called for redemption in the Redemption Notice.

4.4 On or before the Redemption Date in respect of any Series I Class A Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.5 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series I Class A Shares which are not being redeemed to be registered in the names of the persons whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

4.5 On the Redemption Date in respect of any Series I Class A Shares or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least U.S. \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series I Class A Shares in respect of which the Corporation has received notice from the Eligible Holder thereof of its election to convert Series I Class A Shares in to Common Shares), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed share shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 5 - Conversion.

5.1 For the purposes of conversion of the Series I Class A Preferred Stock shall be valued at \$1,000 per share ("Value"), and, if converted, the Series I Class A Preferred Stock shall be converted into such number of Common Shares (the "Conversion Shares") as is obtained by dividing the aggregate Value of the shares of Series I Class A Preferred Stock being so converted, together with all accrued but unpaid dividends thereon, by the "Average Stock Price" per share of the Conversion Shares (the "Conversion Price"), subject to adjustment pursuant to the provisions of this Part 5. For purposes of this Part 5, the "Average Stock Price" means the lesser of (x) seventy percent (70%) of the average daily closing bid prices of the Common Shares for the period of five (5) consecutive trading days immediately preceding the date of subscription by the Holder or (y) seventy percent (70%) of the daily average closing bid prices of Common Shares for the period of five (5) consecutive trading days immediately preceding the date of the conversion of the Series I Class A Preferred Stock in respect of which such Average Stock Price is determined. The closing price for each trading day shall be determined as provided in the last sentence of Section 3.2.

5.2 Any holder of Series I Class A Preferred Stock (an "Eligible Holder") may at any time commencing forty-five (45) days after the issuance of any Series I Class A Preferred Stock convert up to one hundred percent (100%) of his holdings of Series I Class A Preferred Stock in accordance with this Part 5.

5.3 The conversion right granted by Section 5.2 hereof may be exercised only by an Eligible Holder of Series I Class A Preferred Stock, in whole or in part, by the surrender of the share certificate or share certificates representing the Series I Class A Preferred Stock to be converted at the principal office of the Corporation (or at such other place as the Corporation may designate in a written notice sent to the holder by first class mail, postage prepaid, at its address shown on the books of the Corporation) against delivery of that number of whole Common Shares as shall be computed by dividing (1) the aggregate Value of the Series I Class A Preferred Stock so surrendered for conversion plus any accrued but unpaid dividends thereon, if any, by (2) the Conversion Price in effect at the date of the conversion. At the time of conversion of a share of the Series I Class A Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid dividends, if any, accrued thereon to the date of conversion, or at the Corporation's option, issue that number of whole Common Shares which is equal to the product of dividing the amount of such unpaid dividends by the Average Stock Price whether or not declared by the Board. Each Series I Class A Preferred Stock share certificate surrendered for conversion shall be endorsed by its holder. In the event of any exercise of the conversion right of the Series I Class A Preferred Stock granted herein (i) share certificate representing the Common Shares purchased by virtue of such exercise shall be delivered to such holder within three (3) days of notice of conversion, and (ii) unless the Series I Class A Preferred Stock has been fully converted, anew share certificate representing the Series I Class A Preferred Stock not so converted, if any, shall also be delivered to such holder within three (3) days of notice of conversion. Any Eligible Holder may exercise its right to convert the Series I Class A Preferred Stock by telecopying an executed and completed Notice of Conversion to the Corporation, and within seventy-two (72) hours thereafter, delivering the original Notice of Conversion and the certificate representing the Series I Class A Preferred Stock to the Corporation by express courier. Each date on which a Notice of Conversion is telecopied to and received by the Corporation in accordance with the provisions hereof shall be deemed a conversion date. The Corporation will transmit the Common Shares certificates issuable upon conversion of any Series I Class A Preferred Stock (together with the certificates representing the Series I Class A Preferred Stock not so converted) to the Eligible Holder via express courier within three (3) business days after the conversion date if the Corporation has received the original Notice of Conversion and the Series I Class A Shares certificates being so converted by such date.

5.4 All Common Shares which may be issued upon conversion of Series I Class A Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof. At all times that any Series I Class A Preferred Stock is outstanding, the Corporation shall have authorized, and shall have reserved for the purpose of issuance upon such conversion, a sufficient number of Common Shares to provide for the conversion into Common Shares of all Series I Class A Preferred Stock then outstanding at the then effective Conversion Price. Without limiting the generality of the foregoing, if, at any time, the Conversion Price is decreased, the number of Common Shares authorized and reserved for issuance upon the conversion of the Series I Class A Preferred Stock shall be proportionately increased.

5.5 The number of Common Shares issued upon conversion of Series I Class A Preferred Stock and the Conversion Price shall be subject to adjustment from time to time upon the happening of certain events, as follows:

5.5.1 Change of Designation of the Common Shares or the rights, privileges, restrictions and conditions in respect of the Common Shares or division of the Common Shares into series. In the case of any amendment to the Articles to change the designation of the Common Shares or the rights, privileges, restrictions or conditions in respect of the Common Shares or division of the Common Shares into series the rights of the holders of the Series I Class A Preferred Stock shall be adjusted so as to provide that upon conversion thereof, the holder of the Series I Class A Preferred Stock being converted shall procure, in lieu of each Common Share theretofore issuable upon such conversion, the kind and amount of shares, other securities, money and property receivable upon such designation, change or division by the holder of one Common Share issuable upon such conversion had conversion occurred immediately prior to such designation, change or division. The Series I Class A Preferred Stock shall be deemed thereafter to provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Part 5. The provisions of this subsection 5.5.1 shall apply in the same manner to successive reclassifications, changes, consolidations, and mergers.

5.5.2 If the Corporation, at any time while any of the Series I Class A Preferred Stock is outstanding, shall amend the Articles so as to change the Common Shares into a different number of shares, the Conversion Price shall be proportionately reduced, in case of such change increasing the number of Common Shares, as of the effective date of such increase, or if the Corporation shall take a record of holders of its Common Shares for the purpose of such increase, as of such record date, whichever is earlier, or the Conversion Price shall be proportionately increased, in the case of such change decreasing the number of Common Shares, as of the effective date of such decrease or, if the Corporation shall take a record of holders of its Common Stock for the purpose of such decrease, as of such record date, whichever is earlier.

5.5.3 If the Corporation, at any time while any of the Series I Class A Preferred Stock is outstanding, shall pay a dividend payable in Common Shares (except for any dividends of Common Shares payable pursuant to Part 3 hereof), the Conversion Price shall be adjusted, as of the date the Corporation shall take a record of the holders of its Common Shares for the purposes of receiving such dividend (or if no such record is taken, as of the date of payment of such dividend), to that price determined by multiplying the Conversion Price therefor in effect by a fraction (1) the numerator of which shall be the total number of Common Shares outstanding immediately prior to such dividend, and (2) the denominator of which shall be the total number of Common Shares outstanding immediately after such dividend (plus in the event that the Corporation paid cash for fractional shares, the number of additional shares which would have been outstanding had the Corporation issued fractional shares in connection with said dividend).

5.6 Whenever the Conversion Price shall be adjusted pursuant to Section 5.5 hereof, the Corporation shall make a certificate signed by its President, or a Vice President and by its Treasurer, Assistant Treasurer, Secretary or Assistant Secretary, setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated (including a description of the basis on which the Board of Directors made any determination hereunder), and the Conversion Price after giving effect to such adjustment, and shall cause copies of such certificates to be mailed (by first class mail, postage prepaid) to each holder of the Series I Class A Preferred Stock at its address shown on the books of the Corporation. The Corporation shall make such certificate and mail it to each such holder promptly after each adjustment.

5.7 No fractional Common Shares shall be issued in connection with any conversion of Series I Class A Preferred Stock, but in lieu of such fractional shares, the Corporation shall make a cash payment therefor equal in amount to the product of the applicable fraction multiplied by the Conversion Price then in effect.

5.8 No Series I Class A Preferred Stock which has been converted into Common Shares shall be reissued by the Corporation; provided, however, that each such share shall be restored to the status of authorized but unissued Preferred Stock without designation as to series and may thereafter be issued as a series of Preferred Stock not designated as Series I Class A Preferred Stock.

Part 6 - parity with Other Shares of Class A Preferred Shares.

6.1 If any cumulative dividends or accounts payable or return of capital in respect of Series I Class A Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

Part 7 - Amendment.

7.1 In addition to any requirement for a series vote pursuant to the GCL in respect of any amendment to the Corporation's Certificate of Incorporation that adversely affects the rights, privileges, restrictions and conditions of the Series I Class A Preferred Stock, the rights, privileges, restrictions and conditions attaching to the Series I Class A Preferred Stock: may be amended by an amendment to the Corporation's Certificate of Incorporation so as to affect such adversely only if the Corporation has obtained the affirmative vote at a duly called and held series meeting of the holders of the Series I Class A Preferred Stock or written consent by the holders of a majority of the Series I Class A Preferred Stock then outstanding. Notwithstanding the above, the number of authorized shares of such class or classes of stock may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting as a single class, irrespective of this Section 7.1.

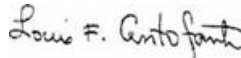
**CERTIFICATE OF DESIGNATIONS
OF SERIES 2 CLASS B CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended. And pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 2 Class B Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 2 Class B Convertible Preferred Stock as set forth in the attached resolutions.

Dated: February 16, 1996

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By 

Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Mark A. Zwecker, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 2 CLASS B CONVERTIBLE PREFERRED STOCK**

WHEREAS,

- A. The Corporation's share capital includes Preferred Stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series with the directors of the Corporation (the "Board") being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences, and relative, participating, optional or other special rights, privileges, restrictions and conditions attaching to the shares of each such series; and
- B. It is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 2 Class B Convertible Preferred Stock, par value \$.001.

NOW, THEREFORE, BE IT RESOLVED, THAT:

The Series 2 Class B Convertible Preferred Stock, par value \$.001 (the "Series 2 Class B Preferred Stock") of the Corporation shall consist of 2,500 shares and no more and shall be designated as the Series 2 Class B Preferred Stock and in addition to the preferences, rights, privileges, restrictions and conditions attaching to all the Series 2 Class B Preferred Stock as a series, the rights, privileges, restrictions and conditions attaching to the Series Z Class B Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights.

1.1 Except as otherwise provided herein, in the Corporation's Certificate of Incorporation (the "Articles") or the General Corporation Law of the State of Delaware (the "GCL"), each holder of Series 2 Class B Preferred Stock, by virtue of his ownership thereof, shall be entitled to cast that number of votes per share thereof on each matter submitted to the Corporation's shareholders for voting which equals the number of votes which could be cast by such holder of the number of shares of the Corporation's Common Stock, par value \$.001 per share (the "Common Shares") into which such shares of Series 2 Class B Preferred Stock would be entitled to be converted into pursuant to Part 5 hereof on the record date of such vote. The outstanding Series 2 Class B Preferred Stock, the Common Shares of the Corporation and any other series of Preferred Stock of the Corporation having, voting rights shall vote together as a single class, except as otherwise expressly required by the GCL or Part 7 hereof. The Series 2 Class B Preferred Stock shall not have cumulative voting rights.

1.2 The Series 2 Class B Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any Series 2 Class B Preferred Stock shall be outstanding, the holders of the then outstanding Series 2 Class B Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Common Shares equal to \$1.000 consideration per outstanding share of Series 2 Class B Preferred Stock, together with an amount equal to all unpaid dividends accrued thereon, if any, to the date of payment of such distribution, whether or not declared by the Board; provided, however, that the merger of the Corporation with any corporation or corporations in which the Corporation is not the survivor, or the sale or transfer by the Corporation of all or substantially all of its property, or a reduction by at least seventy percent (70%) of the then issued and outstanding Common Shares of the Corporation, shall be deemed to be a liquidation of the Corporation within the meaning of any of the provisions of this Part 2.

2.2 Subject to the provisions of Part 6 hereof, all amounts to be paid as preferential distributions to the holders of Series 2 Class B Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of Common Shares, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 After the payment to the holders of the shares of the Series 2 Class B Preferred Stock of the full preferential amounts provided for in this Part 2, the holders of the Series 2 Class B Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 2 Class B Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 2 Class B Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 2 Class B Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 2 Class B Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends.

3.1 Holders of record of Series 2 Class B Preferred Stock, out of funds legally available therefor and to the extent permitted by law, shall be entitled to receive dividends on their Series 2 Class B Preferred Stock, which dividends shall accrue at the rate per share of five percent (5%) per annum of consideration paid for each share of Series 2 Class B Preferred Stock (\$50.00 per share per year for each full year) commencing on the date of the issuance thereof, payable, at the option of the Corporation, (i) in cash, or (ii) by the issuance of that number of whole Common Shares computed by dividing the amount of the dividend by the market price applicable to such dividend.

3.2 For the purposes of this Part 3 and Part 4 hereof, "market price" means the average of the daily closing prices of Common Shares for a period of five (5) consecutive trading days ending on the date on which any dividend becomes payable or of any notice of redemption as the case may be. The closing price for each trading day shall be (i) for any period during which the Common Shares shall be listed for trading on a national securities exchange, the last reported bid price per share of Common Shares as reported by the primary stock exchange, or the Nasdaq Stock Market, if the Common Shares are quoted on the Nasdaq Stock Market, or (ii) if last sales price information is not available, the average closing bid price of Common Shares as reported by the Nasdaq Stock Market, or if not so listed or reported, then as reported by National Quotation Bureau, Incorporated, or (iii) in the event neither clause (i) nor (ii) is applicable, the average of the Closing bid and asked prices as furnished by any member of the National Association of Securities Dealers, Inc., selected from time to time by the Corporation for that purpose.

3.3 Dividends on Series 2 Class B Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared and set aside for payment on the Common Shares until full cumulative dividends on all outstanding Series 2 Class B Preferred Stock shall have been paid or declared and set aside for payment.

3.4 Dividends shall be payable in arrears, at the rate of \$12.50 per share for each full calendar quarter on each February 28, May 31, August 31, and November 30 of each calendar year, to the holders of record of the Series 2 Class B Preferred Stock as they appear in the securities register of the Corporation on such record dates not more than sixty (60) nor less than ten (10) days preceding the payment date thereof, as shall be fixed by the Board; provided, however, that the initial dividend for the Series 2 Class B Preferred Stock shall accrue for the period commencing on the date of the issuance thereof.

3.5 If, in any quarter, insufficient funds are available to pay such dividends as are then due and payable with respect to the Series 2 Class B Preferred Stock and all other classes and series of the capital stock of the Corporation ranking in parity therewith (or such payment is otherwise prohibited by provisions of the GCL, such funds as are legally available to pay such dividends shall be paid or Common Shares will be issued as stock dividends to the holders of Series 2 Class B Preferred Stock and to the holders of any other series of Class B Preferred Stock then outstanding as provided in Part 6 hereof, in accordance with the rights of each such holder, and the balance of accrued but undeclared and/or unpaid dividends, if any, shall be declared and paid on the next succeeding dividend date to the extent that funds are then legally available for such purpose.

Part 4 - Redemption.

4.1 At any time, and from time to time, on and after one hundred twenty (120) days from the date of the issuance of any Series 2 Class B Preferred Stock, if the average of the closing bid prices for the Common Shares for five (5) consecutive trading days shall be in excess of \$1.50 per share, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, the then outstanding Series 2 Class B Preferred Stock at a price per share of U. S. \$1.000 each (the "Redemption Price") (such price to be adjusted proportionately in the event of any change of the Series 2 Class B Preferred Stock into a different number of shares of Series 2 Class B Preferred Stock).

4.2 Thirty (30) days prior to any date stipulated by the Corporation for the redemption of Series 2 Class B Preferred Stock (the "Redemption Date"), written notice (the "Redemption Notice") shall be mailed to each holder of record on such notice date of the Series 2 Class B Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 2 Class B Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated of a share certificate or share certificates representing the number of Series 2 Class B Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 2 Class B Preferred Stock to be redeemed as provided in this Part 4, and the number of shares to be converted into Common Shares as provided in Part 5 hereof.

4.3 Upon receipt of the Redemption Notice, any Eligible Holder (as defined in Section 5.2 hereof) shall have the option, at its sole election, to specify what portion of its Series 2 Class B Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 4 or converted into Common Shares in the manner provided in Part 5 hereof, except that, notwithstanding any provision of such Part 5 to the contrary, any Eligible Holder shall have the right to convert into Common Shares that number of Series 2 Class B Preferred Stock called for redemption in the Redemption Notice.

4.4 On or before the Redemption Date in respect of any Series 2 Class B Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 4.5 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 2 Class B Preferred Stock which are not being redeemed to be registered in the names of the persons whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

4.5 On the Redemption Date in respect of any Series 2 Class B Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least U. S. \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 2 Class B Preferred Stock in respect of which the Corporation has received notice from the Eligible Holder thereof of its election to convert Series 2 Class B Preferred Stock in to Common Shares), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed share shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 5 - Conversion.

5.1 For the purposes of conversion of the Series 2 Class B Preferred Stock shall be valued at \$1,000 per share ("Value"), and, if converted, the Series 2 Class B Preferred Stock shall be converted into such number of Common Shares (the "Conversion Shares") as is obtained by dividing the aggregate Value of the shares of Series 2 Class B Preferred Stock being so converted, together with all accrued but unpaid dividends thereon, by the "Average Stock Price" per share of the Conversion Shares (the "Conversion Price"), subject to adjustment pursuant to the provisions of this Part 5. For purposes of this Part 5, the "Average Stock Price" means the lesser of (x) seventy percent (70%) of the average daily closing bid prices of the Common Shares for a period of five (5) consecutive trading days immediately preceding the date of subscription by the Holder or (y) seventy percent (70%) of the average daily closing bid prices of Common Shares for the period of five (5) consecutive trading days immediately preceding the date of the conversion of the Series 2 Class B Preferred Stock in respect of which such Average Stock Price is determined. The closing price for each trading day shall be determined as provided in the last sentence of Section 3.2.

5.2 Any holder of Series 2 Class B Preferred Stock (an "Eligible Holder") may at any time commencing forty-five (45) days after the issuance of any Series 2 Class B Preferred Stock convert up to one hundred percent (100%) of his holdings of Series 2 Class B Preferred Stock in accordance with this Part 5.

5.3 The conversion right granted by Section 5.2 hereof may be exercised only by an Eligible Holder of Series 2 Class B Preferred Stock, in whole or in part, by the surrender of the share certificate or share certificates representing the Series 2 Class B Preferred Stock to be converted at the principal office of the Corporation (or at such other place as the Corporation may designate in a written notice sent to the holder by first class mail, postage prepaid, at its address shown on the books of the Corporation) against delivery of that number of whole Common Shares as shall be computed by dividing (1) the aggregate Value of the Series 2 Class B Preferred Stock so surrendered for conversion plus any accrued but unpaid dividends thereon, if any, by (2) the Conversion Price in effect at the date of the conversion. At the time of conversion of a share of the Series 2 Class B Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, issue that number of whole Common Shares which is equal to the product of dividing the amount of such unpaid dividends by the Average Stock Price whether or not declared by the Board. Each Series 2 Class B Preferred Stock share certificate surrendered for conversion shall be endorsed by its holder. In the event of any exercise of the conversion right of the Series 2 Class B Preferred Stock granted herein (i) share certificate representing the Common Shares purchased by virtue of such exercise shall be delivered to such holder within three (3) days of notice of conversion, and (ii) unless the Series 2 Class B Preferred Stock has been fully converted, a new share certificate representing the Series 2 Class B Preferred Stock not so converted, if any, shall also be delivered to such holder within three (3) days of notice of conversion. Any Eligible Holder may exercise its right to convert the Series 2 Class B Preferred Stock by telecopying an executed and completed Notice of Conversion to the Corporation, and within seventy-two (72) hours thereafter, delivering the original Notice of Conversion and the certificate representing the Series 2 Class B Preferred Stock to the Corporation by express courier. Each date on which a Notice of Conversion is telecopied to and received by the Corporation in accordance with the provisions hereof shall be deemed a conversion date. The Corporation will transmit the Common Shares certificates issuable upon conversion of any Series 2 Class B Preferred Stock (together with the certificates representing the Series 2 Class B Preferred Stock not so converted) to the Eligible Holder via express courier within three (3) business days after the conversion date if the Corporation has received the original Notice of Conversion and the Series 2 Class B Shares certificates being so converted by such date.

5.4 All Common Shares which may be issued upon conversion of Series 2 Class B Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof. At all times that any Series 2 Class B Preferred Stock is outstanding, the Corporation shall have authorized, and shall have reserved for the purpose of issuance upon such conversion, a sufficient number of Common Shares to provide for the conversion into Common Shares of all Series 2 Class B Preferred Stock then outstanding at the then effective Conversion Price. Without limiting the generality of the foregoing, if, at any time, the Conversion Price is decreased, the number of Common Shares authorized and reserved for issuance upon the conversion of the Series 2 Class B Preferred Stock shall be proportionately increased.

5.5 The number of Common Shares issued upon conversion of Series 2 Class B Preferred Stock and the Conversion Price shall be subject to adjustment from time to time upon the happening of certain events, as follows;

5.5.1 In the case of any amendment to the Articles to change the designation of the Common Shares or the rights, privileges, restrictions or conditions in respect of the Common Shares or division of the Common Shares into series the rights of the holders of the Series 2 Class B Preferred Stock shall be adjusted so as to provide that upon conversion thereof, the holder of the Series 2 Class B Preferred Stock being converted shall procure, in lieu of each Common Share theretofore issuable upon such conversion, the kind and amount of shares, other securities, money and property receivable upon such designation, change or division by the holder of one Common Share issuable upon such conversion had conversion occurred immediately prior to such designation, change or division. The Series 2 Class B Preferred Stock shall be deemed thereafter to provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Part 5. The provisions of this subsection 5.5.1 shall apply in the same manner to successive reclassifications, changes, consolidations, and mergers.

5.5.2 If the Corporation, at any time while any of the Series 2 Class B Preferred Stock is outstanding, shall amend the Articles so as to change the Common Shares into a different number of shares, the Conversion Price shall be proportionately reduced, in case of such change increasing the number of Common Shares, as of the effective date of such increase, or if the Corporation shall take a record of holders of its Common Shares for the purpose of such increase, as of such record date, whichever is earlier, or the Conversion Price shall be proportionately increased, in the case of such change decreasing the number of Common Shares, as of the effective date of such decrease or, if the Corporation shall take a record of holders of its Common Stock for the purpose of such decrease, as of such record date, whichever is earlier.

5.5.3 If the Corporation, at any time while any of the Series 2 Class B Preferred Stock is outstanding, shall pay a dividend payable in Common Shares (except for any dividends of Common Shares payable pursuant to Part 3 hereof), the Conversion Price shall be adjusted, as of the date the Corporation shall take a record of the holders of its Common Shares for the purposes of receiving such dividend (or if no such record is taken, as of the date of payment of such dividend), to that price determined by multiplying the Conversion Price therefor in effect by a fraction (1) the numerator of which shall be the total number of Common Shares outstanding immediately prior to such dividend, and (2) the denominator of which shall be the total number of Common Shares outstanding immediately after such dividend (plus in the event that the Corporation paid cash for fractional shares, the number of additional shares which would have been outstanding had the Corporation issued fractional shares in connection with said dividend).

5.6 Whenever the Conversion Price shall be adjusted pursuant to Section 5.5 hereof, the Corporation shall make a certificate signed by its President, or a Vice President and by its Treasurer, Assistant Treasurer, Secretary or Assistant Secretary, setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated (including a description of the basis on which the Board of Directors made any determination hereunder), and the Conversion Price after giving effect to such adjustment, and shall cause copies of such certificates to be mailed (by first class mail, postage prepaid) to each holder of the Series 2 Class B Preferred Stock at its address shown on the books of the Corporation. The Corporation shall make such certificate and mail it to each such holder promptly after each adjustment.

5.7 No fractional Common Shares shall be issued in connection with any conversion of Series 2 Class B Preferred Stock, but in lieu of such fractional shares, the Corporation shall make a cash payment therefor equal in amount to the product of the applicable fraction multiplied by the Conversion Price then in effect.

5.8 No Series 2 Class B Preferred Stock which has been converted into Common Shares shall be reissued by the Corporation: provided, however, that each such share shall be restored to the status of authorized but unissued Preferred Stock without designation as to series and may thereafter be issued as a series of Preferred Stock not designated as Series 2 Class B Preferred Stock.

Part 6 - Parity with Other Shares of Series 2 Class B Preferred Stock and Priority.

6.1 If any cumulative dividends or accounts payable or return of capital in respect of Series 2 Class B Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

6.2 For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:

6.2.1 Prior or senior to the shares of this Series 2 Class B Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 2 Class B Preferred Stock;

6.2.2 On a parity with, or equal to, shares of this Series 2 Class B Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 2 Class B Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 2 Class B Preferred Stock; and.

6.2.3 Junior to shares of this Series 2 Class B Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Shares or if the holders of shares of this Series 2 Class B Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Amendment.

7.1 In addition to any requirement for a series vote pursuant to the GCL in respect of any amendment to the Articles that adversely affects the rights, privileges, restrictions and conditions of the Series 2 Class B Preferred Stock, the rights, privileges, restrictions and conditions attaching to the Series 2 Class B Preferred Stock may be amended by an amendment to the Corporation's Certificate of Incorporation so as to affect such adversely only if the Corporation has obtained the affirmative vote at a duly called and held series meeting of the holders of the Series 2 Class B Preferred Stock or written consent by the holders of a majority of the Series 2 Class B Preferred Stock then outstanding. Notwithstanding the above, the number of authorized shares of such class or classes of stock may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of this Section 7.1.

**CERTIFICATE OF DESIGNATIONS
OF SERIES 3 CLASS C CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

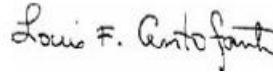
Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 3 Class C Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 3 Class C Convertible Preferred Stock as set forth in the attached resolutions.

Dated: July 17, 1996

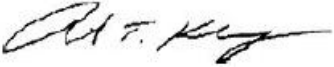
PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By



Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES; INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 3 CLASS C CONVERTIBLE PREFERRED STOCK**

WHEREAS,

- A. The Corporation's share capital includes Preferred Stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by the Board of Directors of the Corporation (the "Board") being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences, and relative, participating, optional or other special rights, privileges, restrictions and conditions attaching to the shares of each such series; and
- B. It is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 3 Class C Convertible Preferred Stock, par value \$.001.

NOW, THEREFORE, BE IT RESOLVED, THAT:

The Series 3 Class C Convertible Preferred Stock, par value \$.001 (the "Series 3 Class C Preferred Stock") of the Corporation shall consist of 5,500 shares and no more and shall be designated as the Series 3 Class C Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 3 Class C Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Right.

1.1 **Voting Rights.** Except as otherwise provided herein, in the Corporation's Certificate of Incorporation (the "Articles") or the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 3 Class C Preferred Stock shall have no voting rights whatsoever. To the extent that under the GCL the vote of the holders of the Series 3 Class C Preferred Stock, voting separately as a class or series as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the holders of at least a majority of the shares of the Series 3 Class C Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of a majority of the shares of Series 3 Class C Preferred Stock (except as otherwise may be required under the GCL) shall constitute the approval of such action by the series. To the extent that under the GCL the holders of the Series 3 Class C Preferred Stock are entitled to vote on a matter with holders of Corporation's Common Stock and/or any other class or series of the Corporation's voting securities, the Series 3 Class C Preferred Stock, the Corporation's Common Stock and all other classes or series of the Corporation's voting securities shall vote together as one class, with each share of Series 3 Class C Preferred Stock entitled to a number of votes equal to the number of shares of the Corporation's Common Stock into which it is then convertible using the record date for the taking of such vote of stockholders as the date as of which the Conversion Price (as defined in Section 4.2 hereof) is calculated and conversion is effected. Holders of the Series 3 Class C Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote, which notice would be provided pursuant to the Corporation's bylaws and applicable statutes.

1.2 **No Preemptive Rights.** The Series 3 Class C Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 3 Class C Preferred Stock shall be outstanding, the holders of the then outstanding Series 3 Class C Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Corporation's Common Stock equal to \$1,000 consideration per outstanding share of Series 3 Class C Preferred Stock, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board.

2.2 **Payment of Liquidation Preference.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 3 Class C Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After payment.** After the payment to the holders of the shares of the Series 3 Class C Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 3 Class C Preferred Stock as such shall have no right OR claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to Pay Full Liquidation Preference.** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 3 Class C Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 3 Class C Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 3 Class C Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 3 Class C Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends.

3.1 The holders of the Series 3 Class C Preferred Stock are entitled to receive if, when and as declared by the Board out of funds legally available therefor, cumulative dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), at the Corporation's election, at the rate of six percent (6%) per annum of the Liquidation Value of the Series 3 Class C Preferred Stock. The Liquidation Value of the Series 3 Class C Preferred Stock shall be \$1,000.00 per share (the "Dividend Rate"). The dividend is payable semi-annually within seven (7) business days after each of December 31 and June 30 of each year, commencing December 31, 1996 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 3 Class C Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from the date of issuance of the Series 3 Class C Preferred Stock. In the event that the Corporation elects to pay dividends in Common Stock of the Corporation, each holder of the Series 3 Class C Preferred Stock shall receive shares of Common Stock of the Corporation equal to the quotient of (i) the Dividend Rate in effect on the applicable Dividend Declaration Date divided by (ii) the average of the closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"). Dividends on the Series 3 Class C Preferred Stock shall be cumulative, and no dividend or other distributions shall be paid or declared or set aside for payment on the Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 3 Class C Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 3 Class C Preferred Stock shall have rights to convert the shares of Series 3 Class C Preferred Stock into shares of the Corporation's Common Stock, par value \$.001 per share ("Common Stock"), as follows (the "Conversion Rights"):

4.1 **Right to Convert.** The Series 3 Class C Preferred Stock shall be convertible into shares of Common Stock, as follows:

4.1.1 Up to one thousand eight hundred thirty-three (1,833) shares of Series 3 Class C Preferred Stock may be converted at the Conversion Price (as that term is defined in Section 4.2 below) at any time on or after October 1, 1996;

4.1.2 Up to one thousand eight hundred thirty-three (1,833) shares of Series 3 Class C Preferred Stock may be converted at the Conversion Price at any time on or after November 1, 1996; and,

4.1.3 Up to one thousand eight hundred thirty-four (1,854) shares of Series 3 Class C Preferred Stock may be converted at the Conversion Price on or after December 1, 1996.

4.2 Conversion Price. As used herein, the term Conversion Price shall be the product of (i) the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately preceding the date of the Conversion Notice referred to in Section 4.3 below multiplied by (ii) seventy-five percent (75%). Notwithstanding the foregoing, the Conversion Price shall not be (i) less than a minimum of \$.75 per share ("Minimum Conversion Price") or (ii) more than a maximum of \$1.50 per share ("Maximum Conversion Price"). If, after July 1, 1996, the Corporation sustains a net loss, on a consolidated basis, in each of two (2) consecutive quarters, as determined under generally accepted accounting principles, the Minimum Conversion Price shall be reduced \$.25 a share, but there shall be no change to, or reduction of, the Maximum Conversion Price. For the purpose of determining whether the Corporation has had a net loss in each of two (2) consecutive quarters, at no time shall a quarter that has already been considered in such determination be considered in any subsequent determination (as an example the third quarter of 1996 in which there is a net profit and the fourth quarter of 1996 in which there is a net loss shall be considered as two consecutive quarters, and, as a result, the fourth quarter of 1996 shall not be considered along with the first quarter of 1997 as two (2) consecutive quarters, but the first quarter of 1997 must be considered with the second quarter of 1997 for the purposes of such determination). For the purposes of this Section 4.2, a "quarter" is a three (3) month period ending on March 31, June 30, September 30, and December 31. If any of the outstanding shares of Series 3 Class C Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 3 Class C Preferred Stock so surrendered for conversion by (b) the Conversion Price in effect at the date of the conversion. At the time of conversion of shares of the Series 3 Class C Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of shares of whole Common Stock which is equal to the product of dividing the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 3 Class C Preferred Stock so converted by the Conversion Price in effect at the date of conversion.

4.3 Mechanics of Conversion. Any holder of the Series 3 Class C Preferred Stock who wishes to exercise its Conversion Rights pursuant to Section 4.1 of this Part 4 must, if such shares are not being held in escrow by the Corporation's attorneys, surrender the certificate therefor at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion Notice"). In the event that the shares of Series 3 Class C Preferred Stock are being held in escrow by the Corporation's attorneys, no delivery of the certificates shall be required. No Conversion Notice with respect to any shares of Series 3 Class C Preferred Stock can be given prior to the time such shares of Series 3 Class C Preferred Stock are eligible for conversion in accordance with the provision of Section 4.1 above. Any such premature Conversion Notice shall automatically be null and void. The Corporation shall, within five (5) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 3 Class C Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed that until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 3 Class C Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 3 Class C Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (or in the event that no surrender of the Certificate is required, then only upon the receipt by the Corporation of the Conversion Note) (the "Conversion Documents"), and the person or entity whose name is noted on the certificate evidencing such shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received. If the Corporation fails to deliver to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion within five (5) business days after receipt by the Corporation from the holder of an appropriate and timely Conversion Notice and certificates pursuant to the terms of this Section 4.3, the Corporation shall pay to the holder U.S. \$1,000 for each day that the Corporation is late in delivering such certificate to the holder or its agent.

4.4 Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock. If the Corporation at any time or from time to time while shares of Series 3 Class C Preferred Stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate. If the Corporation shall declare or pay, without consideration, any dividend on the Common Stock payable in any right to acquire Common stock for no consideration, then the Corporation shall be deemed to have made a dividend payable in Common Stock in an amount of shares equal to the maximum number of shares issuable upon exercise of such rights to acquire Common Stock.

4.5. **Adjustments for Reclassification and Reorganization.** If the Common Stock issuable upon conversion of the Series 3 Class C Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.4 hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 3 Class C Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 3 Class C Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 3 Class C Preferred Stock immediately before that change.

4.6 **Common Stock Duly Issued.** All Common Stock which may be issued upon conversion of Series 3 Class C Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.

4.7 **Notice of Adjustments.** Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 3 Class C Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.

4.8 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 3 Class C Preferred Stock pursuant thereto; provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 3 Class C Preferred Stock in connection with such conversion.

4.9 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 3 Class C Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 3 Class C Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 3 Class C Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.

4.10 **Fractional Shares.** No fractional share shall be issued upon the conversion of any share or shares of Series 3 Class C Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 3 Class C Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If after the aforementioned aggregation, the conversion would result in the Issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share,

4.11 **Notice.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 3 Class C Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.

4.12 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or permitted to close.

Part 5 - Redemption.

5.1 **Redemption During First 180 Days.** At any time, and from time to time, during the first one hundred eighty (180) days from the date of issuance of the Series 3 Class C Preferred Stock, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, the then outstanding Series 3 Class C Preferred Stock at a price per share of U. S. \$1,300.00 each (“First Six Months Redemption Price”). The Company may exercise such redemption by giving the holder of the Series 3 Class C Preferred Stock written notice of such redemption at any time during such 180-day period.

5.2 **Other Rights of Redemption by the Corporation** At any time, and from time to time, after one hundred eighty (180) days from the date of the issuance of any Series 3 Class C Preferred Stock, if the average of the closing bid price of the Common Stock for ten (10) consecutive days shall be in excess of \$2.50 per share, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, the then outstanding Series 3 Class C Preferred Stock at a price per share of U.S. \$1,000 each (the “Redemption Price”) (such price to be adjusted proportionately in the event of any change of the Series 3 Class C Preferred Stock into a different number of shares of Series 3 Class C Preferred Stock).

5.3 **Mechanics of Redemption.** Thirty (30) days prior to any date stipulated by the Corporation for the redemption of Series 3 Class C Preferred Stock (the “Redemption Date”), written notice (the “Redemption Notice”) shall be mailed to each holder of record on such notice date of the Series 3 Class C Preferred Stock. The Redemption Notice shall state; (i) the Redemption Date of such shares, (ii) the number of Series 3 Class C Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 3 Class C Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 3 Class C Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first one hundred eighty (180) days from the date of issuance of the Series 3 Class C Preferred Stock, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.4 Rights of Conversion Upon Redemption. If the redemption occurs pursuant to Section 5.1 hereof, the Holder of the Series 3 Class C Preferred Stock shall not have the right to convert those outstanding shares of Series 3 Class C Preferred Stock that the Company is redeeming after receipt of the Redemption Notice. If the redemption occurs pursuant to Section 5.2 hereof, then, upon receipt of the Redemption Notice, any holder of Series 3 Class C Preferred Stock shall have the option, at its sole election, to specify what portion of its Series 3 Class C Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof, except that, notwithstanding any provision of such Part 4 to the contrary, such holder shall have the right to convert into Common Stock that number of Series 3 Class C Preferred Stock called for redemption in the Redemption Notice.

5.5 Surrender of Certificates. On or before the Redemption Date in respect of any Series 3 Class C Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.5 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 3 Class C Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

5.6 Payment. On the Redemption Date in respect of any Series 3 Class C Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least U.S. \$50,000,000, as a trust fund, a sum equal to the aggregate First Six Months Redemption Price or the Redemption Price, whichever is applicable, of all such shares called from redemption (less the aggregate Redemption Price for those Series 3 Class C Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 3 Class C Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the First Six Months Redemption Price or the Redemption Price, whichever is applicable, to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the First Six Months Redemption Price or the Redemption Price, whichever is applicable, of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the First Six Months Redemption Price or the Redemption Price, whichever is applicable, in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 3 Class C Preferred Stock and Priority.

6.1 **Rateable Participation.** if any cumulative dividends or return of capital in respect of Series 3 Class C Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:

6.2.1 Prior or senior to the shares of this Series 3 Class C Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 3 Class C Preferred Stock;

6.2.2 On a parity with, or equal to, shares of this Series 3 Class C Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 3 Class C Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 3 Class C Preferred Stock; and,

6.2.3 Junior to shares of this Series 3 Class C Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 3 Class C Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Amendment and Reissue.

7.1 **Amendment.** if any proposed amendment to the Corporation's Certificate of Incorporation would alter or change the powers, preferences or special rights of the Series 3 Class C Preferred Stock so as to affect such adversely, then the Corporation must obtain the affirmative vote of such amendment to the Certificate of Incorporation at a duly called and held series meeting of the holders of the Series 3 Class C Preferred Stock or written consent by the holders of a majority of the Series 3 Class C Preferred Stock then outstanding. Notwithstanding the above, the number of authorized shares of any class or classes of stock may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of this Section 7.1 or the requirements of Section 242 of the GCL.

7.2 **Authorized.** Any shares of Series 3 Class C Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

CERTIFICATE OF ELIMINATION
OF
SERIES I CLASS A PREFERRED STOCK
AND
SERIES 2 CLASS B CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Corporation"), hereby certifies the following:

1. That the Certificate of Designations of Series I Class A Preferred Stock of the Corporation (the "Series I Preferred") was filed on February 6, 1996 (the "Series I Certificate of Designation").

2. That all outstanding shares of the Series I Preferred have been converted into shares of common stock of the Company pursuant to the terms and conditions of the Series I Certificate of Designations.

3. That no shares of Series I Preferred remain outstanding.

4. That all shares of the Series I Preferred which have been converted have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

5. That on September 19, 1996, the Board of Directors of the Company duly adopted the following resolution:

RESOLVED, that no authorized shares of Series I Class A Preferred Stock remain outstanding and no shares of Series I Class A Preferred Stock will be issued subject to the Certificate of Designation previously filed with respect to the Series I Class A Preferred Stock.

6. That the Certificate of Designations of the Series 2 Class B Convertible Preferred Stock of the Corporation (the "Series 2 Preferred") was filed on February 20, 1996 (the "Series 2 Certificate of Designation").

7. That all outstanding shares of the Series 2 Preferred have been converted into shares of common stock of the Company pursuant to the terms and conditions of the Series 2 Certificate of Designations.

8. That no shares of Series 2 Preferred remain outstanding.

9. That all shares of the Series 2 Preferred which have been converted have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

10. That on September 19, 1996, the Board of Directors of the Company duly adopted the following resolution:

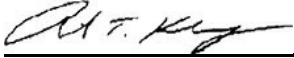
RESOLVED, that no authorized shares of Series 2 Class B Convertible Preferred Stock remain outstanding and no shares of Series 2 Class B Convertible Preferred Stock will be issued subject to the Certificate of Designation previously filed with respect to the Series 2 Class B Convertible Preferred Stock.

11. That pursuant to the provisions of § 151(g) of the Delaware General Corporation Law, upon the effective date of the filing of this Certificate, this Certificate will have the effect of eliminating from the Restated Certificate of Incorporation only those matters set forth in the Restated Certificate of Incorporation with respect to the Series I Class A Preferred Stock and the Series 2 Class B Convertible Preferred Stock.

IN WITNESS WHEREOF, this Certificate of Elimination has been executed this 4th day of December, 1996, by the President of the Company.

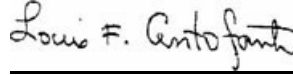
ATTEST:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.



Richard T. Kelecy, Secretary

By



Dr. Louis F. Centofanti, President

(SEAL)

(STAMP)

**CERTIFICATE OF AMENDMENT
OF
RESTATED CERTIFICATE OF INCORPORATION
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services, Inc., a Delaware corporation (the "Corporation"), for purposes of amending its Restated Certificate of Incorporation, as amended ("Restated Certificate of Incorporation"), as provided by Section 242 of the Delaware General Corporation Law, does hereby certify:

1. The amendment set forth below to the Corporation's Restated Certificate of Incorporation was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware:

The first paragraph of Article Fourth of the Corporation's Restated Certificate of Incorporation is hereby deleted and replaced in its entirety by the following:

The total number of shares of capital stock that the Corporation shall have authority to issue is 52,000,000, of which 50,000,000 shall be designated as common stock of the par value of \$.001 per share ("Common Stock") and 2,000,000 shall be designated as preferred stock of the par value of \$.001 per share ("Preferred Stock").

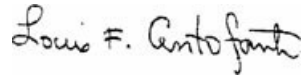
2. Only the first paragraph of Article Fourth is amended by this Amendment, and the remainder of Article Fourth shall remain in full force and effect. No other provision, paragraph or article of the Restated Certificate of Incorporation is amended or changed by this Amendment. The Restated Certificate of Incorporation, as expressly amended by paragraph 1 of this Amendment, shall be in full force and effect.

3. At a meeting of the Board of Directors held on the 19th day of September, 1996, a resolution was duly adopted setting forth the foregoing proposed amendment to the first paragraph of Article Fourth of the Restated Certificate of Incorporation, declaring such amendment to be advisable and setting the next Annual Meeting of Stockholders for consideration thereof.

4. Thereafter, pursuant to said resolution of its Board of Directors, the Annual Meeting of Stockholders was duly called and held on December 12, 1996, at which meeting the necessary number of shares as required by statute were voted in favor of such amendment.

IN WITNESS whereof, Perma-Fix Environmental Services, Inc. has caused this Certificate to be signed and attested to by its duly authorized officers as of this 16th day of December, 1996.

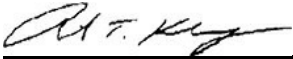
Perma-Fix Environmental Services, Inc., a Delaware corporation



By:

Dr. Louis F. Centofanti
President and Chief Executive Officer

ATTEST:



Richard T. Kelecy,
Secretary

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 11:00 AM 06/11/1997
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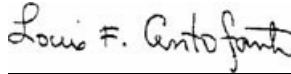
CERTIFICATE OF DESIGNATIONS
OF SERIES 4 CLASS D CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.

Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 4 Class D Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 4 Class D Convertible Preferred Stock as set forth in the attached resolutions.

Dated: June 9, 1997

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By 

Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 4 CLASS C CONVERTIBLE PREFERRED STOCK**

WHEREAS, the Corporation's capital includes preferred stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by resolutions adopted by the directors, and with the directors being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences and relative, participating, optional or other special rights and privileges, restrictions and conditions attaching to the shares of each such series:

WHEREAS, it is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 4 Class D Convertible Preferred Stock, par value \$.001 per share ("Series 4 Class D Preferred Stock");

NOW, THEREFORE, BE IT RESOLVED, that the Series 4 Class D Convertible Preferred Stock, par value \$.001 (the "Series 4 Class D Preferred Stock") of the Corporation shall consist of two thousand five hundred (2,500) shares and no more and shall be designated as the Series 4 Class D Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 4 Class D Preferred Stock shall be at follows:

Part 1 - Voting and Preemptive Rights.

1.1 **Voting Rights.** Except at otherwise provided in Pan 7 hereof or under the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 4 Class D Preferred Stock shall have no voting rights whatsoever. To the extent that under Part 7 hereof or the GCL the vote of the holders of the Series 4 Class D Preferred Stock, voting separately as a class or series as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the holders of at least a majority of the shares of the Series 4 Class D Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of a majority of the shares of Series 4 Class D Preferred Stock (except as otherwise may be required under the GCL) shall constitute the approval of such action by the series. To the extent that under the GCL or Part 7 hereof, the holders of the Series 4 Class D Preferred Stock are entitled to vote on a matter, each share of the Series 4 Class D Preferred Stock shall be entitled one (1) vote for each outstanding share of Series 4 Class D Preferred Stock. Holders of the Series 4 Class D Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote, which notice would be provided pursuant to the Corporation's bylaws and applicable statutes.

1.2 **No Preemptive Rights.** The Series 4 Class D Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 4 Class D Preferred Stock shall be outstanding, the holders of the then outstanding Series 4 Class D Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Corporation's Common Stock equal to \$1,000 consideration per outstanding share of Series 4 Class D Preferred Stock, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 4 Class D Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After Payment.** After the payment to the holders of the shares of the Series 4 Class D Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 4 Class D Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to Pay Full Liquidation Preference.** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 4 Class D Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 4 Class D Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 4 Class D Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 4 Class D Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends.

3.1 The holders of the Series 4 Class D Preferred Stock are entitled to receive if, when and as declared by the Board out of funds legally available therefor, cumulative dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), or any combination thereof, at the Corporation's election, at the rate of four percent (4%) per annum of the Liquidation Value (as defined below) of each issued and outstanding share of Series 4 Class D Preferred Stock (the "Dividend Rate"). The Liquidation Value of the Series 4 Class D Preferred Stock shall be \$1,000 per outstanding share of the Series 4 Class D Preferred Stock (the "Liquidation Value"). The dividend is payable semi-annually within seven (7) business days after each of December 31 and June 30 of each year, commencing December 31, 1997 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 4 Class D Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record of the Series 4 Class D Preferred Stock as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from the date of issuance of the Series 4 Class D Preferred Stock. In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on an outstanding share of the Series 4 Class D Preferred Stock in Common Stock of the Corporation, the holder of such share shall receive that number of shares of Common Stock of the Corporation equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or the average closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid, and the denominator of which is 365. Dividends on the Series 4 Class D Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 4 Class D Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 4 Class D Preferred Stock shall have rights to convert the shares of Series 4 Class D Preferred Stock into shares of the Corporation's Common Stock, par value \$.001 per share ("Common Stock"), as follows (the "Conversion Rights"):

4.1 **Right to Convert.** The Series 4 Class D Preferred Stock shall be convertible into shares of Common Stock, as follows:

- 4.1.1 Up to one thousand two hundred fifty (1,250) shares of Series 4 Class D Preferred Stock may be converted at the Conversion Price (as that term is defined in Section 4.2 below) at any time on or after October 5, 1997; and,

4.1.2 Up to an additional one thousand two hundred fifty (1,250) shares of Series 4 Class D Preferred Stock may be converted at the Conversion Price at any time on or after November 5, 1997.

4.2 **Conversion Price.** Subject to the terms hereof, as used herein, the term Conversion Price per outstanding share of Series 4 Class D Preferred Stock shall be the product of the lesser of (i) the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately preceding the date of the Conversion Notice referred to in Section 4.3 below multiplied by eighty percent (80%) or (ii) U.S. \$1.6875. Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$.75 per share ("Minimum Conversion Price"), which Minimum Conversion Price shall be eliminated from and after September 6, 1998. If any of the outstanding shares of Series 4 Class D Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 4 Class D Preferred Stock so surrendered for conversion by (b) the Conversion Price in effect at the date of the conversion. At the time of conversion of shares of the Series 4 Class D Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of shares of whole Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 4 Class D Preferred Stock so converted divided by the Stock Dividend Price, as defined in Section 3.1 hereof, in effect at the date of conversion.

- 4.3 **Mechanics of Conversion.** Any holder of the Series 4 Class D Preferred Stock who wishes to exercise its Conversion Rights pursuant to Section 4.1 of this Part 4 must, if such shares are not being held in escrow by the Corporation's attorneys, surrender the certificate therefor at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion Notice"). In the event that the shares of Series 4 Class D Preferred Stock are being held in escrow by the Corporation's attorneys, no delivery of the certificates shall be required. No Conversion Notice with respect to any shares of Series 4 Class D Preferred Stock can be given prior to the time such shares of Series 4 Class D Preferred Stock are eligible for conversion in accordance with the provision of Section 4.1 above, except as provided in Section 4.4. Any such premature Conversion Notice shall automatically be null and void. The Corporation shall, within five (5) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 4 Class D Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed that, until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 4 Class D Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 4 Class D Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (or in the event that no surrender of the Certificate is required, then only upon the receipt by the Corporation of Use Conversion Notice) (the "Conversion Documents"), and the person or entity whose name is noted on the certificate evidencing such shares or Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received. If the Corporation fails to deliver to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion within seven (7) business days after receipt by the Corporation from the holder of an appropriate and timely Conversion Notice and certificates pursuant to the terms of this Section 4.3 ("Seven (7) Business Day Period"), then, upon the written demand of RBB Bank Aktiengesellschaft ("RBB Bank"), the holder of the Series 4 Class D Preferred Stock, for payment of the penalty described below in this Section 4.3, which demand must be received by the Corporation no later than ten (10) calendar days after the expiration of such Seven (7) Business Day Period, the Corporation shall pay to RBB Bank the following penalty for each business day after the Seven (7) Business Day Period until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion: business day eight (8) - U.S. \$1,000; business day nine (9) - U.S. \$2,000, and each business day thereafter an amount equal to the penalty due on the immediately preceding business day times two (2) until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion.
- 4.4 **Merger or Consolidation.** In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the "Merger"), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the "Sale"), and such Merger or Sale becomes effective (x) while any shares of Series 4 Class D Preferred Stock are outstanding and prior to the date that the Corporation's Registration Statement covering up to 1,482,000 shares of Common Stock issuable upon the conversion of the Series 4 Class D Preferred Stock is declared effective by the U. S. Securities and Exchange Commission or (y) prior to the end of the restriction periods in Section 4.1, then, in such event, the Corporation or such successor corporation, as the cast may be, shall make appropriate provision so that the holder of each share of Series 4 Class D Preferred Stock then outstanding shall have the right to convert such share of Series 4 Class D Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Series 4 Class D Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Part 4.

- 4.4 **Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock.** If the Corporation at any time or from time to time while shares of Series 4 Class D Preferred Stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.
- 4.5 **Adjustments for Reclassification and Reorganization.** If the Common Stock issuable upon conversion of the Series 4 Class D Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.4 hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 4 Class D Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 4 Class D Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 4 Class D Preferred Stock immediately before that change.
- 4.6 **Common Stock Duly Issued.** All Common Stock which may be issued upon conversion of Series 4 Class D Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.
- 4.7 **Notice of Adjustments.** Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 4 Class D Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.

- 4.8 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 4 Class D Preferred Stock pursuant thereto; provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by toy holder of Series 4 Class D Preferred Stock in connection with such conversion.
- 4.9 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 4 Class D Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 4 Class D Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 4 Class D Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.
- 4.10 **Fractional Shares.** No fractional shares shall be issued upon the conversion of any share or shares of Series 4 Class D Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 4 Class D Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.
- 4.11 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 4 Class D Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.
- 4.12 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York axe required or is permitted to close.

Part 5 - Redemption.

- 5.1 **Redemption at Corporation’s Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, after the expiration of one (1) year from the date of the first issuance of the Series 4 Class D Preferred Stock, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, the then outstanding Series 4 Class D Preferred Stock at the following cash redemption prices per share (the “Redemption Price”) if redeemed during the following periods: (a) within four (4) years from the date of the first issuance of Series 4 Class D Preferred Stock - \$1,300 per share, if at any time during such four (4) year period the average of the closing bid price of the Common Stock for ten (10) consecutive trading days shall be in excess of Four U.S. Dollars (\$4.00) per share, and (b) after four (4) years from the date of the first issuance of Series 4 Class D Preferred Stock - \$1,000 per share.

- 5.3 **Mechanics of Redemption.** Thirty (30) days prior to any date stipulated by the Corporation for the redemption of Series 4 Class D Preferred Stock (the “Redemption Date”), written notice (the “Redemption Notice”) shall be mailed to each holder of record on such notice date of the Series 4 Class D Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 4 Class D Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 4 Class D Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 4 Class D Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first one hundred eighty (180) days from the date of issuance of the Series 4 Class D Preferred Stock, the number of shares to be converted into Common Stock as provided in Part 4 hereof.
- 5.4 **Rights of Conversion Upon Redemption.** If the redemption occurs after the first one hundred eighty (180) days after the first issuance of Series 4 Class D Preferred Stock, then, upon receipt of the Redemption Notice, any holder of Series 4 Class D Preferred Stock shall have the option, at its sole election, to specify what portion of its Series 4 Class D Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof, except that, notwithstanding any provision of such Part 4 to the contrary, such holder shall have the right to convert into Common Stock that number of Series 4 Class D Preferred Stock called for redemption in the Redemption Notice.
- 5.5 **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 4 Class D Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.6 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 4 Class D Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

- 5.6 **Payment.** On the Redemption Date in respect of any Series 4 Class D Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least U.S. \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 4 Class D Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 4 Class D Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 4 Class D Preferred Stock and Priority.

- 6.1 **Rateable Participation.** If any cumulative dividends or return of capital in respect of Series 4 Class D Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.
- 6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:
- 6.2.1 Prior or senior to the shares of this Series 4 Class D Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 4 Class D Preferred Stock;

- 6.2.2 On a parity with, or equal to, shares of this Series 4 Class D Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 4 Class C Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 4 Class D Preferred Stock; and,
- 6.2.3 Junior to shares of this Series 4 Class D Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 4 Class D Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Amendment and Reissue.

- 7.1 **Amendment.** If any proposed amendment to the Corporation's Certificate of Incorporation (the "Articles") would alter or change the powers, preferences or special rights of the Series 4 Class D Preferred Stock so as to affect such adversely, then the Corporation must obtain the affirmative vote of such amendment to the Articles at a duly called and held series meeting of the holders of the Series 4 Class D Preferred Stock or written consent by the holders of a majority of the Series 4 Class D Preferred Stock then outstanding. Notwithstanding the above or the provisions of the GCL, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of this Section 7.1 or Section 242 of the GCL.
- 7.2 **Authorized.** Any shares of Series 4 Class D Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

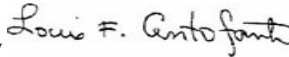
**CERTIFICATE OF DESIGNATIONS
OF SERIES 5 CLASS E CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 5 Class E Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 5 Class E Convertible Preferred Stock as set forth in the attached resolutions.

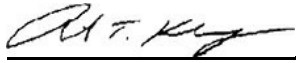
Dated: July 3, 1997

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By 

Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 5 CLASS E CONVERTIBLE PREFERRED STOCK**

WHEREAS, the Corporation's capital includes preferred stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by resolutions adopted by the directors, and with the directors being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences and relative, participating, optional or other special rights and privileges, and qualifications, limitations or restrictions attaching to the shares of each such series;

WHEREAS, it is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 5 Class E Convertible Preferred Stock, par value \$.001 per share ("Series 5 Class E Preferred Stock");

NOW, THEREFORE, BE IT RESOLVED, that the Series 5 Class E Convertible Preferred Stock, par value \$.001 (the "Series 5 Class E Preferred Stock") of the Corporation shall consist of three hundred fifty (350) shares and no more and shall be designated as the Series 5 Class E Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 5 Class E Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights.

1.1 **Voting Rights.** Except as otherwise provided in Section 242(b)(2) of the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 5 Class E Preferred Stock shall have no voting rights whatsoever. To the extent that under Section 242(b)(2) of the GCL the vote of the holders of the Series 5 Class E Preferred Stock, voting separately as a class or series as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the holders of at least a majority of the shares of the Series 5 Class E Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of a majority of the shares of Series 5 Class E Preferred Stock (except as otherwise may be required under the GCL) shall constitute the approval of such action by the series. To the extent that under Section 242(b)(2) of the GCL the holders of the Series 5 Class E Preferred Stock are entitled to vote on a matter, each share of the Series 5 Class E Preferred Stock shall be entitled one (1) vote for each outstanding share of Series 5 Class E Preferred Stock. Holders of the Series 5 Class E Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote. which notice would be provided pursuant to the Corporation's bylaws and applicable statutes. If the holders of the Series 5 Class E Preferred Stock are required to vote under Section 242(b)(2) of the GCL as a result of the number of authorized shares of any such class or classes of stock being increased or decreased, the number of authorized shares of any of such class or classes of stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, irrespective of the provisions of Section 242(b)(2) of the GCL.

1.2 **No Preemptive Rights.** The Series 5 Class E Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 5 Class E Preferred Stock shall be outstanding, the holders of the then outstanding Series 5 Class E Preferred Stock shall be entitled to receive out of the assets of the Corporation available for distribution to shareholders an amount equal to \$1,000 consideration per outstanding share of Series 5 Class E Preferred Stock, and no more, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board of Directors, before any payment shall be made or any assets distributed to the holders of the Corporation's Common Stock.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 5 Class E Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After Payment.** After the payment to the holders of the shares of the Series 5 Class E Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 5 Class E Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 Assets Insufficient to Pay Full Liquidation Preference. In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 5 Class E Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 5 Class E Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 5 Class E Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 5 Class E Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends.

3.1 The holders of the Series 5 Class E Preferred Stock are entitled to receive if, when and as declared by the Board of Directors of the Corporation (the "Board") out of funds legally available therefor, cumulative annual dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), or any combination thereof, at the Corporation's election, at the rate of four percent (4%) per annum of the Liquidation Value (as defined below) of each issued and outstanding share of Series 5 Class E Preferred Stock (the "Dividend Rate"). The Liquidation Value of the Series 5 Class E Preferred Stock shall be \$1,000 per outstanding share of the Series 5 Class E Preferred Stock (the "Liquidation Value"). The dividend is payable semi-annually within seven (7) business days after each of December 31 and June 30 of each year, commencing December 31, 1997 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 5 Class E Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record of the Series 5 Class E Preferred Stock as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from the date of issuance of the Series 5 Class E Preferred Stock. In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on an outstanding share of the Series 5 Class E Preferred Stock in Common Stock of the Corporation, the holder of such share shall receive that number of shares of Common Stock of the Corporation equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or the average closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid, and the denominator of which is 365. Dividends on the Series 5 Class E Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 5 Class E Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 5 Class E Preferred Stock shall have rights to convert the shares of Series 5 Class E Preferred Stock into shares of the Corporation's Common Stock, as follows (the "Conversion Rights"):

4.1 **Right to Convert.** The Series 5 Class E Preferred Stock shall be convertible into shares of Common Stock, as follows:

- 4.1.1 Up to one hundred seventy-five (175) shares of Series 5 Class E Preferred Stock may be converted at the Conversion Price (as that term is defined in Section 4.2 below) at any time on or after November 3, 1997; and,
- 4.1.2 Up to an additional one hundred seventy-five (175) shares of Series 5 Class E Preferred Stock may be converted at the Conversion Price at any time on or after December 3, 1997.

4.2 **Conversion Price.** Subject to the terms hereof, as used herein, the term Conversion Price per outstanding share of Series 5 Class E Preferred Stock shall be the product of the lesser of (i) the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately preceding the date of the Conversion Notice referred to in Section 4.3 below multiplied by eighty percent (80%) or (ii) U.S. \$1.6875. Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$.75 per share ("Minimum Conversion Price"), which Minimum Conversion Price shall be eliminated from and after September 6, 1998. If any of the outstanding shares of Series 5 Class E Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 5 Class E Preferred Stock so surrendered for conversion by (b) the Conversion Price in effect at the date of the conversion. At the time of conversion of shares of the Series 5 Class E Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of shares of whole Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 5 Class E Preferred Stock so converted divided by the Stock Dividend Price, as defined in Section 3.1 hereof, in effect at the date of conversion.

- 4.3 **Mechanics Conversion.** Any holder of the Series 5 Class E Preferred Stock who wishes to exercise its Conversion Rights pursuant to Section 4.1 of this Part 4 must surrender the certificate therefor at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion Notice"). No Conversion Notice with respect to any shares of Series 5 Class E Preferred Stock can be given prior to the time such shares of Series 5 Class E Preferred Stock are eligible for conversion in accordance with the provision of Section 4.1 above, except as provided in Section 4.4. Any such premature Conversion Notice shall automatically be null and void. The Corporation shall, within seven (7) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 5 Class E Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed that until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 5 Class E Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 5 Class E Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (the "Conversion Documents"), and the person or entity whose name is noted on the certificate evidencing such shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received.
- 4.4 **Merger or Consolidation.** In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the "Merger"), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the "Sale"), and such Merger or Sale becomes effective (x) while any shares of Series 5 Class E Preferred Stock are outstanding and prior to the date that the Corporation's Registration Statement covering up to 200,000 shares of Common Stock issuable upon the conversion of the Series 5 Class E Preferred Stock is declared effective by the U. S. Securities and Exchange Commission or (y) prior to the end of the restriction periods in Section 4.1, then, in such event, the Corporation or such successor corporation, as the case may be, shall make appropriate provision so that the holder of each share of Series 5 Class E Preferred Stock then outstanding shall have the right to convert such share of Series 5 Class E Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Series 5 Class E Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Part 4.

- 4.4 **Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common stock.** If the Corporation at any time or from time to time while shares of Series 5 Class E Preferred Stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.
- 4.5 **Adjustments for Reclassification and Reorganization.** If the Common Stock issuable upon conversion of the Series 5 Class E Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.4 hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 5 Class E Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 5 Class E Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 5 Class E Preferred Stock immediately before that change.
- 4.6 **Common Stock Duly Issued.** All Common Stock which may be issued upon conversion of Series 5 Class E Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.
- 4.7 **Notice of Adjustments.** Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 5 Class E Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.
- 4.8 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 5 Class E Preferred Stock pursuant thereto; provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 5 Class E Preferred Stock in connection with such conversion.

- 4.9 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 5 Class E Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 5 Class E Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 5 Class E Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.
- 4.10 **Fractional Shares.** No fractional shares shall be issued upon the conversion of any share or shares of Series 5 Class E Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 5 Class E Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.
- 4.11 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 5 Class E Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.
- 4.12 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or is permitted to close.

Part 5 - Redemption.

- 5.1 **Redemption at Corporation’s Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, after the expiration of one (1) year from the date of the first issuance of the Series 5 Class E Preferred Stock, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, the then outstanding Series 5 Class E Preferred Stock at the following cash redemption prices per share (the “Redemption Price”) if redeemed during the following periods: (a) within four (4) years from the date of the first issuance of Series 5 Class E Preferred Stock - \$1,300 per share, if at any time during such four (4) year period the average of the closing bid price of the Common Stock for ten (10) consecutive trading days shall be in excess of Four U.S. Dollars (\$4.00) per share, and (b) after four (4) years from the date of the first issuance of Series 5 Class E Preferred Stock - \$1,000 per share.

- 5.3 **Mechanics of Redemption.** Thirty (30) days prior to any date stipulated by the Corporation for the redemption of Series 5 Class E Preferred Stock (the “Redemption Date”), written notice (the “Redemption Notice”) shall be mailed to each holder of record on such notice date of the Series 5 Class E Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 5 Class E Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 5 Class E Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 5 Class E Preferred Stock to be redeemed as provided in this Part 5.
- 5.4 **Rights of Conversion Upon Redemption.** If the redemption occurs after the first one hundred eighty (180) days after the first issuance of Series 5 Class E Preferred Stock, then, upon receipt of the Redemption Notice, any holder of Series 5 Class E Preferred Stock shall have the option, at its sole election, to specify what portion of its Series 5 Class E Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof.
- 5.5 **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 5 Class E Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.6 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 5 Class E Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

- 5.6 **Payment.** On the Redemption Date in respect of any Series 5 Class E Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least U. S. \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 5 Class E Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 5 Class E Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 5 Class E Preferred Stock and Priority.

- 6.1 **Rateable Participation.** If any cumulative dividends or return of capital in respect of Series 5 Class E Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.
- 6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:
- 6.2.1 Prior or senior to the shares of this Series 5 Class E Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 5 Class E Preferred Stock;
- 6.2.2 On a parity with, or equal to, shares of this Series 5 Class E Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 5 Class E Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 5 Class E Preferred Stock; and,

- 6.2.3 Junior to shares of this Series 5 Class E Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 5 Class E Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Reissue.

- 7.1 **Authorized.** Any shares of Series 5 Class E Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

**CERTIFICATE OF DESIGNATIONS
OF SERIES 6 CLASS F CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

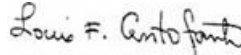
Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 6 Class F Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 6 Class F Convertible Preferred Stock as set forth in the attached resolutions.

Dated: November 12, 1997


PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By



Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kececy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES, RESTRICTIONS AND CONDITIONS ATTACHING TO THE SERIES 6 CLASS F CONVERTIBLE PREFERRED STOCK

WHEREAS, the Corporation's capital includes preferred stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by resolutions adopted by the directors, and with the directors being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences and relative, participating, optional or other special rights and privileges, restrictions and conditions attaching to the shares of each such series;

WHEREAS, it is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 6 Class F Convertible Preferred Stock, par value \$.001 per share (the "Series 6 Class F Preferred Stock");

NOW, THEREFORE, BE IT RESOLVED, that the Series 6 Class F Preferred Stock shall consist of two thousand five hundred (2,500) shares and no more and shall be designated as the Series 6 Class F Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 6 Class F Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights.

1 ..1 **Voting Rights.** Except as otherwise provided in Pan 7 hereof or under the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 6 Class F Preferred Stock shall have no voting rights whatsoever. To the extent that under Part 7 hereof or the GCL the vote of the holders of the Series 6 Class F Preferred Stock, voting separately as a class or series as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the holders of at least a majority of the shares of the Series 6 Class F Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of a majority of the shares of Series 6 Class F Preferred Stock (except as otherwise may be required under the GCL) shall constitute the approval of such action by the series. To the extent that under the GCL or Part 7 hereof, the holders of the Series 6 Class F Preferred Stock are entitled to vote on a matter, each share of the Series 6 Class F Preferred Stock shall be entitled one (1) vote for each outstanding share of Series 6 Class F Preferred Stock. Holders of the Series 6 Class F Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote. which notice would be provided pursuant to the Corporation's bylaws and applicable statutes.

1.2 **No Preemptive Rights.** The Series 6 Class F Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 6 Class F Preferred Stock shall be outstanding, the holders of the then outstanding Series 6 Class F Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Corporation's Common Stock equal to \$1,000 consideration per outstanding share of Series 6 Class F Preferred Stock, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 6 Class F Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After payment.** After the payment to the holders of the shares of the Series 6 Class F Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 6 Class F Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to pay full Preference.** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 6 Class F Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 6 Class F Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 6 Class F Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 6 Class F Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends. The holders of the Series 6 Class F Preferred Stock are entitled to receive if, when and as declared by the Board out of funds legally available therefor, cumulative dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), or any combination thereof, at the Corporation's election, at the rate of four percent (4%) per annum of the Liquidation Value (as defined below) of each issued and outstanding share of Series 6 Class F Preferred Stock (the "Dividend Rate"). The Liquidation Value of the Series 6 Class F Preferred Stock shall be \$1,000 per outstanding share of the Series 6 Class F Preferred Stock (the "Liquidation Value"). The dividend is payable semi-annually within seven (7) business days after each of December 31 and June 30 of each year, commencing December 31, 1997 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 6 Class F Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record of the Series 6 Class F Preferred Stock as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from September 16, 1997. In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on an outstanding share of the Series 6 Class F Preferred Stock in Common Stock of the Corporation the holder of such share shall receive that number of shares of Common Stock of the Corporation equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or the average closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"). Times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid, and the denominator of which is 365. Dividends on the Series 6 Class F Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 6 Class F Preferred Stock shall have been paid or declared and set aside for payment.

Part 4-Conversion. The holders of the Series 6 Class F Preferred Stock shall have rights to convert the shares of Series 6 Class F Preferred Stock into shares of the Corporation's Common Stock, par value \$.001 per share ("Common Stock"), as follows (the "Conversion Rights"):

4.1 **Right to Convert.** The Series 6 Class F Preferred Stock shall be convertible into shares of Common Stock, as follows:

- 4.1.1 Up to one thousand two hundred fifty (1,250) shares of Series 6 Class F Preferred Stock may be converted at the Conversion Price (as that term is defined in Section 4.2 below) at any time on or after October 5, 1997; and,
- 4.1.2 Up to an additional one thousand two hundred fifty (1,250) shares of Series 6 Class F Preferred Stock may be converted at the Conversion Price at any time on or after November 5, 1997.

4.2 **Conversion Price.** Subject to the terms hereof, as used herein, the Conversion Price per outstanding share of Series 6 Class F Preferred Stock shall be \$1,8125, except that, in the event the average closing bid price per share of the Common Stock for 20 of any 30 consecutive trading days after March 1, 1998 shall be less than \$2.50 as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, the Conversion Price shall thereafter be the product of the lesser of (i) the average closing bid quotation of the Common Stock as reported on the over-the-counter market or the closing sale price if listed on a national securities exchange, for the five trading days immediately preceding the date of the Conversion Notice referred to in Section 4.3 below multiplied by eighty percent (80%) or (ii) \$1.8125. Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$.75 per share ("Minimum Conversion Price"), which Minimum Conversion Price shall be eliminated from and after September 6, 1998. If any of the outstanding shares of Series 6 Class F Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4 the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 6 Class F Preferred Stock so surrendered for conversion by (b) the Conversion Price as of such conversion. At the time of conversion of shares of the Series 6 Class F Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of whole shares of Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 6 Class F Preferred Stock so converted divided by the Stock Dividend Price as defined in Part 3 hereof, in effect at the date of conversion.

4.3 Mechanics of Conversion. Any holder of the Series 6 Class F Preferred Stock who wishes to exercise its Conversion Rights pursuant to Section 4.1 of this Part 4 must, if such shares are not being held in escrow by the Corporation's attorneys, surrender the certificate therefor at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion Notice"). In the event that the shares of Series 6 Class F Preferred Stock are being held in escrow by the Corporation's attorneys, no delivery of the certificates shall be required. No Conversion Notice with respect to any shares of Series 6 Class F Preferred Stock can be given prior to the time such shares of Series 6 Class F Preferred Stock are eligible for conversion in accordance with the provision of Section 4.1 above, except as provided in Section 4.4. Any such premature Conversion Notice shall automatically be null and void. The Corporation shall, within five (5) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 6 Class F Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed that until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 6 Class F Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 6 Class F Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (or in the event that no surrender of the Certificate is required, then only upon the receipt by the Corporation of the Conversion Notice) (the "Conversion Documents"), and the person or entity whose name is noted on the certificate evidencing such shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received. If the Corporation fails to deliver to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion within seven (7) business days after receipt by the Corporation from the holder of an appropriate and timely Conversion Notice and certificates pursuant to the terms of this Section 4.3 ("Seven (7) Business Day Period"), then, upon the written demand of RBB Bank Aktiengesellschaft ("RBB Bank"), the holder of the Series 6 Class F Preferred Stock, for payment of the penalty described below in this Section 4.3, which demand must be received by the Corporation no later than ten (10) calendar days after the expiration of such Seven (7) Business Day Period, the Corporation shall pay to RBB Bank the following penalty for each business day after the Seven (7) Business Day Period until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion: business day eight (8) - U.S. \$1,000; business day nine (9) - U.S. \$2,000, and each business day thereafter an amount equal to the penalty due on the immediately preceding business day times two (2) until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion.

4.4 Merger or Consolidation. In case of either (a) any merger or consolidation to which the Corporation is a party (collectively the “Merger”), other than a Merger in which the Corporation is the surviving or continuing corporation or (b) any sale or conveyance to another corporation of all or substantially all, of the assets of the Corporation (collectively, the “Sale”), and such Merger or Sale becomes effective (x) while any shares of Series 6 Class F Preferred Stock are outstanding and prior to the date that the Corporation’s Registration Statement covering up to 1,379,500 shares of Common Stock issuable upon the conversion of the Series 6 Class F Preferred Stock is declared effective by the U. S. Securities and Exchange Commission or (y) prior to the end of the restriction periods in Section 4.1, then, in such event, the Corporation or such successor corporation, as the case may be, shall make appropriate provision so that the holder of each share of Series 6 Class F Preferred Stock then outstanding shall have the right to convert such share of Series 6 Class F Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Series 6 Class F Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Part 4.

4.5 Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock. If the Corporation at any time or from time to time while shares of Series 6 Class F Preferred Stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.

4.6 Adjustments for Reclassification and Reorganization. If the Common Stock issuable upon conversion of the Series 6 Class F Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.4 hereof), the Conversion Price shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 6 Class F Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 6 Class F Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 6 Class F Preferred Stock immediately before that change.

4.7 **Common Stock Duly Issued.** All Common Stock which may be issued upon conversion of Series 6 Class F Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.

4.8 **Notice of Adjustments.** Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 6 Class F Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.

4.9 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 6 Class F Preferred Stock pursuant thereto; Provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 6 Class F Preferred Stock in connection with such conversion.

4.10 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 6 Class F Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 6 Class F Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 6 Class F Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.

4.11 **Fractional Shares.** No fractional shares shall be issued upon the conversion of any share or shares of Series 6 Class F Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 6 Class F Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.

4.12 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 6 Class F Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.

4.13 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or is permitted to close.

Part 5 - Redemption.

5.1 **Redemption at Corporation’s Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, after the expiration of one (1) year from June 9, 1997, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, the then outstanding Series 6 Class F Preferred Stock at the following cash redemption prices per share (the “Redemption Price”) if redeemed during the following periods: (a) within four years from June 9, 1997 - \$1,300 per share, if at any time during such four year period the average of the closing bid price of the Common Stock for ten consecutive trading days shall be in excess of Four Dollars (\$4.00) per share, and (b) after four years from June 9, 1997 - \$1,000 per share.

5.2 **Mechanics of Redemption.** Thirty days prior to any date stipulated by the Corporation for the redemption of Series 6 Class F Preferred Stock (the “Redemption Date”), written notice (the “Redemption Notice”) shall be mailed to each holder of record on such notice date of the Series 6 Class F Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 6 Class F Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 6 Class F Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 6 Class F Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first 180 days from the date of issuance of the Series 6 Class F Preferred Stock, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.3 **Rights of Conversion Upon Redemption.** If the redemption occurs after the first 180 days after the first issuance of Series 6 Class F Preferred Stock, then, upon receipt of the Redemption Notice, any holder of Series 6 Class F Preferred Stock shall have the option, at its sole election, to specify what portion of its Series 6 Class F Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof except that notwithstanding any provision of such Part 4 to the contrary, such holder shall have the right to convert into Common Stock that number of Series 6 Class F Preferred Stock called for redemption in the Redemption Notice.

5.4 **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 6 Class F Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.6 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 6 Class F Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

5.5 **Payment.** On the Redemption Date in respect of any Series 6 Class F Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 6 Class F Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 6 Class F Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 6 Class F Preferred Stock and Priority.

6.1 **Rateable Participation.** If any cumulative dividends or return of capital in respect of Series 6 Class F Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:

- 6.2.1 Prior or senior to the shares of this Series 6 Class F Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary, or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 6 Class F Preferred Stock;
- 6.2.2 On a parity with, or equal to, shares of this Series 6 Class F Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 6 Class F Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other as between the holders of such stock and the holders of shares of this Series 6 Class F Preferred Stock; and,
- 6.2.3 Junior to shares of this Series 6 Class F Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 6 Class F Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Amendment and Reissue.

7.1 **Amendment.** If any proposed amendment to the Corporation's Certificate of Incorporation (the "Articles") would alter or change the powers, preferences or special rights of the Series 6 Class F Preferred Stock so as to affect such adversely, then the Corporation must obtain the affirmative vote of such amendment to the Articles at a duly called and held series meeting of the holders of the Series 6 Class F Preferred Stock or written consent by the holders of a majority of the Series 6 Class F Preferred Stock then outstanding. Notwithstanding the above or the provisions of the GCL, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of this Section 7.1 or Section 242 of the GCL.

7.2 **Authorized.** Any Shares of Series 6 Class F Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

**CERTIFICATE OF DESIGNATIONS
OF SERIES 7 CLASS G CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

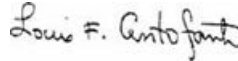
Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 7 Class G Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 7 Class G Convertible Preferred Stock as set forth in the attached resolutions.

Dated: November 12, 1997

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By



Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES, RESTRICTIONS AND CONDITIONS ATTACHING TO THE SERIES 7 CLASS G CONVERTIBLE PREFERRED STOCK

WHEREAS, the Corporation's capital includes preferred stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by resolutions adopted by the directors, and with the directors being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences and relative, participating, optional or other special rights and privileges, restrictions and conditions attaching to the shares of each such series;

WHEREAS, it is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 7 Class G Convertible Preferred Stock, par value \$.001 per share (the "Series 7 Class G Preferred Stock");

NOW, THEREFORE, BE IT RESOLVED, that the Series 7 Class G Preferred Stock shall consist of three hundred (350) shares and no more and shall be designated as the Series 7 Class G Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 7 Class G Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights.

1.1 **Voting Rights.** Except as otherwise provided in Part 7 hereof or under the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 7 Class G Preferred Stock shall have no voting rights whatsoever. To the extent that under Part 7 hereof or the GCL the vote of the holders of the Series 7 Class G Preferred Stock, voting separately as a class or series as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the holders of at least a majority of the shares of the Series 7 Class G Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of a majority of the shares of Series 7 Class G Preferred Stock (except as otherwise may be required under the GCL) shall constitute the approval of such action by the series. To the extent that under the GCL or Part 7 hereof, the holders of the Series 7 Class G Preferred Stock are entitled to vote on a matter, each share of the Series 7 Class G Preferred Stock shall be entitled one (1) vote for each outstanding share of Series 7 Class G Preferred Stock. Holders of the Series 7 Class G Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote, which notice would be provided pursuant to the Corporation's bylaws and applicable statutes.

1.2 **No Preemptive Rights.** The Series 7 Class G Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 7 Class G Preferred Stock shall be outstanding, the holders of the then outstanding Series 7 Class G Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Corporation's Common Stock equal to \$1,000 consideration per outstanding share of Series 7 Class G Preferred Stock, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 7 Class G Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After Payment.** After the payment to the holders of the shares of the Series 7 Class G Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 7 Class G Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to Pay Full Liquidation Preference.** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 7 Class G Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class Or series of Preferred Stock ranking on a parity with the shares of this Series 7 Class G Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 7 Class G Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 7 Class G Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends. The holders of the Series 7 Class G Preferred Stock are entitled to receive if, when and as declared by the Board out of funds legally available therefor, cumulative dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), of any combination thereof, at the Corporation's election, at the rate of four percent (4%) per annum of the Liquidation Value (as defined below) of each issued and outstanding share of Series 7 Class G Preferred Stock (the "Dividend Rate"). The Liquidation Value of the Series 7 Class G Preferred Stock shall be \$1,000 per outstanding share of the Series 7 Class G Preferred Stock (the "Liquidation Value"). The dividend is payable semi-annually within Seven (7) business days after each of December 31 and June 30 of each year, commencing December 31, 1997 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 7 Class G Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record of the Series 7 Class G Preferred Stock as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from the date of issuance of the Series 7 Class G Preferred Stock. In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on an outstanding share of the Series 7 Class G Preferred Stock in Common Stock of the Corporation, the holder of such share shall receive that number of shares of Common Stock of the Corporation equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or the average closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid, and the denominator of which is 365. Dividends on the Series 7 Class G Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 7 Class G Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 7 Class G Preferred Stock shall have rights to convert the shares of Series 7 Class G Preferred Stock into shares of the Corporation's Common Stock, par value \$.001 per share ("Common Stock"), as follows (the "Conversion Rights"):

4.1 **Right to Convert.** The Series 7 Class G Preferred Stock shall be convertible into shares of Common Stock, as follows:

- 4.1.1 Up to one hundred seventy-five (175) shares of Series 7 Class G Preferred Stock may be converted at the Conversion Price (as that term is defined in Section 4.2 below) at any time on or after November 3, 1997; and,

4.1.2 Up to an additional one hundred seventy-five (175) shares of Series 7 Class G Preferred Stock may be converted at the Conversion Price at any time on or after December 3, 1997.

4.2 Conversion Price. Subject to the terms hereof, as used herein, the Conversion Price per outstanding share of Series 7 Class G Preferred Stock shall be \$1.8125 except that, in the event the average closing bid price of the Common Stock for 20 of 30 consecutive trading days after March 1, 1998 shall be less than \$2.50, the Conversion Price shall thereafter be the product of the lesser of (i) the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five trading days immediately preceding the date of the Conversion Notice referred to in Section 4.3 below multiplied by eighty percent (80%) or (ii) \$1.8125. Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$.75 per share ("Minimum Conversion Price"), which Minimum Conversion Price shall be eliminated from and after September 6, 1998. If any of the outstanding shares of Series 7 Class G Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 7 Class G Preferred Stock so surrendered for conversion by (b) the Conversion Price as of such conversion. At the time of conversion of shares of the Series 7 Class G Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividend, issue that number of whole shares of Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 7 Class G Preferred Stock so converted divided by the Stock Dividend Price, as defined in Part 3 hereof, in effect at the date of conversion.

4.5 Adjustments for Reclassification and Reorganization. If the Common Stock issuable upon conversion of the Series 7 Class G Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.4 hereof), the Conversion Price shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 7 Class G Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 7 Class G Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 7 Class G Preferred Stock immediately before that change.

4.6 **Common Stock Duly Issued.** All Common Stock which may be issued upon conversion of Series 7 Class G Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.

4.7 **Notice of Adjustments.** Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 7 Class G Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.

4.8 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes (that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 7 Class G Preferred Stock pursuant thereto; provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 7 Class G Preferred Stock in connection with such conversion.

4.9 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 7 Class G Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 7 Class G Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 7 Class G Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.

4.10 **Fractional Shares.** No fractional shares shall be issued upon the conversion of any share of shares of Series 7 Class G Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 7 Class G Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.

4.11 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 7 Class G Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.

4.12 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or is permitted to close.

Part 5 - Redemption.

5.1 **Redemption at Corporation’s Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, after the expiration of one (1) year from July 7, 1997, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, the then outstanding Series 7 Class G Preferred Stock at the following cash redemption prices per share (the “Redemption Price”) if redeemed during the following periods: (a) within four years from July 7, 1997 - \$1,300 per share, if at any time during such four year period the average of the closing bid price of the Common Stock for ten consecutive trading days shall be in excess of Four U.S. Dollars (\$4.00) per share, and (b) after four years from July 7, 1997 - \$1.000 per share.

5.3 **Mechanics of Redemption.** Thirty days prior to any date stipulated by the Corporation for the redemption of Series 7 Class G Preferred Stock (the “Redemption Date”), written notice (the “Redemption Notice”) shall be mailed to each holder of record on such notice date of the Series 7 Class G Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 7 Class G Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 7 Class G Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 7 Class G Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first 180 days from the date of issuance of the Series 7 Class G Preferred Stock, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.4 **Rights of Conversion Upon Redemption.** If the redemption occurs after the first 180 days after the first issuance of Series 7 Class G Preferred Stock, then, upon receipt of the Redemption Notice, any holder of Series 7 Class G Preferred Stock shall have the option, at its sole election, to specify what portion of its Series 7 Class G Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof, except that, notwithstanding any provision of such Part 4 to the contrary, such holder shall have the right to convert into Common Stock that number of Series 7 Class G Preferred Stock called for redemption in the Redemption Notice.

5.5 **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 7 Class G Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.6 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 7 Class G Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

5.6 **Payment.** On the Redemption Date in respect of any Series 7 Class G Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 7 Class G Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 7 Class G Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 7 Class G Preferred Stock and Priority.

6.1 **Rateable Participation.** If any cumulative dividends or return of capital in respect of Series 7 Class G Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:

- 6.2.1 Prior or senior to the shares of this Series 7 Class G Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 7 Class G Preferred Stock;
- 6.2.2 On a parity with, or equal to, shares of this Series 7 Class G Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 4 Class C Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 7 Class G Preferred Stock; and,
- 6.2.3 Junior to shares of this Series 7 Class G Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 7 Class G Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Amendment and Reissue.

7.1 **Amendment.** If any proposed amendment to the Corporation's Certificate of Incorporation (the "Articles") would alter or change the powers, preferences or special rights of the Series 7 Class G Preferred Stock so as to affect such adversely, then the Corporation must obtain the affirmative vote of such amendment to the Articles at a duly called and held series meeting of the holders of the Series 7 Class G Preferred Stock or written consent by the holders of a majority of the Series 7 Class G Preferred Stock then outstanding. Notwithstanding the above or the provisions of the GCL, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of this Section 7.1 or Section 242 of the GCL.

7.2 **Authorized.** Any shares of Series 7 Class G Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

**CERTIFICATE OF ELIMINATION
OF
SERIES 4 CLASS D CONVERTIBLE PREFERRED STOCK
AND
SERIES 5 CLASS E CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Corporation"), hereby certifies the following:

1. That the Certificate of Designations of Series 4 Class D Convertible Preferred Stock of the Corporation (the "Series 4 Preferred") was filed on June 11, 1997 (the "Series 4 Certificate of Designations").

2. That all outstanding shares of the Series 4 Preferred have been delivered to the Company and exchanged upon agreement with the holder thereof pursuant to the terms and conditions of a certain Exchange Agreement between the Company and RBB Bank Aktiengesellschaft, dated effective as of September 16, 1997.

3. That no shares of Series 4 Preferred remain outstanding.

4. That all shares of the Series 4 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

5. That effective September 16, 1997, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 4 Class D Convertible Preferred Stock, no authorized shares of Series 4 Class D Convertible Preferred Stock will remain outstanding and no shares of Series 4 Class D Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 4 Class D Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 4 Class D Convertible Preferred Stock.

6. That the Certificate of Designations of the Series 5 Class E Convertible Preferred Stock of the Corporation (the "Series 5 Preferred") was filed on July 14, 1997 (the "Series 5 Certificate of Designations").

7. That all outstanding shares of the Series 5 Preferred have been delivered to the Company and exchanged upon agreement with the holder thereof pursuant to the terms and conditions of a certain Exchange Agreement between the Company and The Infinity Fund, L.P., dated effective as of September 16, 1997.

8. That no shares of Series 5 Preferred remain outstanding.

9. That all shares of the Series 5 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

10. That effective September 16, 1997, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 5 Class E Convertible Preferred Stock, no authorized shares of Series 5 Class E Convertible Preferred Stock will remain outstanding and no shares of Series 5 Class E Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 5 Class E Convertible Preferred Stock.

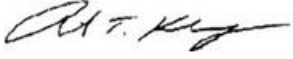
FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 5 Class E Convertible Preferred Stock.

11. That pursuant to the provisions of § 151(g) of the Delaware General Corporation Law, upon the effective date of the filing of this Certificate, this Certificate will have the effect of eliminating from the Restated Certificate of Incorporation only those matters set forth in the Restated Certificate of Incorporation with respect to the Series 4 Class D Convertible Preferred Stock and the Series 5 Class E Convertible Preferred Stock.

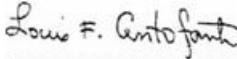
IN WITNESS WHEREOF, this Certificate of Elimination has been executed this 20th day of November, 1997 by the President of the Company.

ATTEST:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.



Richard T. Kelecy, Secretary

By 

Dr. Louis F. Centofanti, President

(SEAL)

**CERTIFICATE OF DESIGNATIONS
OF RIGHTS AND PREFERENCES OF THE
SERIES 10 CLASS J CONVERTIBLE PREFERRED STOCK OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

We, being respectively the President and Secretary of Perma-Fix Environmental Services, Inc. a corporation organized and existing under the laws of the State of Delaware (hereinafter the "Corporation"), DO HEREBY CERTIFY:

FIRST:

That pursuant to authority expressly granted and vested in the Board of Directors of said Corporation under Section 151 of the Delaware General Corporation Law (the "GCL"), and the provisions of the Corporation's Restated Certificate of Incorporation, said Board of Directors, on June 30th, 1998 (the "Closing Date"), adopted the following resolution setting forth the designations, powers, preferences and rights of its Series 10 Class J Convertible Preferred Stock (the "Certificate of Designations").

RESOLVED: That the designations, powers, preferences and rights of the Series 10 Class J Convertible Preferred Stock be, and they hereby are, as set forth below:

1. Number or Shares of Common Stock of Series 10 Class J Convertible Preferred Stock

The Corporation hereby authorizes the issuance of 3,000 (three thousand,) shares of Series 10 Class J Convertible Preferred Stock par value \$.001 per share (the "Preferred Stock"). This Preferred Stock shall pay an annual dividend based on a 365 day calendar year of 4% of the Liquidation Value (as defined in Section 3 hereof) ("Dividend Rate"), payable semiannually within ten (10) business days after each subsequent June 30th and December 31st (each a "Dividend Declaration Date"), and shall be payable in cash or shares of the Corporation's par value \$.001 per share common stock (Common Stock) at the Corporation's option. The first Dividend Declaration Date shall be December 31st, 1998.

In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on the outstanding shares of Preferred Stock in Common Stock of the Corporation, the Holder of each share of Preferred Stock shall receive that number of shares of Common Stock equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange, the average closing bid price of the Common Stock as quoted on such national exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid, and the denominator of which is 365. Dividends on the Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Preferred Stock shall have been paid or declared and set aside for payment.

2. Voting.

(a) Except as provided under Section 242 of the GCL, holders of Preferred Stock (the "Holders") shall not have the right to vote on any matter. Notwithstanding the provisions of Section 242 of the GCL or Section 4 hereof, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of Section 242 of the GCL.

3. Liquidation.

In the event of a voluntary or involuntary dissolution, liquidation, or winding up of the Corporation, the Holders of Preferred Stock shall be entitled to receive out of the assets of the Corporation legally available for distribution to holders of its capital stock, before any payment or distribution shall be made to holders of shares of Common Stock or any other class of stock ranking junior to the Preferred Stock, an amount per share of Preferred Stock equal to \$1,000 (the "Liquidation Value") plus any accrued and unpaid dividends on the Preferred Stock. If upon such liquidation, dissolution, or winding up of the Corporation, whether voluntary or involuntary, the assets to be distributed among the Holders of Preferred Stock shall be insufficient to permit payment to the Holders of Preferred Stock of the amount distributable as aforesaid, then the entire assets of the Corporation to be so distributed shall be distributed ratably among the Holders of Preferred Stock and shares of such other classes or series ranking on a parity with the shares of this Preferred Stock in proportion to the full distributable amounts for which holders of all such parity shares are entitled upon such distribution, liquidation, or winding up. Upon any such liquidation, dissolution or winding up of the Corporation, after the Holders of Preferred Stock shall have been paid in full the amounts to which they shall be entitled, the remaining net assets of the Corporation may be distributed to the holders of stock ranking on liquidation junior to the Preferred Stock and the Holders of the Preferred Stock shall have no right or claim to any of the remaining assets of the Corporation. Written notice of such liquidation, dissolution or winding up, stating a payment date, the amount of the liquidation payments and the place where said liquidation payments shall be payable, shall be given by mail, postage prepaid or by telex or facsimile to non-U.S. residents, not less than 10 days prior to the payment date stated therein, to the Holders of record of Preferred Stock, such notice to be addressed to each such Holder at its address as shown by the records of the Corporation. For purposes hereof the shares of Common Stock, shall rank on liquidation junior to the Preferred Stock.

4. Restrictions.

The Corporation will not amend or modify the terms of its Restated Certificate of Incorporation so as to adversely alter or change the Preferred Stock at any time when shares of Preferred Stock are outstanding, without the approval of the Holders of at least a majority of the then outstanding shares of Preferred Stock given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a series, except where the vote or written consent of the Holders of a greater number of shares of Common Stock of the Corporation is required by law or by the Corporation's Certificate of Incorporation, as amended.

5. Optional Conversion.

The Holders of shares of Preferred Stock shall have the following conversion rights to convert the shares of Preferred Stock into shares of Common Stock of the Corporation:

(a) **Conversion Dates.** The Holder of any share or shares of Preferred Stock may convert cumulatively any of such Preferred Stock at any time subsequent to 180 days after the Closing Date.

(b) **Right to Convert; Conversion Price.** Subject to the terms hereof, as used herein, the term Conversion Price per outstanding share of Preferred Stock shall be One Dollar and 875/100 (\$1 .875); except that after the expiration of one hundred and eighty (180) days after the Closing Date if the average of the closing bid price per share of Common Stock quoted on the NASDAQ (or the closing bid price of the Common Stock as quoted on the national securities exchange if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange) for the five (5) trading days immediately prior to the particular date of each Conversion Notice (as defined below) is less than Two Dollars and 34/100 (\$2.34), then the Conversion Price for that particular conversion shall be eighty percent (80%) of the average of the closing bid price of the Common Stock on the NASDAQ (or if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange then eighty percent (80%) of the average of the closing bid price of the Common Stock on the national securities exchange) for the five (5) trading days immediately prior to the particular date of the Conversion Notice. If any of the outstanding shares of Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Section 5(b), the number of shares of whole Common Stock to be issued to the Holder as a result of such conversion shall be determined by dividing (a) the aggregate Stated Value of the Preferred Stock so surrendered for conversion by (b) the Conversion Price in effect on the date of that particular Conversion Notice relating to such conversion. At the time of conversion of shares of the Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon on the shares of Preferred so converted to the date of the Conversion Notice relating to such conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of shares of whole Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of the Conversion Notice relating to such conversion of the shares of Preferred Stock so converted divided by the Stock Dividend Price, in effect at the date of the Conversion Notice relating to such conversion.

(c) **Conversion Notice.** The right of conversion shall be exercised by the Holder thereof by telecopying or faxing an executed and completed written notice signed by an authorized representative of the Holder, ("Conversion Notice") to the Corporation that the Holder elects to convert a specified number of shares of Preferred Stock representing a specified Stated Value thereof into shares of Common Stock and by delivering by express courier the certificate or certificates of Preferred Stock being converted to the Corporation at its principal office (or such other office or agency of the Corporation as the Corporation may designate by notice in writing to the Holders of the Preferred Stock), The business date indicated on a Conversion Notice which is telecopied to and received by the Corporation in accordance with the provisions hereof shall be deemed a Conversion Date. The Conversion Notice shall include therein the Stated Value of shares of Preferred Stock to be converted, and a calculation (a) of the Stock Dividend Price, (b) the Conversion Price, and (c) the number of Shares of Common Stock to be issued in connection with such conversion. The Corporation shall have the right to review the calculations included in the Conversion Notice, and shall provide notice of any discrepancy or dispute therewith within three (3) business days of the receipt thereof. The Holder shall deliver to the Corporation an original Conversion Notice and the original Preferred to be converted within three (3) business days from the date of the Conversion Notice.

(d) **Issuance of Certificates - Time Conversion Effected.** Promptly, but in no event more than six (6) business days, after the receipt by facsimile of the Conversion Notice referred to in Subparagraph (5)(c); and provided within the six (6) business days the Corporation receives the certificate or certificates for the shares of Preferred Stock to be converted, the Corporation shall issue and deliver, or cause to be issued and delivered, to the Holder, registered in the name of the Holder, a certificate or certificates for the number of whole shares of Common Stock into which such shares of Preferred Stock are converted. Such conversion shall be deemed to have been effected as of the close of business on the date on which the telecopy or facsimile Conversion Notice shall have been received by the Corporation, and the rights of the Holder of such share or shares of Preferred Stock shall cease, at such time, and the Holder or Holders shall be deemed to have become the Holder or Holders of record of the shares of Common Stock represented thereby. In the event that the shares of Common Stock issuable upon conversion of the Preferred, is not delivered within six (6) business days of the date the Company receives the Conversion Notice, the Company shall pay to the Buyer, by wire transfer, as liquidated damages for such failure and not as a penalty, for each \$100,000 of Preferred sought to be converted, \$500 for each of the first five (5) calendar days and \$1,000 per calendar day thereafter that the shares of Common Stock are not delivered, which liquidated damages shall begin to run from the seventh (7th) business day after the Conversion Date. Any and all payments required pursuant to this paragraph shall be payable only in cash. Notwithstanding the above, liquidated damages shall not exceed \$2,000.00 per day. In addition to the liquidated damages set forth herein, in the event the Company fails to deliver the shares of Common Stock within six (6) business days after the Conversion date, the Company agrees to issue the larger number of shares of Common Stock derived from (i) the original Conversion Notice, or (ii) utilizing the five lowest closing bid prices of the Company's shares of Common Stock beginning on the Conversion Date and ending on the day the shares of Common Stock are delivered. The Company understands that a delay in the issuance of the shares of Common Stock could result in economic loss to the Holder. Nothing contained herein, or in the Preferred shall limit the Holder's rights to pursue actual damages for the Company's failure to issue and deliver shares of Common Stock to the Holder in accordance with the terms of the Certificate of Designations, and this Agreement.

(e) **Fractional Shares of Common Stock.** No fractional shares of Common Stock shall be issued upon conversion of any Preferred Stock into shares of Common Stock. All fractional shares of Common Stock shall be aggregated and then rounded down to the nearest whole share of Common Stock. In case the number of shares of Preferred Stock represented by the certificate or certificates surrendered pursuant to Subparagraph 5(b) exceeds the number of shares of Common Stock converted, the Corporation shall, upon such conversion, execute and deliver to the Holder, at the expense of the Corporation, a new certificate or certificates for the number of shares of Preferred Stock represented by the certificate or certificates surrendered which are not to be converted.

(f) **Merger or Consolidation.** In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the “Merger”), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the “Sale”), and such Merger or Sale becomes effective (x) while any shares of Preferred Stock are outstanding and prior to the date that the Corporation’s Registration Statement covering all the shares of Common Stock issuable upon the conversion of the Preferred Stock is declared effective by the U.S. Securities and Exchange Commission (“Commission”), the Corporation or such successor corporation as the case may be, shall make appropriate provision so that the Holder of each share of Preferred Stock then outstanding shall have the right to convert such share of Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 5.

In the event of a Merger or Sale, where the Corporation is not the surviving Corporation, the Holder shall have the right to redeem all of the outstanding shares of Preferred Stock at 120% of the Liquidation Value of each share of Preferred Stock then outstanding plus all accrued and unpaid dividends (the "Redemption Amount"). The Corporation shall pay this Redemption Amount in cash within ten (10) business days of receipt by the Corporation of notice from the Holder, and receipt by the Corporation of all outstanding shares of Preferred Stock duly endorsed by the Holder to the Corporation.

(g) Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock. If the Corporation at any time or from time to time while shares of Preferred Stock are issued and outstanding shall declare or pay, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.

(h) Adjustments for Reclassification and Reorganization. If the Common Stock issuable upon conversion of the Preferred Stock shall be changed into the same or a different number of shares of Common Stock of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination or shares of Common Stock provided for in Section 5(g) hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Preferred Stock would otherwise have been entitled to receive, a number of shares of Common Stock of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Preferred Stock immediately before that change.

6. Assignment.

Subject to all applicable restrictions on transfer, the rights and obligations of the Corporation and the Holder of the Preferred Stock shall be binding upon and benefit the successors, assigns, heirs, administrators, and transferees of the parties.

7. Shares of Common Stock to be Reserved.

The Corporation, upon the effective date of this Certificate of Designations, has a sufficient number of shares of Common Stock available to reserve for issuance upon the conversion of all outstanding shares of Preferred Stock, pursuant to the terms and conditions set forth in Section 5, and exercise of the Warrants as defined in Section 11. The Corporation will at all times reserve and keep available out of its authorized shares of Common Stock, solely for the purpose of issuance upon the conversion of Preferred Stock, and exercise of the Warrants, as herein provided, such number of shares of Common Stock as shall then be issuable upon the conversion of all outstanding shares of Preferred Stock, and exercise of the Warrants. The Corporation covenants that all shares of Common Stock which shall be so issued shall be duly and validly issued, fully paid and non assessable. The Corporation will take such action as may be required, if the total number of shares of Common Stock issued and issuable after such action upon conversion of the Preferred Stock, and exercise of the Warrants would exceed the total number of shares of Common Stock then authorized by the Corporation's Certificate of Incorporation, as amended, or would exceed 19.99% of the shares of Common Stock then outstanding if required by law or the Rules and Regulations of NASDAQ or the National Securities Exchange applicable to the Corporation to take such action as a result of exceeding such 19.99%, in order to increase the number of shares of Common Stock to permit the Corporation to issue the number of shares of Common Stock required to effect conversion of the Preferred, and exercise of the Warrants, to a number sufficient to permit conversion of the Preferred Stock, and exercise of the Warrants, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to the Corporation's Restated Certificate of Incorporation, and to obtain shareholders approval in order to effect conversion of the Preferred Stock, and exercise of the Warrants, if required by law or the rules or regulations of the NASDAQ or National Securities Exchange applicable to the Corporation.

7(a) Shareholder Approval. In connection with the issuance to the Holder of the shares of Preferred Stock, pursuant to this Certificate of Designations, the Corporation is also issuing (i) certain warrants ("RBB Warrants") to the Holder pursuant to the terms of that certain Private Securities Subscription Agreement dated June 30th, 1998 (the "Agreement"), providing for the purchase of up to 150,000 shares of Common Stock at an exercise price of \$2.50 per share and (ii) certain warrants (collectively, the "Liviakis Warrants") to Liviakis Financial Communication, Inc. ("Liviakis") and Robert B. Prag providing for the purchase of up to an aggregate of 2,500,000 shares of Common Stock at an exercise price of \$1 .875 per share pursuant to the terms of that Placement and Consulting Agreement dated June 30th, 1998, between Liviakis and the Corporation.

If (i) the aggregate number of shares of Common Stock issued by the Corporation as a result of any or all of the following: (a) conversion of the Preferred Stock, (b) payment of dividends accrued on the Preferred Stock (c) exercise of the RBB Warrants, and (d) exercise of the Liviakis Warrants exceeds 2,388,347 shares of Common Stock (which equals 19.9% of the outstanding shares of Common Stock of the Corporation as of the date of this Certificate of Designations) and (ii) the Holder has converted or elects to convert any of the then outstanding shares of Preferred Stock pursuant to the terms of this Section 5 at a Conversion Price less than \$1.875 (\$1.875 the market value per share of Common Stock as quoted on the NASDAQ as of the close of business on June 30th, 1998) pursuant to the terms of Section 5(b) hereof, other than if the Conversion Price is less than \$1.875 solely as a result of the anti-dilution provisions of Section 5(g) and (h) hereof, then, notwithstanding anything in Section 5 to the contrary, the Corporation shall not issue any shares of Common Stock as a result of receipt of a Conversion Notice unless and until the Corporation shall have obtained approval of its shareholders entitled to vote on the transactions in accordance with subparagraphs (25)(H)(i)d, (iv) and (v) of Rule 4310 of the NASDAQ Marketplace Rules ("Shareholder Approval").

If Shareholder Approval is required as set forth in the above paragraph, the Corporation shall take all necessary steps to obtain such Shareholder Approval upon receipt of the Conversion Notice triggering the need for Shareholder Approval ("Current Conversion Notice"). If the Corporation has not received from the Holder a Current Conversion Notice, the Holder, subsequent to January 1st, 1999 may, if the Corporation's shares of Common Stock trade, subsequent to January 1st, 1999, at a five (5) day average closing bid price below Two Dollars and 34/100 (\$2.34), upon written notice to the Corporation, require the Corporation to obtain Shareholder Approval ("Holder's Notice"). The Holder and the Corporation's officers and directors covenant to vote all shares of Common Stock over which they have voting control in favour of Shareholder Approval. If the Corporation does not obtain Shareholder Approval within ninety (90) days of the earlier of the Corporation's receipt of (i) the Current Conversion Notice or (ii) the Holder's Notice, and the Holder has not breached its covenant to vote all shares of Common Stock over which they have voting control in favour of Shareholder Approval, the Corporation shall pay in cash to the Holder liquidated damages, in an amount of 4% per month of the Liquidation Value of each share of Preferred Stock then outstanding, commencing on the 91st day of the Corporation's receipt of the Holder's Current Conversion Notice, and continuing every thirty (30) days pro-rata until such time the Corporation receives Shareholder Approval.

8. No Reissuance of Series 10 Class J Convertible Preferred Stock.

Shares of Preferred Stock which are converted into shares of Common Stock as provided herein shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred stock hereafter created.

9. Closing of Books.

The Corporation will at no time close its transfer books against the transfer of any Preferred Stock or of any shares of Common Stock issued or issuable upon the conversion of any shares of Common Stock of Preferred Stock in any manner which interferes with the timely conversion of such Preferred Stock, except as may otherwise be required to comply with applicable securities laws.

10. No Preemptive Rights.

The Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

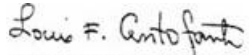
11. Definition of Shares.

As used in this Certificate of Designations, the term "shares of Common Stock" shall mean and include the Corporation's authorized common stock, par value \$.001, as constituted on the date of filing of these terms of the Preferred Stock, or in case of any reorganization, reclassification, or stock split of the outstanding shares of Common Stock thereof, the stock, securities or assets provided for hereof. The term "Warrants" as used herein shall have the same meaning as defined in Section 1 of the Private Securities Subscription Agreement, dated June 30th 1998, between the Company and RBB Bank Aktiengesellschaft.

The said determination of the designations, preferences and relative, participating, optional or other rights, and the qualifications, limitations or restrictions thereof, relating to the Preferred Stock was duly made by the Board of Directors pursuant to the provisions of the Corporation's Restated Certificate of Incorporation and in accordance with the provisions of the Delaware General Corporation Law.

IN WITNESS HEREOF, this Certificate of Designations has been signed by:

Dr. Louis F. Centofanti, President on this 30th day of June, 1998.



President, Perma-Fix Environmental Services, Inc.

Richard T. Kelecy, Secretary on this 30th day of June, 1998



Secretary, Perma-Fix Environmental Services, Inc.

**CERTIFICATE OF ELIMINATION
OF
SERIES 6 CLASS F CONVERTIBLE PREFERRED STOCK
AND
SERIES 7 CLASS G CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

PERMA-FIX ENVIRONMENTAL SERVICES, INC. a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Corporation"), hereby certifies the following:

1. That the Certificate of Designations of Series 6 Class F Convertible Preferred Stock of the Corporation (the "Series 6 Preferred") was filed with the Delaware Secretary of State on November 13, 1997 (the "Series 6 Certificate of Designations").
2. That all outstanding shares of the Series 6 Preferred have been delivered to the Company and exchanged upon agreement with the holder thereof pursuant to the terms and conditions of a certain Second RBB Exchange Agreement between the Company and RBB Bank Aktiengesellschaft, dated effective as of February 28, 1998.
3. That no shares of Series 6 Preferred remain outstanding.
4. That all shares of the Series 6 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.
5. That effective February 28, 1998, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 6 Class F Convertible Preferred Stock, no authorized shares of Series 6 Class F Convertible Preferred Stock will remain outstanding and no shares of Series 6 Class F Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 6 Class F Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 6 Class F Convertible Preferred Stock.

6. That the Certificate of Designations of the Series 7 Class G Convertible Preferred Stock of the Corporation (the "Series 7 Preferred") was filed on November 13, 1997 (the "Series 7 Certificate of Designations").

7. That all outstanding shares of the Series 7 Preferred have been delivered to the Company and exchanged upon agreement with the holder thereof pursuant to the terms and conditions of a certain Exchange Agreement between the Company and The Infinity Fund, L. P. dated effective as of February 28, 1998.

8. That no shares of Series 7 Preferred remain outstanding.

9. That all shares of the Series 7 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

10. That effective February 28, 1998, the Board of Directors of the Company duly adopted the following resolutions:

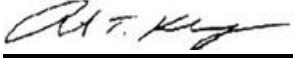
RESOLVED, that upon completion of the exchange with the holder of the Series 7 Class G Convertible Preferred Stock, no authorized shares of Series 7 Class G Convertible Preferred Stock will remain outstanding and no shares of Series 7 Class G Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 7 Class G Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 7 Class G Convertible Preferred Stock.

11. That pursuant to the provisions of § 151(g) of the Delaware General Corporation Law, upon the effective date of the filing of this Certificate, this Certificate will have the effect of eliminating from the Restated Certificate of Incorporation only those matters set forth in the Restated Certificate of Incorporation with respect to the Series 6 Class F Convertible Preferred Stock and the Series 7 Class G Convertible Preferred Stock.

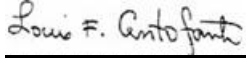
IN WITNESS WHEREOF, this Certificate of Elimination has been executed this 30th day of April, 1998, by the President of the Company.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.



Richard T. Kelecy, Secretary

(SEAL)

BY 

Dr. Louis F. Centofanti, President

**CERTIFICATE OF DESIGNATIONS
OF SERIES 8 CLASS H CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

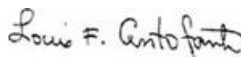
Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 8 Class H Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 8 Class H Convertible Preferred Stock as set forth in the attached resolutions.

Dated: April 30th, 1998

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By:



Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 8 CLASS H CONVERTIBLE PREFERRED STOCK**

WHEREAS, the Corporation's capital includes preferred stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by resolutions adopted by the directors, and with the directors being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences and relative, participating, optional or other special rights and privileges, restrictions and conditions attaching to the shares of each such series;

WHEREAS, it is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 8 Class H Convertible Preferred Stock, par value \$.001 per share (the "Series 8 Class H Preferred Stock");

NOW, THEREFORE, BE IT RESOLVED, that the Series 8 Class H Preferred Stock shall consist of two thousand five hundred (2,500) shares and no more and shall be designated as the Series 8 Class H Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 8 Class H Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights

1.1 **Voting Rights**. Except as otherwise provided in Part 7 hereof or under Section 242(b)(2) of the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 8 Class H Preferred Stock shall have no voting rights whatsoever. To the extent that under Section 242(b)(2) of the GCL or Part 7 hereof, the holders of the Series 8 Class H Preferred Stock are entitled to vote on a matter, each share of the Series 8 Class H Preferred Stock shall be entitled one (1) vote for each outstanding share of Series 8 Class H Preferred Stock. Holders of the Series 8 Class H Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote, which notice would be provided pursuant to the Corporation's bylaws and applicable statutes.

1.2 **No Preemptive Rights**. The Series 8 Class H Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2-liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 8 Class H Preferred Stock shall be outstanding, the holders of the then outstanding Series 8 Class H Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Corporation's Common Stock equal to \$1.000 consideration per outstanding share of Series 8 Class H Preferred Stock, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 8 Class H Preferred Stock, as provided In this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After Payment.** After the payment to the holders of the shares of the Series 8 Class H Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 8 Class H Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to Pay Full Liquidation Preference.** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 8 Class H Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 8 Class H Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 8 Class H Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 8 Class H Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3- Dividends. The holders of the Series 8 Class H Preferred Stock are entitled to receive if, when and as declared by the Board out of funds legally available therefor, cumulative dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), or any combination thereof, at the Corporation's election, at the rate of four percent (4%) per annum of the Liquidation Value (as defined below) of each issued and outstanding share of Series 8 Class H Preferred Stock (the "Dividend Rate"). The Liquidation Value of the Series 8 Class H Preferred Stock shall be \$1,000 per outstanding share of the Series 8 Class H Preferred Stock (the "Liquidation Value"). The dividend is payable semi annually within seven (7) business days after each of December 31 and June 30 of each year, commencing June 30, 1998 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 8 Class H Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record of the Series 8 Class H Preferred Stock as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from March 1, 1998. In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on an outstanding share of the Series 8 Class H Preferred Stock in Common Stock of the Corporation, the holder of such share shall receive that number of shares of Common Stock of the Corporation equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or the average closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid and the denominator of which is 365. Dividends on the Series 8 Class H Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 8 Class H Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 8 Class H Preferred Stock shall have rights to convert the shares of Series 8 Class H Preferred Stock into shares of the Corporation's Common Stock, par value \$.001 per share ("Common Stock"), as follows (the "Conversion Rights"):

4.1 The Series 8 Class H Preferred Stock shall be convertible into shares of Common Stock at any time.

4.2 **Conversion Price.** Subject to the terms hereof, as used herein, the Conversion Price per outstanding share of Series 8 Class H Preferred Stock shall be \$1.8125, except that, in the event the average closing bid price per share of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days prior to the particular date of conversion shall be less than \$2.265, the Conversion Price for only such particular conversion shall be the product of the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately preceding the date of the Conversion Notice referred to in Section 4.3 below in connection with such conversion multiplied by eighty percent (80%). Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$.75 per share ("Minimum Conversion Price"), which Minimum Conversion Price shall be eliminated from and after September 6, 1998. If any of the outstanding shares of Series 8 Class H Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 8 Class H Preferred Stock so surrendered for conversion by (b) the Conversion Price of such conversion. At the time of conversion of shares of the Series 8 Class H Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of whole shares or Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 8 Class H Preferred Stock so converted divided by the Stock Dividend Price, as defined in Part 3 hereof, in effect at the date of conversion.

4.3 Mechanics of Conversion. Any holder of the Series 8 Class H Preferred Stock who wishes to exercise its Conversion Rights pursuant to Section 4.1 of this Part 4 must, if such shares are not being held in escrow by the Corporation's attorneys, surrender the certificate therefor at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion Notice"). In the event that the shares of Series B Class H Preferred Stock are being held in escrow by the Corporation's attorneys, no delivery of the certificates shall be required. The Corporation shall, within five (5) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 8 Class H Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed that until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 8 Class H Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 8 Class H Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (or in the event that no surrendered of the Certificate is required, then only upon the receipt by the Corporation of the Conversion Notice) (the "Conversion Documents"). and the person or entity whose name is noted on the certificate evidencing such shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received. If the Corporation fails to deliver to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion of the Series 8 Class H Preferred Stock within seven (7) business days after receipt by the Corporation from the holder of an appropriate and timely Conversion Notice and certificates pursuant to the terms of this Section 4.3 ("Seven (7) Business Day Period"), then, upon the written demand of RBB Bank Aktiengesellschaft ("RBB Bank"), the holder of the Series 8 Class H Preferred Stock, for payment of the penalty described below in this Section 4.3, which demand must be received by the Corporation no later than ten (10) calendar days after the expiration of such Seven (7) Business Day Period, the Corporation shall pay to RBB Bank the following penalty for each business day after the Seven (7) Business Day Period until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion: business day eight (8) - U.S. \$1,000; business day nine (9) - U.S. \$2,000, and each business day thereafter an amount equal to the penalty due on the immediately preceding business day times two (2) until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion.

4.4 Merger or Consolidation. In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the "Merger"), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the "Sale"), and such Merger or Sale becomes effective (x) while any shares of Series 8 Class H Preferred Stock are outstanding and prior to the date that the Corporation's Registration Statement covering up to 1,379,311 shares of Common Stock issuable upon the conversion of the Series 8 Class H Preferred Stock is declared effective by the U. S. Securities and Exchange Commission or (y) prior to the end of the restriction periods in Section 4.1, then, in such event, the Corporation or such successor corporation, as the case may be, shall make appropriate provision so that the holder of each share of Series 8 Class H Preferred Stock then outstanding shall have the right to convert such share of Series 8 Class H Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Series 8 Class H Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustment which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Part 4.

4.5 Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock If the Corporation at any time or from time to time while shares of Series 8 Class H Preferred stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or If the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.

4.6 Adjustments for Reclassification and Reorganization. If the common Stock issuable upon conversion of the Series 8 Class H Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.4 hereof), the Conversion Price shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 8 Class H Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 8 Class H Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 8 Class H Preferred Stock immediately before that change.

4.7 Common Stock Duly Issued. All Common Stock which may be issued upon conversion of Series 8 Class H Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.

4.8 Notice of Adjustments. Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 8 Class H Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.

4.9 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 8 Class H Preferred Stock pursuant thereto; provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 8 Class H Preferred Stock in connection with such conversion.

4.10 **Reservation of Stock Issuable Upon Conversion** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 8 Class H Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 8 Class H Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 8 Class H Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.

4.11 **Fractional Shares.** No fractional shares shall be issued upon the conversion of any share or shares of Series 8 Class H Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 8 Class H Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.

4.12 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 8 Class H Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.

4.13 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or is permitted to close.

Part 5 - Redemption.

5.1 **Redemption at Corporation's Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, after the expiration of one (1) year from June 9, 1997, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, the then outstanding Series 8 Class H Preferred Stock at the following cash redemption prices per share (the "Redemption Price") if redeemed during the following periods: (a) within four year from June 9, 1997 - \$1,300 per share, if at any time during such four year period the average of the closing bid price of the Common Stock for ten consecutive trading days shall be in excess of Four Dollars (\$4.00) per share, and (b) after four years from June 9, 1997 - \$1,000 per share.

5.2 **Mechanics of Redemption.** Thirty days prior to any date stipulated by the Corporation for the redemption of Series 8 Class H Preferred Stock (the "Redemption Date"), written notice (the "Redemption Notice") shall be mailed to each holder of record on such notice date of the Series 8 Class H Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 8 Class H Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instruction for surrender to the Corporation, in the manner and at the place designated, of a share certificates or share certificates representing the number of Series 8 Class H Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 8 Class H Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first 180 days from the date of issuance of the Series 8 Class H Preferred Stock, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.3 **Rights of Conversion Upon Redemption.** If the redemption occurs after the first 180 days after the first issuance of Series 8 Class H Preferred Stock, then, upon receipt of the Redemption Notice, any holder of Series 8 Class H Preferred Stock shall have the option, at its sole election, to specify what portion of its Series 8 Class H Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof, except that, notwithstanding any provision of such Part 4 to the contrary, such holder shall have the right to convert into Common Stock that number of Series 8 Class H Preferred Stock called for redemption in the Redemption Notice.

5.4 **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 8 Class H Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.6 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 8 Class H Preferred Stock which are not being redeemed to be registered in the name of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

5.5 **Payment.** On the Redemption Date in respect of any Series 8 Class H Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 8 Class H Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 8 Class H Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 8 Class H Preferred Stock and Priority.

6.1 **Rateable Participation.** If any cumulative dividends or return of capital in respect of Series 8 Class H Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:

- 6.2.1 Prior or senior to the shares of this Series 8 Class H Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 8 Class H Preferred Stock;

- 6.2.2 On a parity with, or equal to, shares of this Series B Class H Preferred Stock, either as to dividend or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 8 Class H Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holder of such stock and the holders of shares of this Series 8 Class H Preferred Stock; and,
- 6.2.3 Junior to shares of this Series 8 Class H Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 8 Class H Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7-Amendment and Reissue.

7.1 **Amendment.** If any proposed amendment to the Corporation's Certificate of Incorporation (the "Articles") would alter or change the powers, preferences or special rights of the Series 8 Class H Preferred Stock so as to affect such adversely, then the Corporation must obtain the affirmative vote of such amendment to the Articles at a duly called and held series meeting of the holders of the Series 8 Class H Preferred Stock or written consent by the holders of a majority of the Series 8 Class H Preferred Stock then outstanding. Notwithstanding the above or the provisions of Section 242(b)(2) of the GCL, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of this Section 7.1 or Section 242(b) (2) of the GCL.

7.2 **Authorized.** Any shares of Series 8 Class H Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

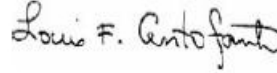
**CERTIFICATE OF DESIGNATIONS
OF SERIES 9 CLASS I CONVERTIBLE PREFERRED STOCK OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 9 Class I Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 9 Class I Convertible Preferred Stock as set forth in the attached resolutions.

Dated: April 30th, 1998

PERMA-FIX ENVIRONMENTAL SERVICES, INC.



By

Dr. Louis F. Centofanti Chairman of the Board
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 9 CLASS I CONVERTIBLE PREFERRED STOCK**

WHEREAS, the Corporation's capital includes preferred stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by resolutions adopted by the directors, and with the directors being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences and relative, participating, optional or other special rights and privileges, restrictions and conditions attaching to the shares of each such series;

WHEREAS, it is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 9 Class I Convertible Preferred Stock, par value \$.001 per share (the "Series 9 Class I Preferred Stock");

NOW, THEREFORE, BE IT RESOLVED, that the Series 9 Class I Preferred Stock shall consist of three hundred (350) shares and no more and shall be designated as the Series 9 Class I Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 9 Class I Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights.

1.1 **Voting Rights.** Except as otherwise provided in Part 7 hereof or under Section 242(b)(2) of the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 9 Class I Preferred Stock shall have no voting rights whatsoever. To the extent that under Section 242(b)(2) of the GCL or Part 7 hereof, the holders of the Series 9 Class I Preferred Stock are entitled to vote on a matter, each share of the Series 9 Class I Preferred Stock shall be entitled one (1) vote for each outstanding share of Series 9 Class I Preferred Stock. Holders of the Series 9 Class I Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote, which notice would be provided pursuant to the Corporation's bylaws and applicable statutes. If the holders of the Series 9 Class I Preferred Stock are required to vote under Section 242(b)(2) of the GCL as a result of the number of authorized shares of any such class or classes of stock being increased or decreased, the number of authorized shares of any of such class or classes of stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, irrespective of the provisions of Section 242(b)(2) of the GCL.

1.2 **No Preemptive Rights.** The Series 9 Class I Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 9 Class I Preferred Stock shall be outstanding, the holders of the then outstanding Series 9 Class I Preferred Stock shall be entitled to receive out of the assets of the Corporation available for distribution to shareholders an amount equal to \$1,000 consideration per outstanding share of Series 9 Class I Preferred Stock, and no more, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board of Directors, before any payment shall be made or any assets distributed to the holders of the Corporation's Common Stock.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 9 Class I Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After Payment.** After the payment to the holders of the shares of the Series 9 Class I Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 9 Class I Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to Pay Full liquidation Preference.** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 9 Class I Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 9 Class I Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 9 Class I Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 9 Class I Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends.

3.1 The holders of the Series 9 Class I Preferred Stock are entitled to receive if, when and as declared by the Board of Directors of the Corporation (the "Board") out of funds legally available therefor, cumulative annual dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), or any combination thereof, at the Corporation's election, at the rate of four percent (4%) per annum of the liquidation Value (as defined below) of each issued and outstanding share of Series 9 Class I Preferred Stock (the "Dividend Rate"). The Liquidation Value of the Series 9 Class I Preferred Stock shall be \$1,000 per outstanding share of the Series 9 Class I Preferred Stock (the "Liquidation Value"). The dividend is payable semi-annually within seven (7) business days after each of December 31 and June 30 of each year, commencing June 30, 1998 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 9 Class I Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record of the Series 9 Class I Preferred Stock as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from March 1, 1998. In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on an outstanding share of the Series 9 Class I Preferred Stock in Common Stock of the Corporation, the holder of such share shall receive that number of shares of Common Stock of the Corporation equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or the average closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid and the denominator of which is 365. Dividends on the Series 9 Class I Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 9 Class I Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 9 Class I Preferred Stock shall have rights to convert the shares of Series 9 Class I Preferred Stock into shares of the Corporation's Common Stock, as follows (the "Conversion Rights"):

4.1 **Right to Convert.** The Series 9 Class I Preferred Stock shall be convertible into shares of Common Stock at any time.

4.2 **Conversion Price.** Subject to the terms hereof, as used herein, the Conversion Price per outstanding share of Series 9 Class I Preferred Stock shall be \$1.8125, except that, in the event the average closing bid price per share of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days prior to the particular date of conversion shall be less than \$2.265, the Conversion Price for only such particular conversion shall be the product of the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately preceding the date of the Conversion Notice referred to in Section 4.3 below in connection with such conversion multiplied by eighty percent (80%). Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$.75 per share ("Minimum Conversion Price"), which Minimum Conversion Price shall be eliminated from and after September 6, 1998. If any of the outstanding shares of Series 9 Class I Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 9 Class I Preferred Stock so surrendered for conversion by (b) the Conversion Price as of such conversion. At the time of conversion of shares of the Series 9 Class I Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of whole shares of Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 9 Class I Preferred Stock so converted divided by the Stock Dividend Price, as defined in Part 3 hereof, in effect at the date of conversion.

- 4.3 **Mechanics of Conversion.** Any holder of the Series 9 Class I Preferred Stock who wishes to exercise its Conversion Rights pursuant to Section 4.1 of this Part 4 must surrender the certificate therefor at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion Notice"). The Corporation shall, within seven (7) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 9 Class I Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed that until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 9 Class I Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 9 Class I Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (the "Conversion Documents"), and the person or entity whose name is noted on the certificate evidencing such shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received.
- 4.4 **Merger or Consolidation.** In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the "Merger"), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the "Sale"), and such Merger or Sale becomes effective (x) while any shares of Series 9 Class I Preferred Stock are outstanding and prior to the date that the Corporation's Registration Statement covering up to 200,000 shares of Common Stock issuable upon the conversion of the Series 9 Class I Preferred Stock is declared effective by the U. S. Securities and Exchange Commission or (y) prior to the end of the restriction periods in Section 4.1, then, in such event, the Corporation or such successor corporation, as the case may be, shall make appropriate provision so that the holder of each share of Series 9 Class I Preferred Stock then outstanding shall have the right to convert such share of Series 9 Class I Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Series 9 Class I Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Part 4.

- 4.5 **Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock.** If the Corporation at any time or from time to time while shares of Series 9 Class I Preferred Stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.
- 4.6 **Adjustments for Reclassification and Reorganization.** If the Common Stock issuable upon conversion of the Series 9 Class I Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.4 hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 9 Class I Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 9 Class I Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 9 Class I Preferred Stock immediately before that change.
- 4.7 **Common Stock Duly Issued.** All Common Stock which may be issued upon conversion of Series 9 Class I Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.

- 4.8 **Notice of Adjustments.** Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 9 Class I Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.
- 4.9 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 9 Class I Preferred Stock pursuant thereto; provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 9 Class I Preferred Stock in connection with such conversion.
- 4.10 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 9 Class I Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 9 Class I Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 9 Class I Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.
- 4.11 **Fractional Shares.** No fractional shares shall be issued upon the conversion of any share or shares of Series 9 Class I Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 9 Class I Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.
- 4.12 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 9 Class I Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.
- 4.13 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or is permitted to close.

Part 5 - Redemption.

- 5.1 **Redemption at Corporation's Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, after the expiration of one (1) year from the date of the first issuance of the Series 9 Class I Preferred Stock, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, the then outstanding Series 9 Class I Preferred Stock at the following cash redemption prices per share (the "Redemption Price") if redeemed during the following periods: (a) within four (4) years from the date of the first issuance of Series 9 Class I Preferred Stock - \$1,300 per share, if at any time during such four (4) year period the average of the closing bid price of the Common Stock for ten (10) consecutive trading days shall be in excess of Four U.S. Dollars (\$4.00) per share, and (b) after four (4) years from the date of the first issuance of Series 9 Class I Preferred Stock - \$1,000 per share.
- 5.2 **Mechanics of Redemption.** Thirty (30) days prior to any date stipulated by the Corporation for the redemption of Series 9 Class I Preferred Stock (the "Redemption Date"), written notice (the "Redemption Notice") shall be mailed to each holder of record on such notice date of the Series 9 Class I Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 9 Class I Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 9 Class I Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 9 Class I Preferred Stock to be redeemed as provided in this Part 5.
- 5.3 **Rights of Conversion Upon Redemption.** If the redemption occurs after the first one hundred eighty (180) days after the first issuance of Series 9 Class I Preferred Stock, then, upon receipt of the Redemption Notice, any holder of Series 9 Class I Preferred Stock shall have the option, at its sole election, to specify what portion of its Series 9 Class I Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Pan 4 hereof.
- 5.4 **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 9 Class I Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.6 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 9 Class I Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

- 5.5 **Payment.** On the Redemption Date in respect of any Series 9 Class I Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least U. S. \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 9 Class I Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 9 Class I Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 9 Class I Preferred Stock and Priority.

- 6.1 **Rateable Participation.** If any cumulative dividends or return of capital in respect of Series 9 Class I Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.
- 6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:
- 6.2.1 Prior or senior to the shares of this Series 9 Class I Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 9 Class I Preferred Stock;
- 6.2.2 On a parity with, or equal to, shares of this Series 9 Class I Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 9 Class I Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 9 Class I Preferred Stock; and,

6.2.3 Junior to shares of this Series 9 Class I Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 9 Class I Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Reissue.

7.1 **Authorized.** Any shares of Series 9 Class I Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

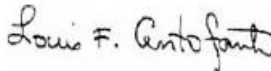
**CERTIFICATE OF DESIGNATIONS
OF SERIES 11 CLASS K CONVERTIBLE PREFERRED STOCK OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 11 Class K Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 11 Class K Convertible Preferred Stock as set forth in the attached resolutions.

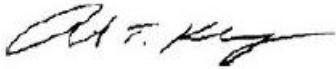
Dated: July 15, 1999

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By 

Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 11 CLASS K CONVERTIBLE PREFERRED STOCK**

WHEREAS,

- A. The Corporation's share capital includes Preferred Stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by the Board of Directors of the Corporation (The "Board") being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences, and relative, participating, optional or other special rights, privileges, restrictions and conditions attaching to the shares of each such series; and
- B. It is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 11 Class K Convertible Preferred Stock, par value \$.001.

NOW, THEREFORE, BE IT RESOLVED, THAT:

The Series 11 Class K Convertible Preferred Stock, par value \$.001 (the "Series 11 Class K Preferred Stock") of the Corporation shall consist of 1,769 shares and no more and shall be designated as the Series 11 Class K Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 11 Class K Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights.

1.1 **Voting Rights.** Except as otherwise provided herein, in the Corporation's Certificate of Incorporation (the "Articles") or the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 11 Class K Preferred Stock shall have no voting rights whatsoever. To the extent that under the GCL the vote of the holders of the Series 11 Class K Preferred Stock, voting separately as a class or series as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the holders of at least a majority of the shares of the Series 11 Class K Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of a majority of the shares of Series 11 Class K Preferred Stock (except as otherwise may be required under the GCL) shall constitute the approval of such action by the series. To the extent that under the GCL the holders of the Series 11 Class K Preferred Stock are entitled to vote on a matter with holders of Corporation's Common Stock and/or any other class or series of the Corporation's voting securities, the Series 11 Class K Preferred Stock, the Corporation's Common Stock and all other classes or series of the Corporation's voting securities shall vote together as one class, with each share of Series 11 Class K Preferred Stock entitled to a number of votes equal to the number of shares of the Corporation's Common Stock into which it is then convertible using the record date for the taking of such vote of stockholders as the date as of which the Conversion Price (as defined in Section 4.2 hereof) is calculated and conversion is effected. Holders of the Series 11 Class K Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote, which notice would be provided pursuant to the Corporation's bylaws and applicable statutes.

1.2 **No Preemptive Rights.** The Series 11 Class K Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 11 Class K Preferred Stock shall be outstanding, the holders of the then outstanding Series 11 Class K Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Corporation's Common Stock equal to \$1,000 consideration per outstanding share of Series 11 Class K Preferred Stock, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 11 Class K Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After Payment.** After the payment to the holders of the shares of the Series 11 Class K Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 11 Class K Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to Pay Full Liquidation Preference** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 11 Class K Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 11 Class K Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 11 Class K Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 11 Class K Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends.

3.1 The holders of the Series 11 Class K Preferred Stock are entitled to receive if, when and as declared by the Board out of funds legally available therefor, cumulative dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), at the Corporation's election, at the rate of six percent (6%) per annum of the Liquidation Value of the Series 11 Class K Preferred Stock. The Liquidation Value of the Series 11 Class K Preferred Stock shall be \$1,000.00 per share (the "Dividend Rate"). The dividend is payable semi-annually within seven (7) business days after each of December 31 and June 30 of each year, commencing December 31, 1996 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 11 Class K Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from the date of issuance of the Series 11 Class K Preferred Stock. In the event that the Corporation elects to pay dividends in Common Stock of the Corporation, each holder of the Series 11 Class K Preferred Stock shall receive shares of Common Stock of the Corporation equal to the quotient of (i) the Dividend Rate in effect on the applicable Dividend Declaration Date divided by (ii) the average of the closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"). Dividends on the Series 11 Class K Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 11 Class K Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 11 Class K Preferred Stock shall have rights to convert the shares of Series 11 Class K Preferred Stock into shares of the Corporation's Common Stock, par value \$.001 per share ("Common Stock"), as follows (the "Conversion Rights"):

4.1 **No Right to Convert.** The Series 11 Class K Preferred shall not be convertible into shares of Common Stock until after July 15, 2000.

4.2 **Right to Convert.** The Series 11 Class K Preferred Stock may be convertible into shares of Common Stock at any time on or after July 15, 2000.

4.3 **Conversion Price.** As used herein, the term Conversion Price shall be the product of (i) the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately preceding the date of the Conversion Notice referred to in Section 4.3 below multiplied by (ii) seventy-five percent (75%), subject to the provisions of this Section 4.3. Notwithstanding the foregoing, the Conversion Price shall not be (i) less than a minimum of \$1.50 per share for a period of twenty-four (24) months from the date of issuance of the Series 11 Class K Preferred Stock, or, after twenty-four (24) months from the date of issuance of the Series 11 Class K Preferred Stock, a minimum of \$.50 per share (as applicable, the "Minimum Conversion Price") or (ii) more than a maximum of \$1.50 per share ("Maximum Conversion Price"). If, after July 1, 1996, the Corporation sustains a net loss, on a consolidated basis, in each of two (2) consecutive quarters, as determined under generally accepted accounting principles, the Minimum Conversion Price shall be reduced \$.25 a share, but there shall be no change to, or reduction of, the Maximum Conversion Price. For the purpose of determining whether the Corporation has had a net loss in each of two (2) consecutive quarters, at no time shall a quarter that has already been considered in such determination be considered in any subsequent determination (as an example the third quarter of 1996 in which there is a net profit and the fourth quarter of 1996 in which there is a net loss shall be considered as two consecutive quarters, and, as a result, the fourth quarter of 1996 shall not be considered along with the first quarter of 1997 as two (2) consecutive quarters, but the first quarter of 1997 must be considered with the second quarter of 1997 for the purposes of such determination). For the purposes of this Section 4.2, a "quarter" is a three (3) month period ending on March 31, June 30, September 30, and December 31. If any of the outstanding shares of Series 11 Class K Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 11 Class K Preferred Stock so surrendered for conversion by (b) the Conversion Price in effect at the date of the conversion. At the time of conversion of shares of the Series 11 Class K Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of shares of whole Common Stock which is equal to the product of dividing the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 11 Class K Preferred Stock so converted by the Conversion Price in effect at the date of conversion.

4.4 Mechanics of Conversion. Any holder of the Series 11 Class K Preferred Stock who wishes to exercise its Conversion Rights pursuant to Section 4.1 of this Part 4 must, if such shares are not being held in escrow by the Corporation's attorneys, surrender the certificate therefor at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion Notice"). In the event that the shares of Series 11 Class K Preferred Stock are being held in escrow by the Corporation's attorneys, no delivery of the certificates shall be required. No Conversion Notice with respect to any shares of Series 11 Class K Preferred Stock can be given prior to the time such shares of Series 11 Class K Preferred Stock are eligible for conversion in accordance with the provision of Section 4.1 above. Any such premature Conversion Notice shall automatically be null and void. The Corporation shall, within five (5) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 11 Class K Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed that until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 11 Class K Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 11 Class K Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (or in the event that no surrender of the Certificate is required, then only upon the receipt by the Corporation of the Conversion Notice) (the "Conversion Documents"), and the person or entity whose name is noted on the certificate evidencing such shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received. If the Corporation fails to deliver to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion within five (5) business days after receipt by the Corporation from the holder of an appropriate and timely Conversion Notice and certificates pursuant to the terms of this Section 4.3, the Corporation shall pay to the holder U.S. \$1,000 for each day that the Corporation is late in delivering such certificate to the holder or its agent.

4.5 Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock. If the Corporation at any time or from time to time while shares of Series 11 Class K Preferred Stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate. If the Corporation shall declare or pay, without consideration, any dividend on the Common Stock payable in any right to acquire Common stock for no consideration, then the Corporation shall be deemed to have made a dividend payable in Common Stock in an amount of shares equal to the maximum number of shares issuable upon exercise of such rights to acquire Common Stock.

4.6. **Adjustments for Reclassification and Reorganization.** If the Common Stock issuable upon conversion of the Series 11 Class K Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.4 hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 11 Class K Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 11 Class K Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 11 Class K Preferred Stock immediately before that change.

4.7 **Common Stock Duly Issued.** All Common Stock which may be issued upon conversion of Series 11 Class K Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.

4.8 **Notice of Adjustments.** Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 11 Class K Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.

4.9 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 11 Class K Preferred Stock pursuant thereto; provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 11 Class K Preferred Stock in connection with such conversion.

4.10 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 11 Class K Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 11 Class K Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 11 Class K Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.

4.11 **Fractional Shares.** No fractional share shall be issued upon the conversion of any share or shares of Series 11 Class K Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 11 Class K Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.

4.12 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 11 Class K Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.

4.13 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or permitted to close.

Part 5 - Redemption.

5.1 **Redemption at Corporation’s Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, The then outstanding Series 11 Class K Preferred Stock at the following cash redemption prices if redeemed during the following periods: (i) within one year from July 15, 1999 - \$1,100 per share, and (ii) after one year from July 15, 1999 - \$1,200 per share (as applicable, the redemption price of \$1,100 or \$1,200 is referred to herein as the “Redemption Price”).

5.2 **Mechanics of Redemption.** Prior to any date stipulated by the Corporation for the redemption of Series 11 Class K Preferred Stock (the “Redemption Date”), written notice (the “Redemption Notice”) shall be mailed to each holder of record on such notice date of the Series 11 Class K Preferred Stock. The Redemption Notice shall state; (i) the Redemption Date of such shares, (ii) the number of Series 11 Class K Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 11 Class K Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 11 Class K Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first year from the date of issuance of the Series 11 Class K Preferred Stock, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.3 **Mechanics of Redemption.** Prior to any date stipulated by the Corporation for the redemption of Series 11 Class K Preferred Stock (the “Redemption Date”), written notice (the “Redemption Notice”) shall be mailed to each holder of record on such notice date of the Series 11 Class K Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 11 Class K Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 11 Class K Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 11 Class K Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first year from the date of issuance of the Series 11 Class K Preferred Stock, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.4 **Rights of Conversion Upon Redemption.** If the redemption occurs during the first 12 months after the issuance of the Series 11 Class K Preferred Stock, the holder may not convert any redeemed shares. If the redemption occurs pursuant to Section 5.1 hereof, the Holder of the Series 11 Class K Preferred Stock shall not have the right to convert those outstanding shares of Series 11 Class K Preferred Stock that the Company is redeeming after receipt of the Redemption Notice. If the redemption occurs pursuant to Section 5.2 hereof, then, upon receipt of the Redemption Notice, any holder of Series 11 Class K Preferred Stock shall have the next five business days during which it may exercise the option, at its sole election, to specify what portion of its Series 11 Class K Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof, except that, notwithstanding any provision of such Part 4 to the contrary, after one year from the date of first issuance of the Series 11 Class K Preferred Stock, such holder shall have the right to convert into Common Stock that number of Series 11 Class K Preferred Stock called for redemption in the Redemption Notice.

5.5 **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 11 Class K Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.5 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 11 Class K Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

5.6 **Payment.** On the Redemption Date in respect of any Series 11 Class K Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least U. S. \$50,000,000, as a trust fund, a sum equal to the aggregate First Year Redemption Price or the Redemption Price, whichever is applicable, of all such shares called from redemption (less the aggregate Redemption Price for those Series 11 Class K Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 11 Class K Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the First Year Redemption Price or the Redemption Price, whichever is applicable, to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the First Year Redemption Price or the Redemption Price, whichever is applicable, of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the First Year Redemption Price or the Redemption Price, whichever is applicable, in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 11 Class K Preferred Stock and Priority.

6.1 **Rateable Participation.** If any cumulative dividends or return of capital in respect of Series 11 Class K Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:

6.2.1 Prior or senior to the shares of this Series 11 Class K Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 11 Class K Preferred Stock;

6.2.2 On a parity with, or equal to, shares of this Series 11 Class K Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 3 Class C Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 11 Class K Preferred Stock; and,

6.2.3 Junior to shares of this Series 11 Class K Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 11 Class K Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Amendment and Reissue.

7.1 **Amendment.** If any proposed amendment to the Corporation's Certificate of Incorporation would alter or change the powers, preferences or special rights of the Series 11 Class K Preferred Stock so as to affect such adversely, then the Corporation must obtain the affirmative vote of such amendment to the Certificate of Incorporation at a duly called and held series meeting of the holders of the Series 11 Class K Preferred Stock or written consent by the holders of a majority of the Series 11 Class K Preferred Stock then outstanding. Notwithstanding the above, the number of authorized shares of any class or classes of stock may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of this Section 7.1 or the requirements of Section 242 of the GCL.

7.2 **Authorized.** Any shares of Series 11 Class K Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

**CERTIFICATE OF DESIGNATIONS
OF SERIES 12 CLASS L CONVERTIBLE PREFERRED STOCK OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

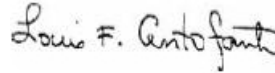
Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 12 Class L Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 12 Class L Convertible Preferred Stock as set forth in the attached resolutions.

Dated: July 15, 1999

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By



Dr. Louis F. Centofanti
Chairman of the Board

ATTEST;



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 12 CLASS L CONVERTIBLE PREFERRED STOCK**

WHEREAS, the Corporation's capital includes preferred stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by resolutions adopted by the directors, and with the directors being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences and relative, participating, optional or other special rights and privileges, restrictions and conditions attaching to the shares of each such series;

WHEREAS, it is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 12 Class L Convertible Preferred Stock, par value \$.001 per share (the "Series 12 Class L Preferred Stock");

NOW, THEREFORE, BE IT RESOLVED, that the Series 12 Class L Preferred Stock shall consist of nine hundred sixteen (916) shares and no more and shall be designated as the Series 12 Class L Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 12 Class L Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights

1.1 **Voting Rights**. Except as otherwise provided in Part 7 hereof or under Section 242(b)(2) of the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 12 Class L Preferred Stock shall have no voting rights whatsoever. To the extent that under Section 242(b)(2) of the GCL or Part 7 hereof, the holders of the Series 12 Class L Preferred Stock are entitled to vote on a matter, each share of the Series 12 Class L Preferred Stock shall be entitled one (1) vote for each outstanding share of Series 12 Class L Preferred Stock. Holders of the Series 12 Class L Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote, which notice would be provided pursuant to the Corporation's bylaws and applicable statutes.

1.2 **No Preemptive Rights**. The Series 12 Class L Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 12 Class L Preferred Stock shall be outstanding, the holders of the then outstanding Series 12 Class L Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Corporation's Common Stock equal to \$1,000 consideration per outstanding share of Series 12 Class L Preferred Stock, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 12 Class L Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After Payment.** After the payment to the holders of the shares of the Series 12 Class L Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 12 Class L Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to Pay Full Liquidation Preference.** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 12 Class L Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 12 Class L Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 12 Class L Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 12 Class L Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends. The holders of the Series 12 Class L Preferred Stock are entitled to receive if, when and as declared by the Board out of funds legally available therefor, cumulative dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), or any combination thereof, at the Corporation's election, at the rate of four percent (4%) per annum of the Liquidation Value (as defined below) of each issued and outstanding share of Series 12 Class L Preferred Stock (the "Dividend Rate"). The Liquidation Value of the Series 12 Class L Preferred Stock shall be \$1,000 per outstanding share of the Series 12 Class L Preferred Stock (the "Liquidation Value"). The dividend is payable semi-annually within seven (7) business days after each of December 31 and June 30 of each year, commencing June 30, 1998 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 12 Class L Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record of the Series 12 Class L Preferred Stock as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from March 1, 1998. In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on an outstanding share of the Series 12 Class L Preferred Stock in Common Stock of the Corporation, the holder of such share shall receive that number of shares of Common Stock of the Corporation equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or the average closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid and the denominator of which is 365. Dividends on the Series 12 Class L Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 12 Class L Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 12 Class L Preferred Stock shall have rights to convert the shares of Series 12 Class L Preferred Stock into shares of the Corporation's Common Stock, par value \$.001 per share ("Common Stock"), as follows (the "Conversion Rights"):

- 4.1 **No Right to convert.** The Series 12 Class L Preferred shall not be convertible into shares of Common Stock until after July 15, 2000.
- 4.2 **Right to Convert.** The Series 12 Class L Preferred Stock may be convertible into shares of Common Stock at any time after July 15, 2000.

4.3 **Conversion Price.** Subject to the terms hereof, as used herein, the Conversion Price per outstanding share of Series 12 Class L Preferred Stock shall be \$1.8125, except that, in the event the average closing bid price per share of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days prior to the particular date of conversion shall be less than \$2.265, the Conversion Price for only such particular conversion shall be the product of the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately preceding the date of the Conversion Notice referred to in Section 4.3 below in connection with such conversion multiplied by eighty percent (80%), subject to the provisions of this Section 4.3. Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$1.50 per share ("Minimum Conversion Price") for a period of twenty-four (24) months from the date of issuance of the Series 12 Class L Preferred Stock. If any of the outstanding shares of Series 12 Class L Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 12 Class L Preferred Stock so surrendered for conversion by (b) the Conversion Price as of such conversion. At the time of conversion of shares of the Series 12 Class L Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of whole shares of Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 12 Class L Preferred Stock so converted divided by the Stock Dividend Price, as defined in Part 3 hereof, in effect at the date of conversion.

4.3 Mechanics of Conversion. Any holder of the Series 12 Class L Preferred Stock who wishes to exercise its Conversion Rights pursuant to Section 4.1 of this Part 4 must, if such shares are not being held in escrow by the Corporation's attorneys, surrender the certificate therefor at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion Notice"). In the event that the shares of Series 12 Class L Preferred Stock are being held in escrow by the Corporation's attorneys, no delivery of the certificates shall be required. The Corporation shall, within five (5) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 12 Class L Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed that until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 12 Class L Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 12 Class L Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (or in the event that no surrender of the Certificate is required, then only upon the receipt by the Corporation of the Conversion Notice) (the "Conversion Documents"), and the person or entity whose name is noted on the certificate evidencing such shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received. If the Corporation fails to deliver to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion of the Series 12 Class L Preferred Stock within seven (7) business days after receipt by the Corporation from the holder of an appropriate and timely Conversion Notice and certificates pursuant to the terms of this Section 4.3 ("Seven (7) Business Day Period"), then, upon the written demand of RBB Bank Aktiengesellschaft ("RBB Bank"), the holder of the Series 12 Class L Preferred Stock, for payment of the penalty described below in this Section 4.3, which demand must be received by the Corporation no later than ten (10) calendar days after the expiration of such Seven (7) Business Day Period, the Corporation shall pay to RBB Bank the following penalty for each business day after the Seven (7) Business Day Period until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion: business day eight (8) - U.S. \$1,000; business day nine (9) - U.S. \$2,000, and each business day thereafter an amount equal to the penalty due on the immediately preceding business day times two (2) until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion.

4.4 Merger or Consolidation. In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the "Merger"), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the "Sale"), and such Merger or Sale becomes effective (x) while any shares of Series 12 Class L Preferred Stock are outstanding and prior to the date that the Corporation's Registration Statement covering up to 1,379,311 shares of Common Stock issuable upon the conversion of the Series 12 Class L Preferred Stock is declared effective by the U. S. Securities and Exchange Commission or (y) prior to the end of the restriction periods in Section 4.1, then, in such event, the Corporation or such successor corporation, as the case may be, shall make appropriate provision so that the holder of each share of Series 12 Class L Preferred Stock then outstanding shall have the right to convert such share of Series 12 Class L Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Series 12 Class L Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Part 4.

4.5 Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock. If the Corporation at any time or from time to time while shares of Series 12 Class L Preferred Stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise) or payment of a dividend in Common Stock or in any right to acquire Common Stock, or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.

4.6 Adjustments for Reclassification and Reorganization. If the Common Stock issuable upon conversion of the Series 12 Class L Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.4 hereof), the Conversion Price shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 12 Class L Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 12 Class L Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 12 Class L Preferred Stock immediately before that change.

4.7 Common Stock Duly Issued. All Common Stock which may be issued upon conversion of Series 12 Class L Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.

4.8 Notice of Adjustments. Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 12 Class L Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.

4.9 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 12 Class L Preferred Stock pursuant thereto; provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 12 Class L Preferred Stock in connection with such conversion.

4.10 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 12 Class L Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 12 Class L Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 12 Class L Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.

4.11 **Fractional Shares.** No fractional shares shall be issued upon the conversion of any share or shares of Series 12 Class L Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 12 Class L Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.

4.12 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 12 Class L Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.

4.13 **Business Day.** As used herein, the term "business day" shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or is permitted to close.

Part 5 - Redemption.

5.1 **Redemption at Corporation's Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, (i) for a period of 120 days from the date of issuance of the Series 12 Class L Preferred Stock up to an aggregate of 300 shares of the Series 12 Class L Preferred Stock at the cash redemption price of \$1,000 per share, and (ii) the then outstanding Series 12 Class L Preferred Stock at the following cash redemption prices if redeemed during the following periods: (a) within one year from July 15, 1999 - \$1,100 per share, except as otherwise provided in (i) above and (b) after one year from July 15, 1999 - \$1,200 per share (as applicable, the redemption price of \$1,000, \$1,100 or \$1,200 is referred to herein as the "Redemption Price").

5.2 **Mechanics of Redemption.** Prior to any date stipulated by the Corporation for the redemption of Series 12 Class L Preferred Stock (the "Redemption Date"), written notice (the "Redemption Notice") shall be mailed to each holder of record on such notice date of the Series 12 Class L Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 12 Class L Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 12 Class L Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 12 Class L Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first year from the date of issuance of the Series 12 Class L Preferred Stock, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.3 **Rights of Conversion Upon Redemption.** If the redemption occurs during the first 12 months after the issuance of the Series 12 Class L Preferred Stock, the holder may not convert any redeemed shares. If the redemption occurs after the first twelve months after the first issuance of Series 12 Class L Preferred Stock, then, upon receipt of the Redemption Notice, any holder of Series 12 Class L Preferred Stock shall have five business days during which it may exercise the option, at its sole election, to specify what portion of its Series 12 Class L Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof, except that, notwithstanding any provision of such Part 4 to the contrary, after one year from the date of first issuance of the Series 12 Class L Preferred Stock, such holder shall have the right to convert into Common Stock that number of Series 12 Class L Preferred Stock called for redemption in the Redemption Notice.

5.4 **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 12 Class L Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.6 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 12 Class L Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

5.5 **Payment.** On the Redemption Date in respect of any Series 12 Class L Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 12 Class L Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 12 Class L Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 12 Class L Preferred Stock and Priority.

6.1 **Rateable Participation.** If any cumulative dividends or return of capital in respect of Series 12 Class L Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:

- 6.2.1 Prior or senior to the shares of this Series 12 Class L Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 12 Class L Preferred Stock;
- 6.2.2 On a parity with, or equal to, shares of this Series 12 Class L Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 12 Class L Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 12 Class L Preferred Stock; and,
- 6.2.3 Junior to shares of this Series 12 Class L Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 12 Class L Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Amendment and Reissue.

7.1 **Amendment.** If any proposed amendment to the Corporation's Certificate of Incorporation (the "Articles") would alter or change the powers, preferences or special rights of the Series 12 Class L Preferred Stock so as to affect such adversely, then the Corporation must obtain the affirmative vote of such amendment to the Articles at a duly called and held series meeting of the holders of the Series 12 Class L Preferred Stock or written consent by the holders of a majority of the Series 12 Class L Preferred Stock then outstanding. Notwithstanding the above or the provisions of Section 242(b)(2) of the GCL, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of this Section 7.1 or Section 242(b)(2) of the GCL.

7.2 **Authorized.** Any shares of Series 12 Class L Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

**CERTIFICATE OF DESIGNATIONS
OF SERIES 13 CLASS M CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

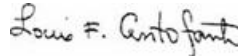
Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 13 Class M Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 13 Class M Convertible Preferred Stock as set forth in the attached resolutions.

Dated: July 15, 1999

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By



Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kececy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 13 CLASS M CONVERTIBLE PREFERRED STOCK**

RE: DESIGNATION OF SERIES 13 CLASS M PREFERRED STOCK.

RESOLVED: That The designations, powers, preferences and rights of the Series 13 Class M Convertible Preferred Stock be, and they hereby are, as set forth below:

1. Number of Shares of Common Stock of Series 13 Class M Convertible Preferred Stock

The Corporation hereby authorizes the issuance of up to two thousand two hundred fifty-two (2,252) shares of Series 13 Class M Convertible Preferred Stock par value \$.001 per share (the "Preferred Stock"). This Preferred Stock shall pay an annual dividend based on a 365 day calendar year of 4% of the Liquidation Value (as defined in Section 3 hereof) ("Dividend Rate"), payable semiannually within ten (10) business days after each subsequent June 30th and December 31st (each a "Dividend Declaration Date"), and shall be payable in cash or shares of the Corporation's par value \$.001 per share common stock (Common Stock) at the Corporation's option. The first Dividend Declaration Date shall be December 31st, 1998.

In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on the outstanding shares of Preferred Stock in Common Stock of the Corporation, the Holder of each share of Preferred Stock shall receive that number of shares of Common Stock equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange, the average closing bid price of the Common Stock as quoted on such national exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid, and the denominator of which is 365. Dividends on the Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Preferred Stock shall have been paid or declared and set aside for payment.

2. Voting.

Except as provided under Section 242 of the GCL, holders of Preferred Stock (the "Holders") shall not have the right to vote on any matter. Notwithstanding the provisions of Section 242 of the GCL or Section 4 hereof, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of Section 242 of the GCL.

3. Liquidation.

In the event of a voluntary or involuntary dissolution, liquidation, or winding up of the Corporation, the Holders of Preferred Stock shall be entitled to receive out of the assets of the Corporation legally available for distribution to holders of its capital stock, before any payment or distribution shall be made to holders of shares of Common Stock or any other class of stock ranking junior to the Preferred Stock, an amount per share of Preferred Stock equal to \$1,000 (the "Liquidation Value") plus any accrued and unpaid dividends on the Preferred Stock. If upon such liquidation, dissolution, or winding up of the Corporation, whether voluntary or involuntary, the assets to be distributed among the Holders of Preferred Stock shall be insufficient to permit payment to the Holders of Preferred Stock of the amount distributable as aforesaid, then the entire assets of the Corporation to be so distributed shall be distributed ratably among the Holders of Preferred Stock and shares of such other classes or series ranking on a parity with the shares of this Preferred Stock in proportion to the full distributable amounts for which holders of all such parity shares are entitled upon such distribution, liquidation, or winding up. Upon any such liquidation, dissolution or winding up of the Corporation, after the Holders of Preferred Stock shall have been paid in full the amounts to which they shall be entitled, the remaining net assets of the Corporation may be distributed to the holders of stock ranking on liquidation junior to the Preferred Stock and the Holders of the Preferred Stock shall have no right or claim to any of the remaining assets of the Corporation. Written notice of such liquidation, dissolution or winding up, stating a payment date, the amount of the liquidation payments and the place where said liquidation payments shall be payable, shall be given by mail, postage prepaid or by telex or facsimile to non-U.S. residents, not less than 10 days prior to the payment date stated therein, to the Holders of record of Preferred Stock, such notice to be addressed to each such Holder at its address as shown by the records of the Corporation. For purposes hereof the shares of Common Stock, shall rank on liquidation junior to the Preferred Stock.

4. Restrictions.

The Corporation will not amend or modify the terms of its Restated Certificate of Incorporation so as to adversely alter or change the Preferred Stock at any time when shares of Preferred Stock are outstanding, without the approval of the Holders of at least a majority of the then outstanding shares of Preferred Stock given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a series, except where the vote or written consent of the Holders of a greater number of shares of Common Stock of the Corporation is required by law or by the Corporation's Certificate of Incorporation, as amended.

5. Optional Conversion.

The Holders of shares of Preferred Stock shall have the following conversion rights to convert the shares of Preferred Stock into shares of Common Stock of the Corporation:

(a) **No Right to Convert.** The Preferred Stock shall not be convertible into shares of Common Stock until after July 15, 2000.

(b) **Conversion Dates.** The Preferred Stock may be convertible into shares of Common Stock at any time after July 15, 2000.

(c) **Right to Convert; Conversion Price.** Subject to the terms hereof, as used herein, the term Conversion Price per outstanding share of Preferred Stock shall be One Dollar and 875/100 (\$1.875); except that after the expiration of one hundred and eighty (180) days after the Closing Date if the average of the closing bid price per share of Common Stock quoted on the NASDAQ (or the closing bid price of the Common Stock as quoted on the national securities exchange if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange) for the five (5) trading days immediately prior to the particular date of each Conversion Notice (as defined below) is less than Two Dollars and 34/100 (\$2.34), then the Conversion Price for that particular conversion shall be eighty percent (80%) of the average of the closing bid price of the Common Stock on the NASDAQ (or if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange then eighty percent (80%) of the average of the closing bid price of the Common Stock on the national securities exchange) for the five (5) trading days immediately prior to the particular date of the Conversion Notice. Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$1.50 per share ("Minimum Conversion Price") for a period of twenty-four (24) months from the date of issuance of the Preferred Stock.

If any of the outstanding shares of Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Section 5(b), the number of shares of whole Common Stock to be issued to the Holder as a result of such conversion shall be determined by dividing (a) the aggregate Stated Value of the Preferred Stock so surrendered for conversion by (b) the Conversion Price in effect on the date of that particular Conversion Notice relating to such conversion. At the time of conversion of shares of the Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon on the shares of Preferred so converted to the date of the Conversion Notice relating to such conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of shares of whole Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of the Conversion Notice relating to such conversion of the shares of Preferred Stock so converted divided by the Stock Dividend Price, in effect at the date of the Conversion Notice relating to such conversion.

(c) **Conversion Notice.** The right of conversion shall be exercised by the Holder thereof by telecopying or faxing an executed and completed written notice signed by an authorized representative of the Holder, ("Conversion Notice") to the Corporation that the Holder elects to convert a specified number of shares of Preferred Stock representing a specified Stated Value thereof into shares of Common Stock and by delivering by express courier the certificate or certificates of Preferred Stock being converted to the Corporation at its principal office (or such other office or agency of the Corporation as the Corporation may designate by notice in writing to the Holders of the Preferred Stock). The business date indicated on a Conversion Notice which is telecopied to and received by the Corporation in accordance with the provisions hereof shall be deemed a Conversion Date. The Conversion Notice shall include therein the Stated Value of shares of Preferred Stock to be converted, and a calculation (a) of the Stock Dividend Price, (b) the Conversion Price, and (c) the number of Shares of Common Stock to be issued in connection with such conversion. The Corporation shall have the right to review the calculations included in the Conversion Notice, and shall provide notice of any discrepancy or dispute therewith within three (3) business days of the receipt thereof. The Holder shall deliver to the Corporation an original Conversion Notice and the original Preferred to be converted within three (3) business days from the date of the Conversion Notice.

(d) **Issuance of Certificates - Time Conversion Effected.** Promptly, but in no event more than six (6) business days, after the receipt by facsimile of the Conversion Notice referred to in Subparagraph (5)(c); and provided within the six (6) business days the Corporation receives the certificate or certificates for the shares of Preferred Stock to be converted, the Corporation shall issue and deliver, or cause to be issued and delivered, to the Holder, registered in the name of the Holder, a certificate or certificates for the number of whole shares of Common Stock into which such shares of Preferred Stock are converted. Such conversion shall be deemed to have been effected as of the close of business on the date on which the telecopy or facsimile Conversion Notice shall have been received by the Corporation, and the rights of the Holder of such share or shares of Preferred Stock shall cease, at such time, and the Holder or Holders shall be deemed to have become the Holder or Holders of record of the shares of Common Stock represented thereby.

In the event that the shares of Common Stock issuable upon conversion of the Preferred, is not delivered within six (6) business days of the date the Company receives the Conversion Notice, the Company shall pay to the Buyer, by wire transfer, as liquidated damages for such failure and not as a penalty, for each \$100,000 of Preferred sought to be converted, \$500 for each of the first five (5) calendar days and \$1,000 per calendar day thereafter that the shares of Common Stock are not delivered, which liquidated damages shall begin to run from the seventh (7th) business day after the Conversion Date. Any and all payments required pursuant to this paragraph shall be payable only in cash. Notwithstanding the above, liquidated damages shall not exceed \$2,000.00 per day. In addition to the liquidated damages set forth herein, in the event the Company fails to deliver the shares of Common Stock within six (6) business days after the Conversion date, the Company agrees to issue the larger number of shares of Common Stock derived from (i) the original Conversion Notice, or (ii) utilizing the five lowest closing bid prices of the Company's shares of Common Stock beginning on the Conversion Date and ending on the day the shares of Common Stock are delivered. The Company understands that a delay in the issuance of the shares of Common Stock could result in economic loss to the Holder. Nothing contained herein, or in the Preferred shall limit the Holder's rights to pursue actual damages for the Company's failure to issue and deliver shares of Common Stock to the Holder in accordance with the terms of the Certificate of Designations, and this Agreement.

(e) **Fractional Shares of Common Stock.** No fractional shares of Common Stock shall be issued upon conversion of any Preferred Stock into shares of Common Stock. All fractional shares of Common Stock shall be aggregated and then rounded down to the nearest whole share of Common Stock. In case the number of shares of Preferred Stock represented by the certificate or certificates surrendered pursuant to Subparagraph 5(b) exceeds the number of shares of Common Stock converted, the Corporation shall, upon such conversion, execute and deliver to the Holder, at the expense of the Corporation, a new certificate or certificates for the number of shares of Preferred Stock represented by the certificate or certificates surrendered which are not to be converted.

(f) **Merger or Consolidation.** In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the “Merger”), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the “Sale”), and such Merger or Sale becomes effective (x) while any shares of Preferred Stock are outstanding and prior to the date that the Corporation’s Registration Statement covering all the shares of Common Stock issuable upon the conversion of the Preferred Stock is declared effective by the U.S. Securities and Exchange Commission (“Commission”), the Corporation or such successor corporation as the case may be, shall make appropriate provision so that the Holder of each share of Preferred Stock then outstanding shall have the right to convert such share of Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 5.

In the event of a Merger or Sale, where the Corporation is not the surviving Corporation, the Holder shall have the right to redeem all of the outstanding shares of Preferred Stock at 120% of the Liquidation Value of each share of Preferred Stock then outstanding plus all accrued and unpaid dividends (the “Redemption Amount”). The Corporation shall pay this Redemption Amount in cash within ten (10) business days of receipt by the Corporation of notice from the Holder, and receipt by the Corporation of all outstanding shares of Preferred Stock duly endorsed by the Holder to the Corporation.

(g) **Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock.** If the Corporation at any time or from time to time while shares of Preferred Stock are issued and outstanding shall declare or pay, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.

(h) **Adjustments for Reclassification and Reorganization.** If the Common Stock issuable upon conversion of the Preferred Stock shall be changed into the same or a different number of shares of Common Stock of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination or shares of Common Stock provided for in Section 5(g) hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Preferred Stock would otherwise have been entitled to receive, a number of shares of Common Stock of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Preferred Stock immediately before that change.

6 Redemptions.

(a) **Redemption at Corporation's Option.** Except as otherwise provided in this Section 6, at any time, and from time to time, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time (i) for a period of 120 days from the date of issuance of the Preferred Stock up to an aggregate of 450 shares of Series 13 Class M Preferred Stock at the cash redemption price of \$1,000 per share and (ii) the then outstanding Series 13 Class M Preferred Stock at the following cash redemption prices if redeemed during the following periods: (a) within one year from July 15, 1999 - \$1,100 per share, except as otherwise provided in (i) above, and (b) after one year from July 15, 1999 - \$1,200 per share (as applicable, the redemption price of \$1,000, \$1,100 or \$1,200 is referred to herein as the "Redemption Price").

(b) **Mechanics of Redemption.** Prior to any date stipulated by the Corporation for the redemption of Series 13 Class M Preferred Stock (the "Redemption Date"), written notice (the "Redemption Notice") shall be mailed to each holder of record on such notice date of the Series 13 Class M Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 13 Class M Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 13 Class M Preferred Stock to be redeemed from such holder, and (iv) instructions, as to how to specify to the Corporation the number of Series 13 Class M Preferred Stock to be redeemed as provided in this Part 6 and, if the Redemption Notice is mailed to the Holder after the first year from the date of issuance of the Series 13 Class M Preferred Stock, the number of shares to be converted into Common Stock as provided in Part 5 hereof.

(c) **Rights of Conversion Upon Redemption.** If the redemption occurs during the first 12 months after the issuance of the Preferred Stock, the holder may not convert any redeemed shares. If the redemption occurs after the first year after the first issuance of Series 13 Class M Preferred Stock, then, upon receipt of the Redemption Notice, any holder of Series 13 Class M Preferred Stock shall have five business days during which it may exercise the option, at its sole election, to specify what portion of its Series 13 Class M Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 6 or converted into Common Stock in the manner provided in Part 5 hereof, except that, notwithstanding any provision of such Part 5 to the contrary, after one year from the date of first issuance of the Preferred Stock, such holder shall have the right to convert into Common Stock that number of Series 13 Class M Preferred Stock called for redemption in the Redemption Notice.

(d) **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 13 Class M Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 13 Class M Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

(e) **Payment.** On the Redemption Date in respect of any Series 13 Class M Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 13 Class M Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 13 Class M Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. My funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

7. Assignment.

Subject to all applicable restrictions on transfer, the rights and obligations of the Corporation and the Holder of the Preferred Stock shall be binding upon and benefit the successors, assigns, heirs, administrators, and transferees of the parties.

8. Shares of Common Stock to be Reserved.

The Corporation, upon the effective date of this Certificate of Designations, has a sufficient number of shares of Common Stock available to reserve for issuance upon the conversion of all outstanding shares of Preferred Stock, pursuant to the terms and conditions set forth in Section 5, and exercise of the Warrants as defined in Section 12. The Corporation will at all times reserve and keep available out of its authorized shares of Common Stock, solely for the purpose of issuance upon the conversion of Preferred Stock, and exercise of the Warrants, as herein provided, such number of shares of Common Stock as shall then be issuable upon the conversion of all outstanding shares of Preferred Stock, and exercise of the Warrants. The Corporation covenants that all shares of Common Stock which shall be so issued shall be duly and validly issued, fully paid and non-assessable. The Corporation will take such action as may be required, if the total number of shares of Common Stock issued and issuable after such action upon conversion of the Preferred Stock, and exercise of the Warrants would exceed the total number of shares of Common Stock then authorized by the Corporation's Certificate of Incorporation, as amended, or would exceed 19.99% of the shares of Common Stock then outstanding if required by law or the Rules and Regulations of NASDAQ or the National Securities Exchange applicable to the Corporation to take such action as a result of exceeding such 19.99%, in order to increase the number of shares of Common Stock to permit the Corporation to issue the number of shares of Common Stock required to effect conversion of the Preferred, and exercise of the Warrants, to a number sufficient to permit conversion of the Preferred Stock, and exercise of the Warrants, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to the Corporation's Restated Certificate of Incorporation, and to obtain shareholders approval in order to effect conversion of the Preferred Stock, and exercise of the Warrants, if required by law or the rules or regulations of the NASDAQ or National Securities Exchange applicable to the Corporation,

8(a) Shareholder Approval. In connection with the issuance to the Holder of the shares of Preferred Stock, pursuant to this Certificate of Designations, the Corporation is also issuing (i) certain warrants ("RBB Warrants") to the Holder pursuant to the terms of that certain Private Securities Subscription Agreement dated June 30, 1998 (the "Agreement"), providing for the purchase of up to 150,000 shares of Common Stock at an exercise price of \$2.50 per share and (ii) certain warrants (collectively, the "Liviakis Warrants") to Liviakis Financial Communication, Inc. ("Liviakis") and Robert B. Prag providing for the purchase of up to an aggregate of 2,500,000 shares of Common Stock at an exercise price of \$1.875 per share pursuant to the terms of that Liviakis Agreement dated June 30, 1998, between Liviakis and the Corporation.

If (i) the aggregate number of shares of Common Stock issued by the Corporation as a result of any or all of the following: (a) conversion of the Preferred Stock, (b) payment of dividends accrued on the Preferred Stock (c) exercise of the RBB Warrants, and (d) exercise of the Liviakis Warrants exceeds 2,388,347 shares of Common Stock (which equals 19.9% of the outstanding shares of Common Stock of the Corporation as of the date of this Certificate of Designations) and (ii) the Holder has converted or elects to convert any of the then outstanding shares of Preferred Stock pursuant to the terms of Section 5 at a Conversion Price less than \$ 1.875 (\$1.875 being the market value per share of Common Stock as quoted on the NASDAQ as of the close of business on June 30, 1998) pursuant to the terms of Section 5(b) hereof, other than if the Conversion Price is less than \$ 1.875 solely as a result of the anti-dilution provisions of Section 5(g) and (h) hereof, then, notwithstanding anything in Section 5 to the contrary, the Corporation shall not issue any shares of Common Stock as a result of receipt of a Conversion Notice unless and until the Corporation shall have obtained approval of its shareholders entitled to vote on the transactions in accordance with subparagraphs (25)(H)(i)d, (iv) and (v) of Rule 4310 of the NASDAQ Marketplace Rules ("Shareholder Approval").

If Shareholder Approval is required as set forth in the above paragraph, the Corporation shall take all necessary steps to obtain such Shareholder Approval upon receipt of the Conversion Notice triggering the need for Shareholder Approval ("Current Conversion Notice"). If the Corporation has not received from the Holder a Current Conversion Notice, the Holder, subsequent to January 1st, 1999 may, if the Corporation's shares of Common Stock trade, subsequent to January 1st, 1999, at a five (5) day average closing bid price below Two Dollars and 34/100 (\$2.34), upon written notice to the Corporation, require the Corporation to obtain Shareholder Approval ("Holder's Notice"). The Holder and the Corporation's officers' and directors covenant to vote all shares of Common Stock over which they have voting control in favor of Shareholder Approval. If the Corporation does not obtain Shareholder Approval within ninety (90) days of the earlier of the Corporation's receipt of (i) the Current Conversion Notice or (ii) the Holder's Notice, and the Holder has not breached its covenant to vote all shares of Common Stock over which they have voting control in favor of Shareholder Approval, the Corporation shall pay in cash to the Holder liquidated damages, in an amount of 4% per month of the Liquidation Value of each share of Preferred Stock then outstanding, commencing on the 91st day of the Corporation's receipt of the Holder's Current Conversion Notice, and continuing every thirty (30) days pro-rata until such time the Corporation receives Shareholder Approval.

9. No Reissuance of Series 13 Class M Convertible Preferred Stock.

Shares of Preferred Stock which are converted into shares of Common Stock as provided herein shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred stock hereafter created.

10. Closing of Books.

The Corporation will at no time close its transfer books against the transfer of any Preferred Stock or of any shares of Common Stock issued or issuable upon the conversion of any shares of Common Stock of Preferred Stock in any manner which interferes with the timely conversion of such Preferred Stock, except as may otherwise be required to comply with applicable securities laws.

11. No Preemptive Rights.

The Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

12. Definition of Shares.

As used in this Certificate of Designations, the term "shares of Common Stock" shall mean and include the Corporation's authorized common stock, par value \$.001, as constituted on the date of filing of these terms of the Preferred Stock, or in case of any reorganization, reclassification, or stock split of the outstanding shares of Common Stock thereof, the stock, securities or assets provided for hereof. The term "Warrants" as used herein shall have the same meaning as defined in Section 1 of the Private Securities Subscription Agreement, dated June 30, 1998, between the Company and RBB Bank Aktiengesellschaft.

The said determination of the designations, preferences and relative, participating, optional or other rights, and the qualifications, limitations or restrictions thereof, relating to the Preferred Stock was duly made by the Board of Directors pursuant to the provisions of the Corporation's Restated Certificate of Incorporation and in accordance with the provisions of the Delaware General Corporation Law.

**CERTIFICATE OF ELIMINATION
OF
SERIES 3 CLASS C CONVERTIBLE PREFERRED STOCK
AND
SERIES 8 CLASS H CONVERTIBLE PREFERRED STOCK
AND
SERIES 10 CLASS J CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Corporation"), hereby certifies the following:

1. That the Certificate of Designations of Series 3 Class C Convertible Preferred Stock, par value \$.001 per share, of the Corporation (the "Series 3 Preferred") was filed with the Delaware Secretary of State on July 19, 1996 (the "Series 3 Certificate of Designations").

2. That all outstanding shares of the Series 3 Preferred have been delivered to the Company and exchanged pursuant to an agreement with the holder thereof in accordance with the terms and conditions of a certain Exchange Agreement between the Company and RBB Bank Aktiengesellschaft, dated as of July 15, 1999.

3. That no shares of Series 3 Preferred remain outstanding.

4. That all shares of the Series 3 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

5. That effective July 15, 1999, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 3 Class C Convertible Preferred Stock, no authorized shares of Series 3 Class C Convertible Preferred Stock will remain outstanding and no shares of Series 3 Class C Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 3 Class C Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 3 Class C Convertible Preferred Stock.

6. That the Certificate of Designations of the Series 8 Class H Convertible Preferred Stock, par value \$.001 per share, of the Corporation (the "Series 8 Preferred") was filed on July 16, 1998 (the "Series 8 Certificate of Designations").

7. That all outstanding shares of the Series 8 Preferred have been delivered to the Company and exchanged pursuant to an agreement with the holder thereof in accordance with the terms and conditions of a certain Exchange Agreement between the Company and RBB Bank, dated as of July 15, 1999.

8. That no shares of Series 8 Preferred remain outstanding.

9. That all shares of the Series 8 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

10. That effective July 15, 1999, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 8 Class H Convertible Preferred Stock, no authorized shares of Series 8 Class H Convertible Preferred Stock will remain outstanding and no shares of Series 8 Class H Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 8 Class H Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 8 Class H Convertible Preferred Stock.

11. That the Certificate of Designations of the Series 10 Class J Convertible Preferred Stock, par value \$.001 per share, of the Corporation (the "Series 10 Preferred") was filed on July 10, 1998 (the "Series 10 Certificate of Designations").

12. That all outstanding shares of the Series 10 Preferred have been delivered to the Company and exchanged pursuant to an agreement with the holder thereof in accordance to the terms and conditions of a certain Exchange Agreement between the Company and RBB Bank, dated as of July 15, 1999.

13. That no shares of Series 10 Preferred remain outstanding.

14 That all shares of the Series 10 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

15. That effective July 15, 1999, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 10 Class J Convertible Preferred Stock, no authorized shares of Series 10 Class J Convertible Preferred Stock will remain outstanding and no shares of Series 10 Class J Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 10 Class J Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 10 Class J Convertible Preferred Stock.

16. That pursuant to the provisions of § 151(g) of the Delaware General Corporation Law, upon the effective date of the filing of this Certificate, this Certificate will have the effect of eliminating from the Restated Certificate of Incorporation only those matters set forth in the Restated Certificate of Incorporation with respect to the Series 3 Class C Convertible Preferred Stock, the Series 8 Class H Convertible Preferred Stock, and the Series 10 Class J Convertible Preferred Stock.

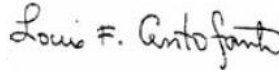
IN WITNESS WHEREOF, this Certificate of Elimination has been executed this 15th day of July, 1999, by the President of the Company.

ATTEST:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.



Richard T. Kelecy, Secretary
(SEAL)



By
Dr. Louis F. Centofanti, President

**CERTIFICATE OF DESIGNATIONS
OF SERIES 14 CLASS N CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**


Perm-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 14 Class N Convertible Preferred Stock and has established and fixed the voting powers, designations preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 14 Class N Convertible Preferred Stock as set forth in the attached resolutions.

Dated: August 10, 1999


PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By



Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 14 CLASS N CONVERTIBLE PREFERRED STOCK**

WHEREAS,

- A. The Corporation's share capital includes Preferred Stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in ones or more series by the Board of Directors of the Corporation (the "Board") being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences, and relative, participating, optional or other special rights, privileges, restrictions and conditions attaching to the shares of each such series; and
- B. It is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 14 Class N Convertible Preferred Stock, par value \$.001.

NOW, THEREFORE, BE IT RESOLVED, THAT:

The Series 14 Class N Convertible Preferred Stock, par value \$.001 (the "Series 14 Class N Preferred Stock") of the Corporation shall consist of 1,769 shares and no more and shall be designated as the Series 14 Class N Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 14 Class N Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights.

1.1 **Voting Rights.** Except as otherwise provided herein, in the Corporation's Certificate of Incorporation (the "Articles") or the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 14 Class N Preferred Stock shall have no voting rights whatsoever. To the extent that under the GCL the vote of the holders of the Series 14 Class N Preferred Stock, voting separately as a class or series as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the holders of at least a majority of the shares of the Series 14 Class N Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of a majority of the shares of Series 14 Class N Preferred Stock (except as otherwise may be required under the GCL) shall constitute the approval of such action by the series. To the extent that under the GCL the holders of the Series 14 Class N Preferred Stock are entitled to vote on a matter with holders of Corporation's Common Stock and/or any other class or series of the Corporation's voting securities, the Series 14 Class N Preferred Stock, the Corporation's Common Stock and all other classes or series of the Corporation's voting securities shall vote together as one class, with each share of Series 14 Class N Preferred Stock entitled to a number of votes equal to the number of shares of the Corporation's Common Stock into which it is then convertible using the record date for the taking of such vote of stockholders as the date as of which the Conversion Price (as defined in Section 4.3 hereof) is calculated and conversion is effected. Holders of the Series 14 Class N Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote, which notice would be provided pursuant to the Corporation's bylaws and applicable statutes.

1.2 **No Preemptive Rights.** The Series 14 Class N Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 14 Class N Preferred Stock shall be outstanding, the holders of the then outstanding Series 14 Class N Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Corporation's Common Stock equal to \$1,000 consideration per outstanding share of Series 14 Class N Preferred Stock, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 14 Class N Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Rights After Payment.** After the payment to the holders of the shares of the Series 14 Class N Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 14 Class N Preferred Stock as such shall have no right or claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to Pay Full Liquidation Preference.** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 14 Class N Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 14 Class N Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 14 Class N Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 14 Class N Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends.

3.1 The holders of the Series 14 Class N Preferred Stock are entitled to receive if, when and as declared by the Board out of funds legally available therefor, cumulative dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), at the Corporation's election, at the rate of six percent (6 %) per annum of the Liquidation Value of the Series 14 Class N Preferred Stock. The Liquidation Value of the Series 14 Class N Preferred Stock shall be \$1,000.00 per share (the "Dividend Rate"). The dividend is payable semi-annually within seven (7) business days after each of December 31 and June 30 of each year, commencing December 31, 1999 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 14 Class N Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from August 3, 1999. In the event that the Corporation elects to pay dividends in Common Stock of the Corporation, each holder of the Series 14 Class N Preferred Stock shall receive shares of Common Stock of the Corporation equal to the quotient of (i) the Dividend Rate in effect on the applicable Dividend Declaration Date divided by (ii) the average of the closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"). Dividends on the Series 14 Class N Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 14 Class N Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 14 Class N Preferred Stock shall have rights to convert the shares of Series 14 Class N Preferred Stock into shares of the Corporation's Common Stock, par value \$.001 per share ("Common Stock"), as follows (the "Conversion Rights"):

4.1 **No Right to Convert.** The Series 14 Class N Preferred shall not be convertible into shares of Common Stock until after April 20, 2000.

4.2 **Right to Convert.** The Series 14 Class N Preferred Stock may be convertible into shares of Common Stock at any time on or after April 20, 2000.

4.3 **Conversion Price.** As used herein, the term Conversion Price shall be the product of (i) the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately preceding the date of the Conversion Notice referred to in Section 4.4 below multiplied by (ii) seventy-five percent (75 %), subject to the provisions of this Section 4.3. Notwithstanding the foregoing, the Conversion Price shall not be (i) less than a minimum of \$1.50 per share for a period of twenty-four (24) months from April 20, 1999. or, after twenty-four (24) months from April 20, 1999, a minimum of \$.50 per share (as applicable, the "Minimum Conversion Price") or (ii) more than a maximum of \$1.50 per share ("Maximum Conversion Price"). If, after July 1, 1996, the Corporation sustains a net loss, on a consolidated basis, in each of two (2) consecutive quarters, as determined under generally accepted accounting principles, the Minimum Conversion Price shall be reduced \$.25 a share, but there shall be no change to, or reduction of, the Maximum Conversion Price. For the purpose of determining whether the Corporation has had a net loss in each of two (2) consecutive quarters, at no time shall a quarter that has already been considered in such determination be considered in any subsequent determination (as an example the third quarter of 1996 in which there is a net profit and the fourth quarter of 1996 in which there is a net loss shall be considered as two consecutive quarters, and, as a result the fourth quarter of 1996 shall not be considered along with the first quarter of 1997 as two (2) consecutive quarters, but the first quarter of 1997 must be considered with the second quarter of 1997 for the purposes of such determination). For the purposes of this Section 4.3, a "quarter" is a three (3) month period ending on March 31, June 30, September 30, and December 31. If any of the outstanding shares of Series 14 Class N Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 14 Class N Preferred Stock so surrendered for conversion by (b) the Conversion Price in effect at the date of the conversion. At the time of conversion of shares of the Series 14 Class N Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or, at the Corporations option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of shares of whole Common Stock which is equal to the product of dividing the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 14 Class N Preferred Stock so converted by the Conversion Price in effect at the date of conversion.

4.4 Mechanics of Conversion. Any holder of the Series 14 Class N Preferred Stock who wishes to exercise its Conversion Rights pursuant to the terms of this Part 4 must, if such shares are not being held in escrow by the Corporation's attorneys surrender the certificate therefor at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion Notice"). In the event that the shares of Series 14 Class N Preferred Stock are being held in escrow by the Corporation's attorneys, no delivery of the certificates shall be required. No Conversion Notice with respect to any shares of Series 14 Class N Preferred Stock can be given prior to the time such shares of Series 14 Class N Preferred Stock are eligible for conversion in accordance with the provision of Section 4.1 above. Any such premature Conversion Notice shall automatically be null and void. The Corporation shall, within five (5) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 14 Class N Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed that until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 14 Class N Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 14 Class N Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (or in the event that no surrender of the Certificate is required, then only upon the receipt by the Corporation of the Conversion Notice) (the "Conversion Documents"), and the person or entity whose name is noted on the certificate evidencing such shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received. If the Corporation fails to deliver to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion within five (5) business days after receipt by the Corporation from the holder of an appropriate and timely Conversion Notice and certificates pursuant to the terms of this Section 4.4, the Corporation shall pay to the holder U.S. \$1,000 for each day that the Corporation is late in delivering such certificate to the holder or its agent.

4.5 Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock. If the Corporation at any time or from time to time while shares of Series 14 Class N Preferred Stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate. If the Corporation shall declare or pay, without consideration, any dividend on the Common Stock payable in any right to acquire Common stock for no consideration, then the Corporation shall be deemed to have made a dividend payable in Common Stock in an amount of shares equal to the maximum number of shares issuable upon exercise of such rights to acquire Common Stock.

4.6. **Adjustments for Reclassification and Reorganization.** If the Common Stock issuable upon conversion of the Series 14 Class N Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.5 hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 14 Class N Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 14 Class N Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 14 Class N Preferred Stock immediately before that change.

4.7 **Common Stock Duly Issued.** All Common Stock which may be issued upon conversion of Series 14 Class N Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.

4.8 **Notice of Adjustments.** Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 14 Class N Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.

4.9 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 14 Class N Preferred Stock pursuant thereto; provided however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 14 Class N Preferred Stock in connection with such conversion,

4.10 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 14 Class N Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 14 Class N Preferred stock and, if at any time, the number of authorized but unissued shares of Common Stock shall, not be sufficient to effect the conversion of all then outstanding shares of the Series 14 Class N Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.

4.11 **Fractional Shares.** No fractional share shall be issued upon the conversion of any share or shares of Series 14 Class N Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 14 Class N Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.

4.12 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 14 Class N Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.

4.13 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or permitted to close.

Part 5 - Redemption.

5.1 **Redemption at Corporation’s Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, the then outstanding Series 14 Class N Preferred Stock at the following cash redemption prices if redeemed during the following periods: (i) within twelve (12) months from April 20, 1999 - \$1,100 per share, and (ii) after twelve (12) months from April 20, 1999 - \$1,200 per share (as applicable, the redemption price of \$1,100 or \$1,200 is referred to herein as the “Redemption Price”).

5.2 **Mechanics of Redemption.** Prior to any date stipulated by the Corporation for the redemption of Series 14 Class N Preferred Stock (the “Redemption Date”), written notice (the “Redemption Notice”) shall be mailed to each holder of record on such notice date of the Series 14 Class N Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 14 Class N Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 14 Class N Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 14 Class N Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first twelve (12) months from April 20, 1999, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.3 **Mechanics of Redemption.** Prior to any date stipulated by the Corporation for the redemption of Series 14 Class N Preferred Stock (the “Redemption Date”), written notice (the “Redemption Notice”) shall be mailed to each holder of record on such notice date of the Series 14 Class N Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 14 Class N Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 14 Class N Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 14 Class N Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first 12 months from April 20, 1999, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.4 Rights of Conversion Upon Redemption. If the redemption occurs during the first 12 months after April 20, 1999, the holder may not convert any redeemed shares. If the redemption occurs pursuant to Section 5.1 (i) hereof, the Holder of the Series 14 Class N Preferred Stock shall not have the right to convert those outstanding shares of Series 14 Class N Preferred Stock that the Company is redeeming after receipt of the Redemption Notice. If the redemption occurs pursuant to Section 5.1 (ii) hereof, then, upon receipt of the Redemption Notice, any holder of Series 14 Class N Preferred Stock shall have the next five business days during which it may exercise the option, at its sole election, to specify what portion of its Series 14 Class N Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof, except that, notwithstanding any provision of such Part 4 to the contrary, after twelve (12) months from April, 20, 1999, such holder shall have the right to convert into Common Stock that number of Series 14 Class N Preferred Stock called for redemption in the Redemption Notice.

5.5 Surrender of Certificates. On or before the Redemption Date in respect of any Series 14 Class N Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.6 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 14 Class N Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

5.6 Payment. On the Redemption Date in respect of any Series 14 Class N Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least U. S. \$50,000,000, as a trust fund, a sum equal to the aggregate First Year Redemption Price or the Redemption Price, whichever is applicable, of all such shares called from redemption (less the aggregate Redemption Price for those Series 14 Class N Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 14 Class N Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the First Year Redemption Price or the Redemption Price, whichever is applicable, of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the First Year Redemption Price or the Redemption Price, whichever is applicable, in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 14 Class N Preferred Stock and Priority

6.1 **Rateable Participation**. If any cumulative dividends or return of capital in respect of Series 14 Class N Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

6.2 **Ranking**. For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:

6.2.1 Prior or senior to the shares of this Series 14 Class N Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 14 Class N Preferred Stock;

6.2.2 On a parity with, or equal to, shares of this Series 14 Class N Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 14 Class N Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 14 Class N Preferred Stock; and,

6.2.3 Junior to shares of this Series 14 Class N Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 14 Class N Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Amendment and Reissue.

7.1 **Amendment.** If any proposed amendment to the Corporation's Certificate of Incorporation would alter or change the powers, preferences or special rights of the Series 14 Class N Preferred Stock so as to affect such adversely, then the Corporation must obtain the affirmative vote of such amendment to the Certificate of Incorporation at a duly called and held series meeting of the holders of the Series 14 Class N Preferred Stock or written consent by the holders of a majority of the Series 14 Class N Preferred Stock then outstanding. Notwithstanding the above, the number of authorized shares of any class or classes of stock may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of this Section 7.1 or the requirements of Section 242 of the GCL.

7.2 **Authorized.** Any shares of Series 14 Class N Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred' Stock hereafter created.

**CERTIFICATE OF DESIGNATIONS
OF SERIES 15 CLASS O CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 15 Class O Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 15 Class O Convertible Preferred Stock as set forth in the attached resolutions.

Dated: August 10, 1999

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By Louis F. Centofanti

Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:

Richard T. Kececy

Richard T. Kececy, Secretary

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 12:31 PM 08/10/1999
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PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(The "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHT, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 15 CLASS O CONVERTIBLE PREFERRED STOCK**

WHEREAS, the Corporation's capital includes preferred stock, par value \$.001 per share ("Preferred Stock"), which Preferred Stock may be issued in one or more series by resolutions adopted by the directors, and with the directors being entitled by resolution to fix the number of shares in each series and to designate the rights, designations, preferences and relative, participating, optional or other special rights and privileges, restrictions and conditions attaching to the shares of each such series;

WHEREAS, it is in the best interests of the Corporation for the Board to create a new series from the Preferred Stock designated as the Series 15 Class O Convertible Preferred Stock, par value \$.001 per share (the "Series 15 Class O Preferred Stock");

NOW THEREFORE, BE IT RESOLVED, that the Series 15 Class O Preferred Stock shall consist of six hundred sixteen (616) shares and no more and shall be designated as the Series 15 Class O Convertible Preferred Stock, and the preferences, rights, privileges, restrictions and conditions attaching to the Series 15 Class O Preferred Stock shall be as follows:

Part 1 - Voting and Preemptive Rights.

1.1 **Voting Rights.** Except as otherwise provided in Part 7 hereof or under Section 242(b)(2) of the General Corporation Law of the State of Delaware (the "GCL"), the holders of the Series 15 Class O Preferred Stock shall have no voting rights whatsoever. To the extent that under Section 242(b)(2) of the GCL or Part 7 hereof, the holders of the Series 15 Class O Preferred Stock are entitled to vote on a matter, each share of the Series 15 Class O Preferred Stock shall be entitled one (1) vote for each outstanding share of Series 15 Class O Preferred Stock. Holders of the Series 15 Class O Preferred Stock shall be entitled to notice of (and copies of proxy materials and other information sent to stockholders) for all shareholder meetings or written consents with respect to which they would be entitled to vote, which notice would be provided pursuant to the Corporation's bylaws and applicable statutes.

1.2 **No Preemptive Rights.** The Series 15 Class O Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

Part 2 - Liquidation Rights.

2.1 **Liquidation.** If the Corporation shall be voluntarily or involuntarily liquidated, dissolved or wound up at any time when any shares of the Series 15 Class O Preferred Stock shall be outstanding, the holders of the then outstanding Series 15 Class O Preferred Stock shall have a preference in distribution of the Corporation's property available for distribution to the holders of the Corporation's Common Stock equal to \$1,000 consideration per outstanding share of Series 15 Class O Preferred Stock, plus an amount equal to all unpaid dividends accrued thereon to the date of payment of such distribution ("Liquidation Preference"), whether or not declared by the Board.

2.2 **Payment of Liquidation Preferences.** Subject to the provisions of Part 6 hereof, all amounts to be paid as Liquidation Preference to the holders of Series 15 Class O Preferred Stock, as provided in this Part 2, shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any of the Corporation's property to the holders of the Corporation's Common Stock, whether now or hereafter authorized, in connection with such liquidation, dissolution or winding up.

2.3 **No Right After Payment.** After the payment to the holders of the shares of the Series 15 Class O Preferred Stock of the full Liquidation Preference amounts provided for in this Part 2, the holders of the Series 15 Class O Preferred Stock as such shall have right or claim to any of the remaining assets of the Corporation.

2.4 **Assets Insufficient to Pay Full Liquidation Preference.** In the event that the assets of the Corporation available for distribution to the holders of shares of the Series 15 Class O Preferred Stock upon any dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, shall be insufficient to pay in full all amounts to which such holders are entitled pursuant to this Part 2, no such distribution shall be made on account of any shares of any other class or series of Preferred Stock ranking on a parity with the shares of this Series 15 Class O Preferred Stock upon such dissolution, liquidation or winding up unless proportionate distributive amounts shall be paid on account of the shares of this Series 15 Class O Preferred Stock and shares of such other class or series ranking on a parity with the shares of this Series 15 Class O Preferred Stock, ratably, in proportion to the full distributable amounts for which holders of all such parity shares are respectively entitled upon such dissolution, liquidation or winding up.

Part 3 - Dividends. The holders of the Series 15 Class O Preferred Stock are entitled to receive if, when and as declared by the Board out of funds legally available therefore, cumulative dividends, payable in cash or Common Stock of the Corporation, par value \$.001 per share (the "Common Stock"), or any combination thereof, at the Corporation's election, at the rate of four percent (4%) per annum of the Liquidation Value (as defined below) of each issued and outstanding share of Series 15 Class O Preferred Stock (the "Dividend Rate"). The Liquidation Value of the Series 15 Class O Preferred Stock shall be \$1.000 per outstanding share of the Series 15 Class O Preferred Stock (the "Liquidation Value"). The dividend is payable semi-annually within seven (7) business days after each of December 31 and June 30 of each year, commencing December 31, 1999 (each, a "Dividend Declaration Date"). Dividends shall be paid only with respect to shares of Series 15 Class O Preferred Stock actually issued and outstanding on a Dividend Declaration Date and to holders of record of the Series 15 Class O Preferred Stock as of the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from August 3, 1999. In the event that the Corporation elects to pay to accrued dividends due as of a Dividend Declaration Date on an outstanding share of the Series 15 Class O Preferred Stock in Common Stock of the Corporation, the holder of such share shall receive that number of shares of Common Stock of the Corporation equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or the average closing sale price if listed on a national securities exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid and the denominator of which is 365. Dividends on the Series 15 Class O preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Series 15 Class O Preferred Stock shall have been paid or declared and set aside for payment.

Part 4 - Conversion. The holders of the Series 15 Class O Preferred Stock shall have rights to convert the shares of Series 15 Class O Preferred Stock into shares of the Corporation's Common Stock, par value \$.001 per share ("Common Stock"), as follows (the "Conversion Rights"):

4.1 **No Right to Convert.** The Series 15 Class O Preferred shall not be convertible into shares of Common Stock until after April 20, 2000.

4.2 **Right to Convert.** The Series 15 Class O Preferred Stock may be convertible into shares of Common Stock at any time after April 20, 2000.

4.3 **Conversion Price.** Subject to the terms hereof, as used herein, the Conversion Price per outstanding share of Series 15 Class O Preferred Stock shall be \$1.8125, except that, in the event the average closing bid price per share of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days prior to the particular date of conversion shall be less than \$2.265, the Conversion Price for only such particular conversion shall be the product of the average closing bid quotation of the Common Stock as reported on the over-the-counter market, or the closing sale price if listed on a national securities exchange, for the five (5) trading days immediately preceding the date of the Conversion Notice referred to in Section 4.4 below in connection with such conversion multiplied by eighty percent (80%), subject to the provisions of this Section 4.2. Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$1.50 per share ("Minimum Conversion Price") for a period of twenty-four (24) months from April 20, 1999. If any of the outstanding shares of Series 15 Class O Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Part 4, the number of shares of whole Common Stock to be issued to the holder as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Series 15 Class O Preferred Stock so surrendered for conversion by (b) the Conversion Price as of such conversion. At the time of conversion of shares of the Series 15 Class O Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount to all unpaid and accrued dividends, if any, accrued thereon to the date of conversion, or at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of whole shares of Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of conversion on the shares of Series 15 Class O Preferred Stock so converted divided by the Stock Dividend Price, as defined in Part 3 hereof, in effect at the date of conversion.

4.4 Mechanics of Conversion. Any holder of the Series 15 Class O Preferred Stock who wishes to exercise its Conversion Rights pursuant to the terms of this Part 4 must, if such shares are not being held in escrow by the Corporation's attorneys, surrender the certificate therefore at the principal executive office of the Corporation, and give written notice, which may be via facsimile transmission, to the Corporation at such office that it elects to convert the same (the "Conversion, Notice"). In the event that the shares of Series 15 Class O Preferred Stock are being held in escrow by the Corporation's attorneys, no delivery of the certificates shall be required. The Corporation shall, within five (5) business days after receipt of an appropriate and timely Conversion Notice (and certificate, if necessary), issue to such holder of Series 15 Class O Preferred Stock or its agent a certificate for the number of shares of Common Stock to which he shall be entitled; it being expressly agreed the until and unless the holder delivers written notice to the Corporation to the contrary, all shares of Common Stock issuable upon conversion of the Series 15 Class O Preferred Stock hereunder are to be delivered by the Corporation to a party designated in writing by the holder in the Conversion Notice for the account of the holder and such shall be deemed valid delivery to the holder of such shares of Common Stock. Such conversion shall be deemed to have been made only after both the certificate for the shares of Series 15 Class O Preferred Stock to be converted have been surrendered and the Conversion Notice is received by the Corporation (or in the event that no surrender of the Certificate is required, then only upon the receipt by the Corporation of the Conversion Notice) (the "Conversion Documents"), and the person or entity whose name is noted on the certificate evidencing such shares of Common Stock issuable upon such conversion shall be treated for all purpose as the record holder of such shares of Common Stock at and after such time. In the event that the Conversion Notice is sent via facsimile transmission, the Corporation shall be deemed to have received such Conversion Notice on the first business day on which such facsimile Conversion Notice is actually received. If the Corporation fails to deliver to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion of the Series 15 Class O Preferred Stock within seven (7) business days after receipt by the Corporation from the holder of an appropriate and timely Conversion Notice and certificates pursuant to the terms of this section 4.4 ("Seven (7) Business Day Period"), then, upon the written demand of RBB Bank Aktiengesellschaft ("RBB Bank"), the holder of the Series 15 Class O Preferred Stock, for payment of the penalty described below in this Section 4.4, which demand must be received by the Corporate no later than ten (10) calendar days after the expiration of such Seven (7) Business Day Period, the Corporation shall pay to RBB Bank the following penalty for each business day after the Seven (7) Business Day Period until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion: business day eight (8) -U.S. \$1,000; business day nine (9) - U.S. \$2,000, and each business day thereafter an amount equal to the penalty due on the immediately preceding business day times two (2) until the Corporation delivers to the holder or its agent the certificate representing the shares of Common Stock that the holder is entitled to receive as a result of such conversion.

4.5 Merger or Consolidation. In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the "Merger"), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the "Sale"), and such Merger or Sale becomes effective (x) while any shares of Series 15 Class O Preferred Stock are outstanding and prior to the date that the Corporation's Registration Statement Covering up to 1,379,311 shares of Common Stock issuable upon the conversion of the Series 15 Class O Preferred Stock is declared effective by the U.S. Securities and Exchange Commission or (y) prior to the end of the restriction periods in Section 4.3, then, in such event, the Corporation or such successor corporation, as the case may be, shall make appropriate provision so that the holder of each share of Series 15 Class O Preferred Stock then outstanding shall have the right to convert such share of Series 15 Class O Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Series 15 Class O Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Part 4.

4.6 Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock. If the Corporation at any time or from time to time while shares of Series 15 Class O Preferred Stock are issued and outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.

4.7 Adjustments for Reclassification and Reorganization. If the Common Stock issuable upon conversion of the Series 15 Class O Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Section 4.6 hereof). the Conversion Price shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Series 15 Class O Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Series 15 Class O Preferred Stock would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Series 15 Class O Preferred Stock immediately before that change.

4.8 Common Stock Duly Issued. All Common Stock which may be issued upon conversion of Series 15 Class O Preferred Stock will, upon issuance, be duly issued, fully paid and nonassessable and free from all taxes, liens, and charges with respect to the issue thereof.

4.9 Notice of Adjustments. Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Part 4, the Corporation, at its expense, within a reasonable period of time, shall compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Series 15 Class O Preferred Stock a notice setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment is based.

4.10 **Issue Taxes.** The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series 15 Class O Preferred Stock pursuant thereto; provided, however, that the Corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder of Series 15 Class O Preferred Stock in connection with such conversion.

4.11 **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series 15 Class O Preferred Stock, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series 15 Class O Preferred stock, and, if at any time, the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series 15 Class O Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to its Certificate of Incorporation.

4.12 **Fractional Shares.** No fractional shares shall be issued upon the conversion of any share or shares of Series 15 Class O Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series 15 Class O Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fractional share of Common Stock, such fractional share shall be rounded up to the nearest whole share.

4.13 **Notices.** Any notices required by the provisions of this Part 4 to be given to the holders of shares of Series 15 Class O Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.

4.14 **Business Day.** As used herein, the term “business day” shall mean any day other than a Saturday, Sunday or a day when the federal and state banks located in the State of New York are required or is permitted to close.

Part 5 - Redemption.

5.1 **Redemption at Corporation's Option.** Except as otherwise provided in this Section 5.1, at any time, and from time to time, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time, the then outstanding Series 15 Class O Preferred Stock at the following cash redemption prices if redeemed during the following periods: (i) within twelve (12) months from April 20, 1999 - \$1,100 per share and (ii) after twelve (12) months from April 20, 1999 - \$1,200 per share (as applicable, the redemption price of \$1,100 or \$1,200 is referred to herein as the "Redemption Price").

5.2 **Mechanics of Redemption.** Prior to any date stipulated by the Corporation for the redemption of Series 15 Class O Preferred Stock (the "Redemption Date"), written notice (the "Redemption Notice") shall be mailed to each holder of record on such notice date of the Series 15 Class O Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 15 Class O Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 15 Class O Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 15 Class O Preferred Stock to be redeemed as provided in this Part 5 and, if the Redemption Notice is mailed to the Holder after the first twelve (12) months from April 20, 1999, the number of shares to be converted into Common Stock as provided in Part 4 hereof.

5.3 **Rights of Conversion Upon Redemption.** If the redemption occurs during the first twelve (12) months after April 20, 1999, the holder may not convert any redeemed shares. If the redemption occurs after the first twelve (12) months after April 20, 1999, then, upon receipt of the Redemption Notice, any holder of Series 15 Class O Preferred Stock shall have five business days during which it may exercise the option, at its sole election, to specify what portion of its Series 15 Class O Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 5 or converted into Common Stock in the manner provided in Part 4 hereof, except that, notwithstanding any provision of such Part 4 to the contrary, after twelve (12) months from April 20, 1999, such holder shall have the right to convert into Common Stock that number of Series 15 Class O Preferred Stock called for redemption in the Redemption Notice.

5.4 **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 15 Class O Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided in Section 5.5 hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 15 Class O Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

5.5 **Payment.** On the Redemption Date in respect of any Series 15 Class O Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 15 Class O Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 15 Class O Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

Part 6 - Parity with Other Shares of Series 15 Class O Preferred Stock and Priority.

6.1 **Rateable Participation.** If any cumulative dividends or return of capital in respect of Series 15 Class O Preferred Stock are not paid in full, the owners of all series of outstanding Preferred Stock shall participate rateably in respect of accumulated dividends and return of capital.

6.2 **Ranking.** For purposes of this resolution, any stock of any class or series of the Corporation shall be deemed to rank:

- 6.2.1 Prior or senior to the shares of this Series 15 Class O Preferred Stock either as to dividends or upon liquidation, if the holders of such class or classes shall be entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of this Series 15 Class O Preferred Stock;
- 6.2.2 On a parity with, or equal to, shares of this Series 15 Class O Preferred Stock, either as to dividends or upon liquidation, whether or not the dividend rates, dividend payment dates, or redemption or liquidation prices per share or sinking fund provisions, if any, are different from those of this Series 15 Class O Preferred Stock, if the holders of such stock are entitled to the receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, in proportion to their respective dividend rates or liquidation prices, without preference or priority, one over the other, as between the holders of such stock and over the other, as between the holders of such stock and the holders of shares of this Series 15 Class O Preferred Stock; and,
- 6.2.3 Junior to shares of this Series 15 Class O Preferred Stock, either as to dividends or upon liquidation, if such class or series shall be Common Stock or if the holders of shares of this Series 15 Class O Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, as the case may be, in preference or priority to the holders of shares of such class or series.

Part 7 - Amendment and Reissue.

7.1 **Amendment.** If any proposed amendment to the Corporation's Certificate of Incorporation (the "Articles") would alter or change the powers, preferences or special rights of the Series 15 Class O Preferred Stock so as to affect such adversely, then the Corporation must obtain the affirmative vote of such amendment to the Articles at a duly called and held series meeting of the holders of the Series 15 Class O Preferred Stock or written consent by the holders of a majority of the Series 15 Class O Preferred Stock then outstanding. Notwithstanding the above or the provisions of Section 242(b)(2) of the GCL, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of this Section 7.1 or Section 242(b)(2) of the GCL.

7.2 **Authorized.** Any shares of Series 15 Class O Preferred Stock acquired by the Corporation by reason of purchase, conversion, redemption or otherwise shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred Stock hereafter created.

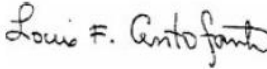
**CERTIFICATE OF DESIGNATIONS
OF SERIES 16 CLASS P CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 16 Class P Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 16 Class P Convertible Preferred Stock as set forth in the attached resolutions.

Dated: August 10, 1999

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By 

Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 12:32 PM 08/10/1999
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PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 16 CLASS P CONVERTIBLE PREFERRED STOCK**

RE: DESIGNATION OF SERIES 16 CLASS P PREFERRED STOCK.

RESOLVED: That the designations, powers, preferences and rights of the Series 16 Class P Convertible Preferred Stock be, and they hereby are, as set forth below:

1. Number of Shares of Common Stock of Series 16 Class P Convertible Preferred Stock

The Corporation hereby authorizes the issuance of up to one thousand eight hundred two (1,802) shares of Series 16 Class P Convertible Preferred Stock par value \$.001 per share (the "Preferred Stock"). This Preferred Stock shall pay an annual dividend based on a 365 day calendar year of 4% of the Liquidation Value (as defined in Section 3 hereof) ("Dividend Rate"), payable semiannually within ten (10) business days after each subsequent June 30th and December 31st (each a "Dividend Declaration Date"), and shall be payable in cash or shares of the Corporation's par value \$.001 per share common stock (Common Stock) at the Corporation's option. The first Dividend Declaration Date shall be December 31st, 1999.

In the event that the Corporation elects to pay the accrued dividends due as of a Dividend Declaration Date on the outstanding shares of Preferred Stock in Common Stock of the Corporation, the Holder of each share of Preferred Stock shall receive that number of shares of Common Stock equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange, the average closing bid price of the Common Stock as quoted on such national exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid, and the denominator of which is 365. Dividends on the Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Preferred Stock shall have been paid or declared and set aside for payment.

2. Voting.

Except as provided under Section 242 of the GCL, holders of Preferred Stock (the "Holders") shall not have the right to vote on any matter. Notwithstanding the provisions of Section 242 of the GCL or Section 4 hereof, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of Section 242 of the GCL.

3. Liquidation.

In the event of a voluntary or involuntary dissolution, liquidation, or winding up of the Corporation, the Holders of Preferred Stock shall be entitled to receive out of the assets of the Corporation legally available for distribution to holders of its capital stock, before any payment or distribution shall be made to holders of shares of Common Stock or any other class of stock ranking junior to the Preferred Stock, an amount per share of Preferred Stock equal to \$1,000 (the "Liquidation Value") plus any accrued and unpaid dividends on the Preferred Stock. If upon such liquidation, dissolution, or winding up of the Corporation, whether voluntary or involuntary, the assets to be distributed among the Holders of Preferred Stock shall be insufficient to permit payment to the Holders of Preferred Stock of the amount distributable as aforesaid, then the entire assets of the Corporation to be so distributed shall be distributed ratably among the Holders of Preferred Stock and shares of such other classes or series ranking on a parity with the shares of this Preferred Stock in proportion to the full distributable amounts for which holders of all such parity shares are entitled upon such distribution, liquidation, or winding up. Upon any such liquidation, dissolution or winding up of the Corporation, after the Holders of Preferred Stock shall have been paid in full the amounts to which they shall be entitled, the remaining net assets of the Corporation may be distributed to the holders of stock ranking on liquidation junior to the Preferred Stock and the Holders of the Preferred Stock shall have no right or claim to any of the remaining assets of the Corporation. Written notice of such liquidation, dissolution or winding up, stating a payment date, the amount of the liquidation payments and the place where said liquidation payments shall be payable, shall be given by mail, postage prepaid or by telex or facsimile to non-U.S. residents, not less than 10 days prior to the payment date stated therein, to the Holders of record of Preferred Stock, such notice to be addressed to each such Holder at its address as shown by the records of the Corporation. For purposes hereof the shares of Common Stock, shall rank on liquidation junior to the Preferred Stock.

4. Restrictions.

The Corporation will not amend or modify the terms of its Restated Certificate of Incorporation so as to adversely alter or change the Preferred Stock at any time when shares of Preferred Stock are outstanding, without the approval of the Holders of at least a majority of the then outstanding shares of Preferred Stock given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a series, except where the vote or written consent of the Holders of a greater number of shares of Common Stock of the Corporation is required by law or by the Corporation's Certificate of Incorporation, as amended.

5. Optional Conversion.

The Holders of shares of Preferred Stock shall have the following conversion rights to convert the shares of Preferred Stock into shares of Common Stock of the Corporation:

(a) **No Right to Convert.** The Preferred Stock shall not be convertible into shares of Common Stock until after April 20, 2000.

(b) **Conversion Dates.** The Preferred Stock may be convertible into shares of Common Stock at any time after April 20, 2000.

(c) **Right to Convert; Conversion Price.** Subject to the terms hereof, as used herein, the term Conversion Price per outstanding share of Preferred Stock shall be One Dollar and 875/100 (\$1.875); except that after the expiration of one hundred and eighty (180) days after the Closing Date if the average of the closing bid price per share of Common Stock quoted on the NASDAQ (or the closing bid price of the Common Stock as quoted on the national securities exchange if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange) for the five (5) trading days immediately prior to the particular date of each Conversion Notice (as defined below) is less than Two Dollars and 34/100 (\$2.34), then the Conversion Price for that particular conversion shall be eighty percent (80%) of the average of the closing bid price of the Common Stock on the NASDAQ (or if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange then eighty percent (80%) of the average of the closing bid price of the Common Stock on the national securities exchange) for the five (5) trading days immediately prior to the particular date of the Conversion Notice. Notwithstanding the foregoing, the Conversion Price shall not be less than a minimum of \$1.50 per share ("Minimum Conversion Price") for a period of twenty-four (24) months from April 20, 1999.

If any of the outstanding shares of Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Section 5(c), the number of shares of whole Common Stock to be issued to the Holder as a result of such conversion shall be determined by dividing (a) the aggregate Stated Value of the Preferred Stock so surrendered for conversion by (b) the Conversion Price in effect on the date of that particular Conversion Notice relating to such conversion. At the time of conversion of shares of the Preferred Stock, the Corporation shall pay in cash to the holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon on the shares of Preferred so converted to the date of the Conversion Notice relating to such conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number of shares of whole Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of the Conversion Notice relating to such conversion of the shares of Preferred Stock so converted divided by the Stock Dividend Price, in effect at the date of the Conversion Notice relating to such conversion.

(d) **Conversion Notice.** The right of conversion shall be exercised by the Holder thereof by telecopying or faxing an executed and completed written notice signed by an authorized representative of the Holder, ("Conversion Notice") to the Corporation that the Holder elects to convert a specified number of shares of Preferred Stock representing a specified Stated Value thereof into shares of Common Stock and by delivering by express courier the certificate or certificates of Preferred Stock being converted to the Corporation at its principal office (or such other office or agency of the Corporation as the Corporation may designate by notice in writing to the Holders of the Preferred Stock). The business date indicated on a Conversion Notice which is telecopied to and received by the Corporation in accordance with the provisions hereof shall be deemed a Conversion Date. The Conversion Notice shall include therein the Stated Value of shares of Preferred Stock to be converted, and a calculation (a) of the Stock Dividend Price, (b) the Conversion Price, and (c) the number of Shares of Common Stock to be issued in connection with such conversion. The Corporation shall have the right to review the calculations included in the Conversion Notice, and shall provide notice of any discrepancy or dispute therewith within three (3) business days of the receipt thereof. The Holder shall deliver to the Corporation an original Conversion Notice and the original Preferred to be converted within three (3) business days from the date of the Conversion Notice.

(e) **Issuance of Certificates - Time Conversion Effected.** Promptly, but in no event more than six (6) business days, after the receipt by facsimile of the Conversion Notice referred to in Subparagraph (5)(c); and provided within the six (6) business days the Corporation receives the certificate or certificates for the shares of Preferred Stock to be converted, the Corporation shall issue and deliver, or cause to be issued and delivered, to the Holder, registered in the name of the Holder, a certificate or certificates for the number of whole shares of Common Stock into which such shares of Preferred Stock are converted. Such conversion shall be deemed to have been effected as of the close of business on the date on which the telecopy or facsimile Conversion Notice shall have been received by the Corporation, and the rights of the Holder of such share or shares of Preferred Stock shall cease, at such time, and the Holder or Holders shall be deemed to have become the Holder or Holders of record of the shares of Common Stock represented thereby.

In the event that the shares of Common Stock issuable upon conversion of the Preferred, are not delivered within six (6) business days of the date the Corporation receives the Conversion Notice, the Corporation shall pay to the Holder, by wire transfer, as liquidated damages for such failure and not as a penalty, for each \$100,000 of Preferred sought to be converted, \$500 for each of the first five (5) calendar days and \$1,000 per calendar day thereafter that the shares of Common Stock are not delivered, which liquidated damages shall begin to run from the seventh (7th) business day after the Conversion Date. Any and all payments required pursuant to this paragraph shall be payable only in cash. Notwithstanding the above, liquidated damages shall not exceed \$2,000.00 per day. In addition to the liquidated damages set forth herein, in the event the Corporation fails to deliver the shares of Common Stock within six (6) business days after the Conversion date, the Corporation agrees to issue the larger number of shares of Common Stock derived from (i) the original Conversion Notice, or (ii) utilizing the five lowest closing bid prices of the Corporation's shares of Common Stock beginning on the Conversion Date and ending on the day the shares of Common Stock are delivered. The Corporation understands that a delay in the issuance of the shares of Common Stock could result in economic loss to the Holder. Nothing contained herein, or in the Preferred shall limit the Holder's rights to pursue actual damages for the Corporation's failure to issue and deliver shares of Common Stock to the Holder in accordance with the terms of the Certificate of Designations, and this Agreement.

(f) **Fractional Shares of Common Stock.** No fractional shares of Common Stock shall be issued upon conversion of any Preferred Stock into shares of Common Stock. All fractional shares of Common Stock shall be aggregated and then rounded down to the nearest whole share of Common Stock. In case the number of shares of Preferred Stock represented by the certificate or certificates surrendered pursuant to Subparagraph 5(d) exceeds the number of shares of Common Stock converted, the Corporation shall, upon such conversion, execute and deliver to the Holder, at the expense of the Corporation, a new certificate or certificates for the number of shares of Preferred Stock represented by the certificate or certificates surrendered which are not to be converted.

(g) **Merger or Consolidation.** In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the “Merger”), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the “Sale”), and such Merger or Sale becomes effective while any shares of Preferred Stock are outstanding and prior to the date that the Corporation’s Registration Statement covering all the shares of Common Stock issuable upon the conversion of the Preferred Stock is declared effective by the U.S. Securities and Exchange Commission (“Commission”), the Corporation or such successor corporation as the case may be, shall make appropriate provision so that the Holder of each share of Preferred Stock then outstanding shall have the right to convert such share of Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 5.

In the event of a Merger or Sale, where the Corporation is not the surviving Corporation, the Holder shall have the right to redeem all of the outstanding shares of Preferred Stock at 120% of the Liquidation Value of each share of Preferred Stock then outstanding plus all accrued and unpaid dividends (the “Redemption Amount”). The Corporation shall pay this Redemption Amount in cash within ten (10) business days of receipt by the Corporation of notice from the Holder, and receipt by the Corporation of all outstanding shares of Preferred Stock duly endorsed by the Holder to the Corporation.

(h) **Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock,** If the Corporation at any time or from time to time while shares of Preferred Stock are issued and outstanding shall declare or pay, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.

(i) **Adjustments for Reclassification and Reorganization.** If the Common Stock issuable upon conversion of the Preferred Stock shall be changed into the same or a different number of shares of Common Stock of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination or shares of Common Stock provided for in Section 5(h) hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders of Preferred Stock would otherwise have been entitled to receive, a number of shares of Common Stock of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of the Preferred Stock immediately before that change.

6 Redemption.

(a) **Redemption at Corporation's Option.** Except as otherwise provided in this Section 6, at any time, and from time to time, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time the then outstanding Series 16 Class P Preferred Stock at the following cash redemption prices if redeemed during the following periods: (i) within twelve (12) months from April 20, 1999 - \$1,100 per share, and (ii) after twelve (12) months from April 20, 1999 - \$1,200 per share (as applicable, the redemption price of \$1,100 or \$1,200 is referred to herein as the "Redemption Price").

(b) **Mechanics of Redemption.** Prior to any date stipulated by the Corporation for the redemption of Series 16 Class P Preferred Stock (the "Redemption Date"), written notice (the "Redemption Notice") shall be mailed to each holder of record on such notice date of the Series 16 Class P Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Series 16 Class P Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Series 16 Class P Preferred Stock to be redeemed from such holder, and (iv) instructions as to how to specify to the Corporation the number of Series 16 Class P Preferred Stock to be redeemed as provided in this Part 6 and, if the Redemption Notice is mailed to the Holder after the first twelve (12) months from April 20, 1999, the number of shares to be converted into Common Stock as provided in Part 5 hereof.

(c) **Rights of Conversion Upon Redemption.** If the redemption occurs during the first twelve (12) months after April 20, 1999, the holder may not convert any redeemed shares. If the redemption occurs after the first twelve (12) months after April 20, 1999, then, upon receipt of the Redemption Notice, any holder of Series 16 Class P Preferred Stock shall have five business days during which it may exercise the option, at its sole election, to specify what portion of its Series 16 Class P Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Part 6 or converted into Common Stock in the manner provided in Part 5 hereof, except that, notwithstanding any provision of such Part 5 to the contrary, after twelve (12) months from April 20, 1999, such holder shall have the right to convert into Common Stock that number of Series 16 Class P Preferred Stock called for redemption in the Redemption Notice.

(d) **Surrender of Certificates.** On or before the Redemption Date in respect of any Series 16 Class P Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Series 16 Class P Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

(e) **Payment.** On the Redemption Date in respect of any Series 16 Class P Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Series 16 Class P Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Series 16 Class P Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

7. Assignment.

Subject to all applicable restrictions on transfer, the rights and obligations of the Corporation and the Holder of the Preferred Stock shall be binding upon and benefit the successors, assigns, heirs, administrators, and transferees of the parties,

8. Shares of Common Stock to be Reserved.

The Corporation, upon the effective date of this Certificate of Designations, has a sufficient number of shares of Common Stock available to reserve for issuance upon the conversion of all outstanding shares of Preferred Stock, pursuant to the terms and conditions set forth in Section 5, and exercise of the Warrants as defined in Section 12. The Corporation will at all times reserve and keep available out of its authorized shares of Common Stock, solely for the purpose of issuance upon the conversion of Preferred Stock, and exercise of the Warrants, as herein provided, such number of shares of Common Stock as shall then be issuable upon the conversion of all outstanding shares of Preferred Stock, and exercise of the Warrants. The Corporation covenants that all shares of Common Stock which shall be so issued shall be duly and validly issued, fully paid and non-assessable. The Corporation will take such action as may be required, if the total number of shares of Common Stock issued and issuable after such action upon conversion of the Preferred Stock, and exercise of the Warrants would exceed the total number of shares of Common Stock then authorized by the Corporation's Certificate of Incorporation, as amended, or would exceed 19.99% of the shares of Common Stock then outstanding if required by law or the Rules and Regulations of NASDAQ or the National Securities Exchange applicable to the Corporation to take such action as a result of exceeding such 19.99%, in order to increase the number of shares of Common Stock to permit the Corporation to issue the number of shares of Common Stock required to effect conversion of the Preferred, and exercise of the Warrants, to a number sufficient to permit conversion of the Preferred Stock, and exercise of the Warrants, including, without limitation, engaging in reasonable efforts to obtain the requisite stockholder approval of any necessary amendment to the Corporation's Restated Certificate of Incorporation, and to obtain shareholders approval in order to effect conversion of the Preferred Stock, and exercise of the Warrants, if required by law or the rules or regulations of the NASDAQ or National Securities Exchange applicable to the Corporation.

8(a) Shareholder Approval. In connection with the issuance to the Holder of the shares of Preferred Stock, pursuant to this Certificate of Designations, the Corporation is also issuing (i) certain warrants "RBB Warrants") to the Holder pursuant to the terms of that certain Private Securities Subscription Agreement dated June 30, 1998 (the "Agreement"), providing for the purchase of up to 150,000 shares of Common Stock at an exercise price of \$2.50 per share and (ii) certain warrants (collectively, the "Liviakis Warrants") to Liviakis Financial Communication, Inc. ("Liviakis") and Robert B. Prag providing for the purchase of up to an aggregate of 2,500,000 shares of Common Stock at an exercise price of \$1.875 per share pursuant to the terms of that Liviakis Agreement dated June 30, 1998, between Liviakis and the Corporation.

If (i) the aggregate number of shares of Common Stock issued by the Corporation as a result of any or all of the following: (a) conversion of the Preferred Stock, (b) payment of dividends accrued on the Preferred Stock (c) exercise of the RBB Warrants, and (d) exercise of the Liviakis Warrants exceeds 2,388,347 shares of Common Stock (which equals 19.9% of the outstanding shares of Common Stock of the Corporation as of the date of this Certificate of Designations) and (ii) the Holder has converted or elects to convert any of the then outstanding shares of Preferred Stock pursuant to the terms of Section 5 at a Conversion Price less than \$ 1.875 (\$1.875 being the market value per share of Common Stock as quoted on the NASDAQ as of the close of business on June 30, 1998) pursuant to the terms of Section 5(c) hereof, other than if the Conversion Price is less than \$ 1.875 solely as a result of the anti-dilution provisions of Section 5(h) and (i) hereof, then, notwithstanding anything in Section 5 to the contrary, the Corporation shall not issue any shares of Common Stock as a result of receipt of a Conversion Notice unless and until the Corporation shall have obtained approval of its shareholders entitled to vote on the transactions in accordance with subparagraphs (25)(H)(i), (iv) and (v) of Rule 4310 of the NASDAQ Marketplace Rules ("Shareholder Approval").

If Shareholder Approval is required as set forth in the above paragraph, the Corporation shall take all necessary steps to obtain such Shareholder Approval upon receipt of the Conversion Notice triggering the need for Shareholder Approval ("Current Conversion Notice"). If the Corporation has not received from the Holder a Current Conversion Notice, the Holder, subsequent to January 1st, 1999 may, if the Corporation's shares of Common Stock trade, subsequent to January 1st, 1999, at a five (5) day average closing bid price below Two Dollars and 34/100 (\$2.34), upon written notice to the Corporation, require the Corporation to obtain Shareholder Approval ("Holder's Notice"). The Holder and the Corporation's officers and directors covenant to vote all shares of Common Stock over which they have voting control in favor of Shareholder Approval. If the Corporation does not obtain Shareholder Approval within ninety (90) days of the earlier of the Corporation's receipt of (i) the Current Conversion Notice or (ii) the Holder's Notice, and the Holder has not breached its covenant to vote all shares of Common Stock over which they have voting control in favor of Shareholder Approval, the Corporation shall pay in cash to the Holder liquidated damages, in an amount of 4% per month of the Liquidation Value of each share of Preferred Stock then outstanding, commencing on the 91st day of the Corporation's receipt of the Holder's Current Conversion Notice, and continuing every thirty (30) days pro-rata until such time the Corporation receives Shareholder Approval.

9. No Reissuance of Series 16 Class P Convertible Preferred Stock.

Shares of Preferred Stock which are converted into shares of Common Stock as provided herein shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of Preferred stock hereafter created.

10. Closing of Books.

The Corporation will at no time close its transfer books against the transfer of any Preferred Stock or of any shares of Common Stock issued or issuable upon the conversion of any shares of Common Stock of Preferred Stock in any manner which interferes with the timely conversion of such Preferred Stock, except as may otherwise be required to comply with applicable securities laws.

11. No Preemptive Rights.

The Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

12. Definition of Shares.

As used in this Certificate of Designations, the term "shares of Common Stock" shall mean and include the Corporation's authorized common stock, par value \$.001, as constituted on the date of filing of these terms of the Preferred Stock, or in case of any reorganization, reclassification, or stock split of the outstanding shares of Common Stock thereof, the stock, securities or assets provided for hereof. The term "Warrants" as used herein shall have the same meaning as defined in Section 1 of the Private Securities Subscription Agreement, dated June 30, 1998, between the Company and RBB Bank Aktiengesellschaft.

The said determination of the designations, preferences and relative, participating, optional or other rights, and the qualifications, limitations or restrictions thereof, relating to the Preferred Stock was duly made by the Board of Directors pursuant to the provisions of the Corporation's Restated Certificate of Incorporation and in accordance with the provisions of the Delaware General Corporation Law.

**CERTIFICATE OF ELIMINATION
OF
SERIES 11 CLASS K CONVERTIBLE PREFERRED STOCK
AND
SERIES 12 CLASS L CONVERTIBLE PREFERRED STOCK
AND
SERIES 13 CLASS M CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Corporation") hereby certifies the following:

1. That the Certificate of Designations of Series 11 Class K Convertible Preferred Stock, par value \$.001 per share, of the Corporation (the "Series 11 Preferred") was filed with the Delaware Secretary of State on July 15, 1999 (the "Series 11 Certificate of Designations").
2. That all outstanding shares of the Series 11 Preferred have been delivered to the Company and exchanged pursuant to an agreement with the holder thereof in accordance with the terms and conditions of a certain Exchange Agreement between the Company and RBB Bank Aktiengesellschaft, dated as of August 3, 1999.
3. That no shares of Series 11 Preferred remain outstanding.
4. That all shares of the Series 11 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.
5. That effective August 3, 1999, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 11 Class K Convertible Preferred Stock, no authorized shares of Series 11 Class K Convertible Preferred Stock will remain outstanding and no shares of Series 11 Class K Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 11 Class K Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company, are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 12:33 PM 08/10/1999
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Certificate of Elimination to the Secretary of State of Delaware regarding the Series 11 Class K Convertible Preferred Stock.

6. That the Certificate of Designations of the Series 12 Class L Convertible Preferred Stock, par value \$.001 per share, of the Corporation (the "Series 12 Preferred") was filed on July 15, 1999 (the "Series 12 Certificate of Designations").
7. That all outstanding shares of the Series 12 Preferred have been delivered to the Company and exchanged pursuant to an agreement with the holder thereof in accordance with the terms and conditions of a certain Exchange Agreement between the Company and RBB Bank, dated as of August 3, 1999.
8. That no shares of Series 12 Preferred remain outstanding.
9. That all shares of the Series 12 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.
10. That effective August 3, 1999, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the series 12 Class L Convertible Preferred Stock, no authorized shares of Series 12 Class L Convertible Preferred Stock will remain outstanding and no shares of Series 12 Class L Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 12 Class L Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 12 Class L Convertible Preferred Stock.

11. That the Certificate of Designations of the Series 13 Class M Convertible Preferred Stock, par value \$.001 per share, of the Corporation (the "Series 13 Preferred") was filed on July 15, 1999 (the "Series 13 Certificate of Designations").
12. That all outstanding shares of the Series 13 Preferred have been delivered to the Company and exchanged pursuant to an agreement with the holder thereof in accordance to the terms and conditions of a certain Exchange Agreement between the Company and RBB Bank, dated as of August 3, 1999.

13. That no shares of Series 13 Preferred remain outstanding.

14. That all shares of the Series 13 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

15. That effective August 3, 1999, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 13 Class M Convertible Preferred Stock, no authorized shares of Series 13 Class M Convertible Preferred Stock will remain outstanding and no shares of Series 13 Class M Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 13 Class M Convertible Preferred Stock.

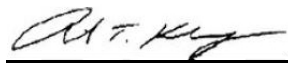
FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 13 Class M Convertible Preferred Stock.

16. That pursuant to the provisions of § 151(g) of the Delaware General Corporation Law, upon the effective date of the filing of this Certificate, this Certificate will have the effect of eliminating from the Restated Certificate of Incorporation only those matters set forth in the Restated Certificate of Incorporation with respect to the Series 11 Class K Convertible Preferred Stock, the Series 12 Class L Convertible Preferred Stock, and the Series 13 Class M Convertible Preferred Stock

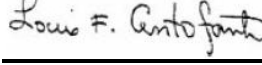
IN WITNESS WHEREOF, this Certificate of Elimination has been executed this 18th day of August, 1999, by the President of the Company.

ATTEST:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.



Richard T. Kelecy, Secretary
(SEAL)

By 

Dr. Louis F. Centofanti, President

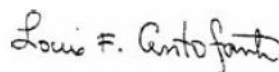
**CERTIFICATE OF DESIGNATIONS
OF SERIES 17 CLASS Q CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify:

That, pursuant to authority conferred upon by the Board of Directors by the Corporation's Restated Certificate of Incorporation, as amended, and pursuant to the provisions of Section 151 of the Delaware Corporation Law, the Board of Directors of the Corporation has adopted resolutions, a copy of which is attached hereto, establishing and providing for the issuance of a series of Preferred Stock designated as Series 17 Class Q Convertible Preferred Stock and has established and fixed the voting powers, designations, preferences and relative participating, optional and other special rights and qualifications, limitations and restrictions of such Series 17 Class Q Convertible Preferred Stock as set forth in the attached resolutions.

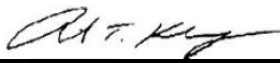
Dated: May 25, 2001.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By 

Dr. Louis F. Centofanti
Chairman of the Board

ATTEST:



Richard T. Kelecy, Secretary

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(the "Corporation")

RESOLUTION OF THE BOARD OF DIRECTORS

**FIXING THE NUMBER AND DESIGNATING THE RIGHTS, PRIVILEGES,
RESTRICTIONS AND CONDITIONS ATTACHING TO THE
SERIES 17 CLASS Q CONVERTIBLE PREFERRED STOCK**

RE: DESIGNATION OF SERIES 17 CLASS Q CONVERTIBLE PREFERRED STOCK.

RESOLVED: That the designations, powers, preferences and rights of the Series 17 Class Q Convertible Preferred Stock be, and they hereby are, as set forth below:

1. Designation, Number of Shares of Preferred Stock of Series 17 Class Q Convertible Preferred Stock and Dividends.

The Corporation hereby authorizes the issuance of up to two thousand five hundred (2,500) shares of Series 17 Class Q Convertible Preferred Stock, par value \$.001 per share (the "Preferred Stock"). The holders of the Preferred Stock (individually, the "Holder," and collectively, the "Holders") are entitled to receive if, when and as declared by the Board of Directors of the Corporation (the "Board") out of funds legally available therefore, cumulative dividends at an annual dividend rate, based on a 365 day calendar year, of 5% of the Liquidation Value (as defined in Section 3 hereof) ("Dividend Rate") for each share of the Preferred Stock then issued and outstanding as of the acceptable declaration of such dividend, payable semiannually within ten (10) business days after each subsequent June 30th and December 31st (each a "Dividend Declaration Date"), and shall be payable in cash or shares of the Corporation's common stock, par value \$.001 per share ("Common Stock"), at the Corporation's option. The first Dividend Declaration Date shall be December 31st, 2001. Dividends shall be paid only with respect to the shares of Preferred Stock actually issued and outstanding on the Dividend Declaration Date and to Holders of record on the Dividend Declaration Date. Dividends shall accrue from the first day of the semi-annual dividend period in which such dividend may be payable, except with respect to the first semi-annual dividend which shall accrue from the date of the issuance of the Preferred Stock.

In the event that the Board elects to pay the accrued dividends due as of a Dividend Declaration Date on the outstanding shares of Preferred Stock in Common Stock of the Corporation, the Holder of each share of Preferred Stock shall receive that number of shares of Common Stock equal to the product of (a) the quotient of (i) the Dividend Rate divided by (ii) the average of the average closing bid quotation of the Corporation's Common Stock as reported on the National Association of Securities Dealers Automated Quotation system ("NASDAQ"), or if the Common Stock is not listed for trading on the NASDAQ but is listed for trading on a national securities exchange, the average closing price of the Common Stock as quoted on such national exchange, for the five (5) trading days immediately prior to the Dividend Declaration Date (the "Stock Dividend Price"), times (b) a fraction, the numerator of which is the number of days elapsed during the period for which the dividend is to be paid, and the denominator of which is 365. Dividends on the Preferred Stock shall be cumulative, and no dividends or other distributions shall be paid or declared or set aside for payment on the Corporation's Common Stock until all accrued and unpaid dividends on all outstanding shares of Preferred Stock shall have been paid or declared and set aside for payment.

2. Voting.

Except as provided under Section 242(2) of the Delaware General Corporation Law ("GCL"), the Preferred Stock shall not have any voting rights and the Holders of the Preferred Stock shall not have the right to vote on any matter. Notwithstanding the provisions of Section 242 of the GCL, the number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of Section 242 of the GCL.

3. Liquidation.

In the event of a voluntary or involuntary dissolution, liquidation, or winding up of the Corporation, the Holders of the Preferred Stock shall be entitled to receive out of the assets of the Corporation legally available for distribution to holders of its capital stock, before any payment or distribution shall be made to holders of shares of Common Stock or any other class of stock ranking junior to the Preferred Stock, an amount per share of the Preferred Stock equal to \$1.000 (the "Liquidation Value"), plus any accrued and unpaid dividends on the Preferred Stock. If upon such liquidation, dissolution, or winding up of the Corporation, whether voluntary or involuntary, the assets to be distributed among the Holders of the Preferred Stock shall be insufficient to permit payment to the Holders of the Preferred Stock of the amount distributable as aforesaid, then the entire assets of the Corporation to be so distributed shall be distributed ratably among the Holders of the Preferred Stock and shares of such other classes or series ranking on a parity with the shares of the Preferred Stock in proportion to the full distributable amounts for which holders of all such parity shares are entitled upon such distribution, liquidation, or winding up. Upon any such liquidation, dissolution or winding up of the Corporation, after the Holders of Preferred Stock shall have been paid in full the amounts to which they shall be entitled, the remaining net assets of the Corporation may be distributed to the holders of stock ranking on liquidation junior to the Preferred Stock and the Holders of the Preferred Stock shall have no right or claim to any of the remaining assets of the Corporation. Written notice of such liquidation, dissolution or winding up, stating a payment date, the amount of the liquidation payments and the place where said liquidation payments shall be payable, shall be given by mail, postage prepaid or by telex or facsimile to non-U.S. residents, not less than 10 days prior to the payment date stated therein, to the Holders of record of the Preferred Stock, such notice to be addressed to each such Holder at its address as shown by the records of the Corporation. For purposes hereof, the shares of Common Stock shall rank on liquidation junior to the Preferred Stock.

4. Optional Conversion.

The Holders of shares of Preferred Stock shall have the following conversion rights to convert the shares of Preferred Stock into shares of Common Stock of the Corporation as follows;

(a) Intentionally left blank.

(b) Right to Convert; Conversion Price. Subject to the terms hereof, as used herein the term Conversion Price per outstanding share of Preferred Stock shall be One Dollar and 50/100 (\$1.50). If any of the outstanding shares of Preferred Stock are converted, in whole or in part, into Common Stock pursuant to the terms of this Section 4, the number of shares of whole Common Stock to be issued as a result of such conversion shall be determined by dividing (a) the aggregate Liquidation Value of the Preferred Stock so surrendered for conversion by (b) the Conversion Price in effect on the date of that particular Conversion Notice relating to such conversion. At the time of conversion of shares of the Preferred Stock, the Corporation shall pay in cash to the Holder thereof an amount equal to all unpaid and accrued dividends, if any, accrued thereon on the shares of the Preferred Stock so converted to the date of the Conversion Notice relating to the shares of Preferred Stock so converted under such conversion, or, at the Corporation's option, in lieu of paying cash for the accrued and unpaid dividends, issue that number shares of whole Common Stock which is equal to the quotient of the amount of such unpaid and accrued dividends to the date of the Conversion Notice relating to such conversion of the shares of Preferred Stock so converted divided by the Stock Dividend Price in effect at the date of the Conversion Notice relating to such conversion.

(c) Conversion Notice. The right of conversion shall be exercised by the Holder thereof by telecopying or faxing an executed and completed written notice signed by an authorized representative of the Holder ("Conversion Notice"), to the Corporation that the Holder elects to convert a specified number of shares of Preferred Stock representing a specified Liquidation Value thereof into shares of Common Stock and by delivering by express courier the certificate or certificates of Preferred Stock being converted to the Corporation at its principal office (or such other office or agency of the Corporation as the Corporation may designate by notice in writing to the Holders of the Preferred Stock). The business date indicated on a Conversion Notice which is telecopied to and received by the Corporation in accordance with the provisions hereof shall be deemed a Conversion Date. The Conversion Notice shall include therein the Liquidation Value of the shares of Preferred Stock to be converted, and a calculation (a) of the Stock Dividend Price, (b) the Conversion Price, and (c) the number of shares of Common Stock to be issued in connection with such conversion. The Corporation shall have the right to review the calculations included in the Conversion Notice, and shall provide notice of any discrepancy or dispute therewith within five (5) business days of the receipt thereof. The Holder shall deliver to the Corporation an original Conversion Notice and the original Preferred to be converted within three (3) business days from the date of the Conversion Notice.

(d) Issuance of Certificates -Time Conversion Effected. Promptly, but in no event more than fifteen (15) business days, after the receipt by facsimile of the Conversion Notice referred to in Section 4(c); and provided within the ten (10) business days the Corporation receives the certificate or certificates for the shares of Preferred Stock to be converted, the Corporation shall issue and deliver, or cause to be issued and delivered, to the Holder, registered in the name of the Holder, a certificate or certificates for the number of whole shares of Common Stock into which such shares of Preferred Stock are converted. Such conversion shall be deemed to have been effected as of the close of business on the date on which the telecopy or facsimile Conversion Notice shall have been received by the Corporation, and the rights of the Holder of such share or shares of Preferred Stock shall cease at such time, and the Holder or Holders shall be deemed to have become the holder or holders of record of the shares of Common Stock represented thereby.

(e) Fractional Shares of Common Stock. No fractional shares of Common Stock shall be issued upon conversion of any Preferred Stock into shares of Common Stock. All fractional shares of Common Stock shall be aggregated and then rounded down to the nearest whole share of Common Stock. In case the number of shares of Preferred Stock represented by the certificate or certificates surrendered pursuant to this Section 4(c) exceeds the number of shares of Common Stock converted, the Corporation shall, upon such conversion, execute and deliver to the Holder, at the expense of the Corporation, a new certificate or certificates for the number of shares of Preferred Stock represented by the certificate or certificates surrendered which are not to be converted.

(f) Merger or Consolidation. In case of either (a) any merger or consolidation to which the Corporation is a party (collectively, the "Merger"), other than a Merger in which the Corporation is the surviving or continuing corporation, or (b) any sale or conveyance to another corporation of all, or substantially all, of the assets of the Corporation (collectively, the "Sale"), and such Merger or Sale becomes effective while any shares of Preferred Stock are outstanding and prior to the date that the Corporation's Registration Statement covering all the Conversion Shares is declared effective by the U. S. Securities and Exchange Commission ("SEC"), the Corporation or such successor corporation as the case may be, shall make appropriate provision so that the Holder of each share of Preferred Stock then outstanding shall have the right to convert such share of Preferred Stock into the kind and amount of shares of stock or other securities and property receivable upon such Merger or Sale by a holder of the number of shares of Common Stock into which such shares of Preferred Stock could have been converted into immediately prior to such Merger or Sale, subject to adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 4.

(g) Adjustments to Conversion Price for Stock Dividends and for Combinations or Subdivisions of Common Stock. If the Corporation, at any time or from, time to time while shares of Preferred Stock are issued and outstanding, shall declare or pay, any dividend on the Common Stock payable in Common Stock, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock), or if the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price in effect immediately before such event shall, concurrently with the effectiveness of such event, be proportionately decreased or increased, as appropriate.

(h) Adjustments for Reclassification and Reorganization. If the Common Stock issuable upon conversion of the Preferred Stock shall be changed into the same or a different number of shares of common stock of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination or shares of Common Stock provided for in Section 5(g) hereof), the Conversion Price then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so that the Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the Holders of Preferred Stock would otherwise have been entitled to receive, a number of shares of common stock of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the Holders upon conversion of the Preferred Stock immediately before that change.

(i) Other Adjustments to Conversion Price. Except as provided in subsection 4(j), if, after the Closing Date and during the period that any of the Preferred Stock is issued and outstanding, the Corporation shall sell (a) any shares of Common Stock for a consideration per share less than the Conversion Price in effect immediately prior to such sale, or (b) any rights, warrants or other securities entitling the holders thereof to convert such securities into Common Stock at a price per share (determined by dividing (i) the total amount, if any, received or receivable by the Corporation in consideration of the sale of such rights, warrants or other securities plus the total amount, if any, payable to the Corporation upon exercise or conversion thereof by (ii) the number of additional shares of Common Stock issuable upon exercise or conversion of such securities) which is less than the Conversion Price in effect on the date of such sale, the Conversion Price shall be adjusted as of the date of such sale to the amount per share received and to be received by the Corporation in connection with such sale, conversion and exercise as determined above. The Holders may, if approved by the Holders of record representing a majority of the then issued and outstanding shares of Preferred Stock, waive their rights to any adjustment to the Conversion Price in connection with a particular sale covered by this Section 4(i), and, in the event of such waiver, no adjustment to the Conversion Price shall be made under this Section 4(i) as a result of such sale.

(j) No Adjustments. No adjustment in the Conversion Price shall be required in the case of (i) the grant by the Corporation of stock options to employees of the Corporation under a Stock Option Plan approved by the stockholders of the Company or (ii) the issuance of shares of Common Stock upon the exercise of stock options (a) referred to in clause (i) hereof and (b) granted by the Corporation which grant had triggered an adjustment in the Conversion Price.

5. Redemption.

(a) **Redemption at Corporation's Option.** Except as otherwise provided in this Section 5, at any time, and from time to time, the Corporation may, at its sole option, but shall not be obligated to, redeem, in whole or in part, at any time, and from time to time the then outstanding Preferred Stock at the following cash redemption prices if redeemed during the following periods: (i) within twelve (12) months from June 1, 2001 - \$1,100 per share, and (ii) after June 1, 2002 - \$1,200 per share (as applicable, the redemption price of \$1,100 or \$1,200 is referred to herein as the "Redemption Price"),

(b) **Mechanics of Redemption.** Prior to any date stipulated by the Corporation for the redemption of Preferred Stock (the "Redemption Date"), written notice (the "Redemption Notice") shall be mailed to each Holder of record on such notice date of the Preferred Stock. The Redemption Notice shall state: (i) the Redemption Date of such shares, (ii) the number of Preferred Stock to be redeemed from the holder to whom the Redemption Notice is addressed, (iii) instructions for surrender to the Corporation, in the manner and at the place designated, of a share certificate or share certificates representing the number of Preferred Stock to be redeemed from such Holder, and (iv) instructions as to how to specify to the Corporation the number of Preferred Stock to be redeemed as provided in this Section 5.

(c) **Rights of Conversion Upon Redemption.** If the redemption occurs, then, upon receipt of the Redemption Notice, any Holder of Preferred Stock shall have five business days during which it may exercise the option, at its sole election, to specify what portion of its Preferred Stock called for redemption in the Redemption Notice shall be redeemed as provided in this Section 5 or converted into Common Stock in the manner provided in Section 4 hereof.

(d) **Surrender of Certificates.** On or before the Redemption Date in respect of any Preferred Stock, each holder of such shares shall surrender the required certificate or certificates representing such shares to the Corporation in the manner and at the place designated in the Redemption Notice, and upon the Redemption Date, the Redemption Price for such shares shall be made payable, in the manner provided hereof, to the order of the person whose name appears on such certificate or certificates as the owner thereof, and each surrendered share certificate shall be canceled and retired. If a share certificate is surrendered and all the shares evidenced thereby are not being redeemed (as described below), the Corporation shall cause the Preferred Stock which are not being redeemed to be registered in the names of the persons or entity whose names appear as the owners on the respective surrendered share certificates and deliver such certificate to such person.

(e) **Payment.** On the Redemption Date in respect of any Preferred Stock or prior thereto, the Corporation shall deposit with any bank or trust company having a capital and surplus of at least \$50,000,000, as a trust fund, a sum equal to the aggregate Redemption Price of all such shares called from redemption (less the aggregate Redemption Price for those Preferred Stock in respect of which the Corporation has received notice from the holder thereof of its election to convert Preferred Stock into Common Stock), with irrevocable instructions and authority to the bank or trust company to pay, on or after the Redemption Date, the Redemption Price to the respective holders upon the surrender of their share certificates. The deposit shall constitute full payment for the shares to their holders, and from and after the date of the deposit the redeemed shares shall be deemed to be no longer outstanding, and holders thereof shall cease to be shareholders with respect to such shares and shall have no rights with respect thereto except the rights to receive from the bank or trust company payments of the Redemption Price of the shares, without interest, upon surrender of their certificates thereof. Any funds so deposited and unclaimed at the end of one year following the Redemption Date shall be released or repaid to the Corporation, after which the former holders of shares called for redemption shall be entitled to receive payment of the Redemption Price in respect of their shares only from the Corporation.

6. Assignment.

Subject to all applicable restrictions on transfer, the rights and obligations of the Corporation and the Holder of the Preferred Stock shall be binding upon, and benefit the successors, assigns, heirs, administrators, and transferees of the parties.

7. Shares of Common Stock to be Reserved.

The Corporation, upon the effective date of this Certificate of Designations, has a sufficient number of shares of Common Stock available to reserve for issuance upon the conversion of all outstanding shares of Preferred Stock, pursuant to the terms and conditions set forth in Section 4. The Corporation will at all times reserve and keep available out of its authorized shares of Common Stock, solely for the purpose of issuance upon the conversion of Preferred Stock, as herein provided, such number of shares of Common Stock as shall then be issuable upon the conversion of all outstanding shares of Preferred Stock. The Corporation covenants that all shares of Common Stock which shall be so issued shall be duly and validly issued, fully paid and non assessable. The Corporation will take such action as may be required, if the total number of shares of Common Stock issued and issuable after such action upon conversion of the Preferred Stock would exceed the ratal number of shares of Common Stock then authorized by the Corporation's Certificate of Incorporation, as amended, in order to increase the number of shares of Common Stock to permit the Corporation to issue the number of shares of Common Stock required to effect conversion of the Preferred Stock, and exercise of the Warrants, to a number sufficient to permit conversion of the Preferred Stock.

8. No Reissuance of Preferred Stock.

Shares of Preferred Stock which are converted into shares of Common Stock as provided herein shall be retired and shall become authorized but unissued shares of Preferred Stock, which may be reissued as part of a new series of preferred stock hereafter created.

9. Closing of Books.

The Corporation will at no time close its transfer books against the transfer of any Preferred Stock or of any shares of Common Stock issued or issuable upon the conversion of any shares of Common Stock of Preferred Stock in any manner which interferes with the timely conversion of such Preferred Stock, except as may otherwise be required to comply with applicable securities laws.

10. No Preemptive Rights.

The Preferred Stock shall not give its holders any preemptive rights to acquire any other securities issued by the Corporation at any time in the future.

11. Definition of Shares.

As used in this Certificate of Designations, the term "shares of Common Stock" shall mean and include the Corporation's authorized common stock, par value \$.001, as constituted on the date of filing of these terms of the Preferred Stock, or in case of any reorganization, reclassification, or stock split of the outstanding shares of Common Stock thereof, the stock, securities or assets provided for hereof.

The said determination of the designations, preferences and relative, participating, optional or other rights, and the qualifications, limitations or restrictions thereof, relating to the Preferred Stock was duly made by the Board of Directors pursuant to the provisions of the Corporation's Restated Certificate of Incorporation and in accordance with the provisions of the Delaware General Corporation Law.

**CERTIFICATE OF ELIMINATION
OF
SERIES 14 CLASS N CONVERTIBLE PREFERRED STOCK
AND
SERIES 15 CLASS O CONVERTIBLE PREFERRED STOCK
AND
SERIES 16 CLASS P CONVERTIBLE PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Corporation"), hereby certifies the following:

1. That the Certificate of Designations of Series 14 Class N Convertible Preferred Stock, par value \$.001 per share, of the Corporation (the "Series 14 Preferred") was filed with the Delaware Secretary of State on August 10, 1999 (the "Series 14 Certificate of Designations").
2. That a portion of the outstanding shares of the Series 14 Preferred have been converted into common stock of the Corporation and all of the remaining balance have been delivered to the Company and exchanged pursuant to an agreement with the holder thereof in accordance with the terms and conditions of a certain Conversion and Exchange Agreement between the Company and RBB Bank Aktiengesellschaft, dated as of May 25, 2001 ("Exchange Agreement").
3. That no shares of Series 14 Preferred remain outstanding.
4. That all shares of the Series 14 Preferred which have been exchanged have the status of authorized and unissued shares of the preferred stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.
5. That effective May 25, 2001, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the conversion and exchange with the holder of the Series 14 Class N Convertible Preferred Stock, no authorized shares of Series 14 Class N Convertible Preferred Stock will remain outstanding and no shares of Series 14 Class N Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 14 Class N Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 14 Class N Convertible Preferred Stock.

6. That the Certificate of Designations of the Series 15 Class O Convertible Preferred Stock, par value \$.001 per share, of the Corporation (the "Series 15 Preferred") was filed on August 10, 1999 (the "Series 15 Certificate of Designations").

7. That all outstanding shares of the Series 15 Preferred have been delivered to the Company and exchanged pursuant to the Exchange Agreement.

8. That no shares of Series 15 Preferred remain outstanding.

9. That all shares of the Series 15 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

10. That effective May 25, 2001, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 15 Class O Convertible Preferred Stock no authorized shares of Series 15 Class O Convertible Preferred Stock will remain outstanding and no shares of Series 15 Class O Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 15 Class O Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 15 Class O Convertible Preferred Stock.

11. That the Certificate of Designations of the Series 16 Class P Convertible Preferred Stock, par value \$.001 per share, of the Corporation (the "Series 16 Preferred") was filed on August 10, 1999 (the "Series 16 Certificate of Designations").

12. That all outstanding shares of the Series 16 Preferred have been delivered to the Company and exchanged pursuant to the Exchange Agreement.

13. That no shares of Series 16 Preferred remain outstanding.

14. That all shares of the Series 16 Preferred which have been exchanged have the status of authorized and unissued shares of the Preferred Stock of the Corporation without designation as to series, until such shares are once more designated as part of a particular series by the Board of Directors.

15. That effective May 25, 2001, the Board of Directors of the Company duly adopted the following resolutions:

RESOLVED, that upon completion of the exchange with the holder of the Series 16 Class P Convertible Preferred Stock, no authorized shares of Series 16 Class P Convertible Preferred Stock will remain outstanding and no shares of Series 16 Class P Convertible Preferred Stock will be issued subject to the Certificate of Designations previously filed with respect to the Series 16 Class P Convertible Preferred Stock.

FURTHER RESOLVED, that upon completion of the exchange, the officers of the Company are hereby authorized and directed, for and on behalf of the Company, to execute and deliver an appropriate Certificate of Elimination to the Secretary of State of Delaware regarding the Series 16 Class P Convertible Preferred Stock.

16. That pursuant to the provisions of § 151(g) of the Delaware General Corporation Law, upon the effective date of the filing of this Certificate, this Certificate will have the effect of eliminating from the Restated Certificate of Incorporation only those matters set forth in the Restated Certificate of Incorporation with respect to the Series 14 Class N Convertible Preferred Stock, the Series 15 Class O Convertible Preferred Stock, and the Series 16 Class P Convertible Preferred Stock

IN WITNESS WHEREOF, this Certificate of Elimination has been executed this 25th day of May, 2001, by the President of the Company.

ATTEST:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.



Richard T. Kelecy, Secretary
(SEAL)



By: _____
Dr. Louis F. Centofanti, President

**CERTIFICATE OF AMENDMENT
OF
RESTATED CERTIFICATE OF INCORPORATION,
AS AMENDED,
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

Perma-Fix Environmental Services, Inc., a Delaware corporation (the "Corporation"), for purposes of amending its Restated Certificate of Incorporation, as amended, ("Restated Certificate of Incorporation"), as provided by Section 242 of the Delaware General Corporation Law, does hereby certify:

1. The amendment set forth below to the Restated Certificate of Incorporation was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware:

The first paragraph of Article Fourth of the Corporation's Restated Certificate of Incorporation, as amended, is hereby deleted and replaced in its entirety by the following:


FOURTH: The total number of shares of capital stock that the Corporation shall have authority to issue is 77,000,000, of which 75,000,000 shall be designated as common stock; par value \$.001 per share ("Common Stock"), and 2,000,000 shall be designated as preferred stock, par value \$.001 per share ("Preferred Stock").

2. Only the first paragraph of Article Fourth is amended by this Amendment, and the remainder of Article Fourth shall remain in full force and effect. No other provision, paragraph or article of the Restated Certificate of Incorporation is amended or changed by this Amendment. "The Restated Certificate of Incorporation, as expressly amended by paragraph 1 of this Amendment, shall be in full force and effect.

3. The Board of Directors, on March 13, 2002, unanimously adopted the foregoing proposed amendment to the first paragraph of Article Fourth of the Restated Certificate of Incorporation declared such amendment to be advisable, and set a Special Meeting of Stockholders for consideration thereof. A Special Meeting of Stockholders was duly called and held on June 14, 2002, at which meeting the necessary number of shares as required by law and the Restated Certificate of Incorporation were voted in favor of such amendment.

IN WITNESS whereof, Perma-Fix Environmental Services, Inc, has caused this Certificate of Amendment to be signed and attested to by its duly authorized officers as of this 19th day of June, 2002.

Perma-Fix Environmental Services, Inc.,
a Delaware corporation

By: 
Richard T. Kelecy,
Vice President and Chief Financial Officer

CERTIFICATE OF DESIGNATIONS

of

SERIES A JUNIOR PARTICIPATING PREFERRED STOCK

of

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

(Pursuant to Section 151 of the
Delaware General Corporation Law)

PERMA-FIX ENVIRONMENTAL SERVICES INC., a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Corporation"), hereby certifies that the following resolution was duly adopted by the Board of Directors of the Corporation as required by Section 151 of the General Corporation Law at a meeting duly called and held on May 2, 2008:

Creation of Series A Junior Participating Preferred Stock

RESOLVED, that pursuant to the authority granted to and vested in the Board of Directors of this Corporation (hereinafter called the "Board of Directors" or the "Board") in accordance with the provisions of the Corporation's Restated Certificate of Incorporation, as amended, the Board of Directors hereby creates a new series of Preferred Stock, par value \$.001 per share, designated as Series A Junior Participating Preferred Stock, par value \$.001 per share, of the Corporation and hereby states the designation and number of shares, and does hereby establish and fix the relative rights, preferences, designations and relative participating, optional and other special rights, and qualifications, limitations and restrictions thereof as follows:

Series A Junior Participating Preferred Stock:

Section 1. Designation and Amount. The shares of such series shall be designated as "Series A Junior Participating Preferred Stock" ("Series A Preferred Stock"), par value \$.001 per share, and the number of shares constituting the Series A Preferred Stock shall be 600,000. Such number of shares of Series A Preferred Stock may be increased or decreased by resolution of the Board of Directors; provided, that no decrease shall reduce the number of shares of Series A Preferred Stock to a number less than the number of shares then outstanding plus the number of shares reserved for issuance upon the exercise of outstanding options, rights or warrants or upon the conversion of any outstanding securities issued by the Corporation convertible into Series A Preferred Stock.

Section 2. Dividends and Distributions.

(a) Subject to the prior and superior rights of the holders of any shares of any series of the Corporation's preferred stock ranking prior and superior to the shares of Series A Preferred Stock with respect to dividends, if any, the holders of shares of Series A Preferred Stock, in preference to the holders of Common Stock, par value \$.001 per share (the "Common Stock"), of the Corporation, and of any other junior stock, shall be entitled to receive, when, as and if declared by the Board of Directors out of funds legally available for the purpose, quarterly dividends payable in cash on the last business day of March, June, September and December in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Series A Preferred Stock, in an amount per share (rounded to the nearest cent) equal to the greater of (a) \$1, or (b) subject to the provision for adjustment hereinafter set forth, 100 times the aggregate per share amount of all cash dividends, and 100 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions, other than a dividend payable in shares of the Common Stock, or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock since the immediately preceding Quarterly Dividend Payment Date or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Series A Preferred Stock. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under clause (b) of the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(b) The Corporation shall declare a dividend or distribution on the Series A Preferred Stock as provided in paragraph (a) of this Section immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock); provided that, in the event no dividend or distribution shall have been declared on the Common Stock during the period between any Quarterly Dividend Payment Date and the next subsequent Quarterly Dividend Payment Date, a dividend of \$1 per share on the Series A Preferred Stock shall nevertheless be payable on such subsequent Quarterly Dividend Payment Date.

(c) Dividends shall begin to accrue and be cumulative on outstanding shares of Series A Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares of Series A Preferred Stock, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue and be cumulative from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series A Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Series A Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board of Directors may fix a record date for the determination of holders of shares of Series A Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be not be less than 10 days or more than 60 days prior to the date fixed for the payment thereof.

Section 3. Voting Rights. The holders of shares of Series A Preferred Stock shall have the following voting rights:

(a) Subject to the provision for adjustment hereafter set forth, each share of Series A Preferred Stock shall entitle the holder thereof to 100 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the number of votes per share to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(b) Except as otherwise provided herein, in the Restated Certificate of Incorporation, as amended, of the Corporation, in any other Certificate of Designation of the Corporation or by applicable law, the holders of shares of Series A Preferred Stock, the holders of shares of Common Stock and the holders of any other class or series of capital stock of the Corporation having general voting rights shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

(c) Except as set forth in this Certificate of Designation or as otherwise required by applicable law, holders of Series A Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent that they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate, action.

Section 4. Certain Restrictions.

(a) Whenever quarterly dividends or other dividends or distributions payable on the Series A Preferred Stock as provided in Section 2 hereof are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Series A Preferred Stock outstanding shall have been paid in full, or declared and a sum sufficient for the payment therefor be set apart for payment and be in the process of payment, the Corporation shall not:

(i) declare or pay dividends, or make any other distributions, on any shares of Common Stock or stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Preferred Stock;

(ii) declare or pay dividends, or make any other distributions, on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series A Preferred Stock, except dividends paid ratably on the Series A Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

(iii) redeem or purchase or otherwise acquire for consideration shares of any Common Stock or stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such Common Stock or junior stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Series A Preferred Stock; or

(iv) redeem or purchase or otherwise acquire for consideration any shares of Series A Preferred Stock; or any shares of Common Stock or stock ranking on a parity with the Series A Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board of Directors) to all holders of such shares upon such terms as the Board of Directors, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(b) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (a) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

Section 5. Required Shares. Any shares of Series A Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and cancelled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of preferred stock and may be reissued as part of a new series of preferred stock subject to the conditions and restrictions on issuance set forth herein, in the Restated Certificate of Incorporation, as amended, of the Corporation, or in any other Certificate of Designations creating a series of preferred stock or any similar stock or as otherwise required by law.

Section 6. Liquidation, Dissolution or Winding Up. Upon any liquidation, dissolution or winding up of the Corporation, no distribution shall be made (1) to the holders of shares of Common Stock or stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Preferred Stock unless, prior thereto, the holders of shares of Series A Preferred Stock shall have received \$100 per share, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment, provided that the holders of shares of Series A Preferred Stock shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 100 times the aggregate amount to be distributed per share to holders of shares of Common Stock or stock ranking junior to the Series A Preferred Stock, or (2) to the holders of shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series A Preferred Stock, except distributions made ratably on the Series A Preferred Stock and all such parity stock in proportion to the total amounts to which the holders of all such shares are entitled upon such liquidation, dissolution or winding up. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the aggregate amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under the proviso in clause (1) of the preceding sentence shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event, and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 7. Consolidation Merger, etc. In case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case each share of Series A Preferred Stock shall at the same time be similarly exchanged or changed into an amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1.00 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Series A Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 8. No Redemption. The shares of Series A Preferred Stock shall not be redeemable.

Section 9. Ranking. The Series A Preferred Stock shall rank junior to all other series of the Corporation's Preferred Stock as to the payment of dividends and the distribution of assets upon any liquidation, dissolution or winding up of the Corporation unless the terms of any such series shall provide otherwise.

Section 10. Amendment. So long as any shares of the Series A Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of at least two-thirds in number of shares of the Series A Preferred Stock then outstanding, amend, alter, or repeal any of the provisions of this Certificate of Designations or the Corporation's Restated Certificate of Incorporation, as amended, so as to affect adversely the preferences, special rights or powers of the shares of Series A Preferred Stock.

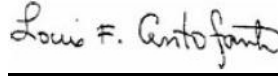
IN WITNESS WHEREOF, this Certificate of Designation is executed on behalf of the Corporation by its President and attested by its Secretary this 2nd day of May, 2008.

ATTEST:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.



Steven Baughman, Secretary
(S E A L)



By: _____
Dr. Louis F. Centofanti, President

Delaware

PAGE 1

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "PERMA-FIX ENVIRONMENTAL SERVICES, INC.", FILED IN THIS OFFICE ON THE ELEVENTH DAY OF OCTOBER, A.D. 2013, AT 10:05 O'CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



A handwritten signature in black ink, appearing to read "JBullock", is written over a horizontal line.

Jeffrey W. Bullock, Secretary of State
AUTHENTICATION: 0807617

2249849 8100

131187648

You may verify this certificate online
at corp.delaware.gov/authver.shtml

DATE: 10-11-13

CERTIFICATE OF AMENDMENT
OF
THE RESTATED CERTIFICATE OF INCORPORATION, AS AMENDED, OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

FIRST: The name of the corporation is Perma-Fix Environmental Services, Inc. (the "Corporation").

SECOND: At a meeting of the Board of Directors of the Corporation, resolutions were duly adopted declaring the advisability of an amendment to the Corporation's Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), as follows, and providing that:

The first two paragraphs of Article Fourth of the Corporation's Certificate of Incorporation are hereby deleted in their entirety and replaced in their entirety by the following:

"FOURTH: The total number of shares of capital stock that the Corporation shall have authority to issue is 77,000,000, of which 75,000,000 shall be designated as common stock, par value \$.001 per share ("Common Stock"), and 2,000,000 shall be designated as preferred stock, par value \$.001 per share ("Preferred Stock").

Upon this Certificate of Amendment of the Certificate of Incorporation of the Corporation becoming effective in accordance with the terms hereof and pursuant to the General Corporation Law of the State of Delaware (the "Amendment Effective Time"), every five (5) shares of the Corporation's Common Stock (the "Old Common Stock"), issued and outstanding immediately prior to the Amendment Effective Time, will be automatically reclassified as and converted into one share of common stock, par value \$.001 per share, of the Corporation (the "New Common Stock")(such formula herein, the "Determined Ratio"). Further, every right, option and warrant to acquire shares of Old Common Stock outstanding immediately prior to the Amendment Effective Time shall, as of the Amendment Effective Time and without any further action, automatically be reclassified into the right to acquire one (1) share of New Common Stock based on the Determined Ratio of shares of Old Common Stock to shares of New Common Stock, but otherwise upon the terms of such right, option or warrant (except that the exercise or purchase price of such right, option or warrant shall be proportionately adjusted).

Notwithstanding the immediately preceding paragraph, the Corporation shall not be required to issue or deliver any fractional shares of New Common Stock. Each holder of such New Common Stock shall be entitled to receive for such fractional interest, and at the Amendment Effective Time any such fractional interest in such shares of New Common Stock shall be converted into the right to receive, an amount in cash, without interest, determined by multiplying (i) such fractional share interest to which the holder would otherwise be entitled by (ii) the closing sale price of the Common Stock (on a post-reverse-split basis as adjusted for the amendment effected hereby) on the trading day immediately prior to the Amendment Effective Time on The NASDAQ Stock Market, or if the principal exchange on which the Common Stock is then traded is other than The NASDAQ Stock Market, such exchange as may be applicable. Shares of Common Stock that were outstanding prior to the Amendment Effective Time and that are not outstanding after the Amendment Effective Time shall resume the status of authorized but unissued shares of Common Stock.


Each stock certificate that, immediately prior to the Amendment Effective Time, represented shares of Old Common Stock shall, from and after the Amendment Effective Time, automatically and without the necessity of presenting the same for exchange, represent that number of whole shares of New Common Stock into which the shares of Old Common Stock represented by such certificate shall have been reclassified (as well as the right to receive cash in lieu of any fractional shares of New Common Stock as set forth above); provided, however, that each holder of record of a certificate that represented shares of Old Common Stock shall receive, upon surrender of such certificate, a new certificate representing the number of whole shares of New Common Stock into which the shares of Old Common Stock represented by such certificate shall have been reclassified, as well as any cash in lieu of fractional shares of New Common Stock to which such holder may be entitled pursuant to the immediately preceding paragraph.”

THIRD: That thereafter, pursuant to resolution of its Board of Directors, a meeting of the stockholders of the Corporation was duly called and held, upon notice in accordance with Section 222 of the General Corporation Law of the State of Delaware, at which meeting the necessary number of shares as required by statute were voted in favor of the amendment.

FOURTH: This Certificate of Amendment of the Certificate of Incorporation was duly adopted at said meeting of the stockholders in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

FIFTH: In accordance with Section 103(d) of the General Corporation Law of the State of Delaware, this Certificate of Amendment shall be effective as of 12:01 a.m. on October 15, 2013.

IN WITNESS WHEREOF, Perma-Fix Environmental Services, Inc. has caused this Certificate of Amendment to be signed by its Corporate Secretary, this 11th day of October, 2013.

By: 
Ben Naccarato, Corporate Secretary

Delaware

PAGE 1

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "PERMA-FIX ENVIRONMENTAL SERVICES, INC.", FILED IN THIS OFFICE ON THE NINETEENTH DAY OF SEPTEMBER, A.D. 2014, AT 12:09 O'CLOCK P.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

2249849 8100

141199620

You may verify this certificate online
at corp.delaware.gov/authver.shtml




Jeffrey W. Bullock, Secretary of State
AUTHENTICATION: 1714196

DATE: 09-19-14

CERTIFICATE OF AMENDMENT
OF

THE RESTATED CERTIFICATE OF INCORPORATION, AS AMENDED, OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of the corporation is Perma-Fix Environmental Services, Inc. (the "Corporation").
2. At a meeting of the Board of Directors of the Corporation, resolutions were duly adopted declaring the advisability of an amendment to the Corporation's Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), as follows (the "Amendment"), and providing that:

The first four paragraphs of Article Fourth of the Corporation's Certificate of Incorporation are hereby deleted in their entirety and replaced in their entirety by the following:

"FOURTH: The total number of shares of capital stock that the Corporation shall have authority to issue is 32,000,000, of which 30,000,000 shall be designated as common stock, par value \$.001 per share ("Common Stock"), and 2,000,000 shall be designated as preferred stock, par value \$.001 per share ("Preferred Stock").

3. Only the first four paragraphs of Article Fourth are amended by this Amendment, and the remainder of Article Fourth shall remain in full force and effect. No other provision, paragraph or article of the Certificate of Incorporation is amended or changed by this Amendment.
4. That thereafter, pursuant to resolution of its Board of Directors, a meeting of the stockholders of the Corporation was duly called and held, upon notice in accordance with Section 222 of the General Corporation Law of the State of Delaware, at which meeting the necessary number of shares as required by statute were voted in favor of the amendment.
5. This Certificate of Amendment of the Certificate of Incorporation was duly adopted at said meeting of the stockholders in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.
6. This Certificate of Amendment of the Certificate of Incorporation shall become effective immediately upon filing of this certificate with the Secretary of State of the State of Delaware. All other provisions of the Certificate of Incorporation, as currently on file with the Secretary of State of the State of Delaware, shall remain in full force and effect.

IN WITNESS WHEREOF, Perma-Fix Environmental Services, Inc. has caused this Certificate of Amendment to be signed by its Corporate Secretary, this 19th day of September, 2014.

By:



Ben Naccarato, Corporate Secretary

Delaware

PAGE 1

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "PERMA-FIX ENVIRONMENTAL SERVICES, INC.", FILED IN THIS OFFICE ON THE NINETEENTH DAY OF SEPTEMBER, A.D. 2014, AT 12:09 O'CLOCK P.M.


A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



2249849 8100

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at corp.delaware.gov/authver.shtml


Jeffrey W. Bullock, Secretary of State
AUTHENTICATION: 1714196

DATE: 09-19-14

CERTIFICATE OF AMENDMENT
OF

THE RESTATED CERTIFICATE OF INCORPORATION, AS AMENDED, OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of the corporation is Perma-Fix Environmental Services, Inc. (the "Corporation").
2. At a meeting of the Board of Directors of the Corporation, resolutions were duly adopted declaring the advisability of an amendment to the Corporation's Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), as follows (the "Amendment"), and providing that:

The first four paragraphs of Article Fourth of the Corporation's Certificate of Incorporation are hereby deleted in their entirety and replaced in their entirety by the following:

"FOURTH: The total number of shares of capital stock that the Corporation shall have authority to issue is 32,000,000, of which 30,000,000 shall be designated as common stock, par value \$.001 per share ("Common Stock"), and 2,000,000 shall be designated as preferred stock, par value \$.001 per share ("Preferred Stock").

3. Only the first four paragraphs of Article Fourth are amended by this Amendment, and the remainder of Article Fourth shall remain in full force and effect. No other provision, paragraph or article of the Certificate of Incorporation is amended or changed by this Amendment.
4. That thereafter, pursuant to resolution of its Board of Directors, a meeting of the stockholders of the Corporation was duly called and held, upon notice in accordance with Section 222 of the General Corporation Law of the State of Delaware, at which meeting the necessary number of shares as required by statute were voted in favor of the amendment.
5. This Certificate of Amendment of the Certificate of Incorporation was duly adopted at said meeting of the stockholders in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.
6. This Certificate of Amendment of the Certificate of Incorporation shall become effective immediately upon filing of this certificate with the Secretary of State of the State of Delaware. All other provisions of the Certificate of Incorporation, as currently on file with the Secretary of State of the State of Delaware, shall remain in full force and effect.

IN WITNESS WHEREOF, Perma-Fix Environmental Services, Inc. has caused this Certificate of Amendment to be signed by its Corporate Secretary, this 19th day of September, 2014.

By:



Ben Naccarato, Corporate Secretary

**CERTIFICATE OF DESIGNATIONS
OF
SERIES B JUNIOR PARTICIPATING PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

(Pursuant to Section 151 of the Delaware General Corporation Law)

In accordance with Section 151 of the Delaware General Corporation Law, the undersigned corporation hereby certifies that the following resolution was adopted by the Board of Directors (the "**Board**") of Perma-Fix Environmental Services, Inc. (the "**Corporation**") at a meeting duly called and held on April 19, 2018, to become effective May 2, 2018.

RESOLVED, that pursuant to the authority granted to and vested in the Board in accordance with the provisions of the Restated Certificate of Incorporation of the Corporation, as amended and as may be further amended from time to time (the "**Certificate of Incorporation**"), the Board hereby creates a series of Preferred Stock, par value \$0.001 per share, of the Corporation (the "**Preferred Stock**"), and hereby states the designation and number of shares, and fixes the relative rights, preferences, and limitations thereof as follows:

Series B Junior Participating Preferred Stock:

1. **Designation and Amount.** The shares of such series shall be designated as "Series B Junior Participating Preferred Stock" (the "**Series B Preferred Stock**") and the number of shares constituting the Series B Preferred Stock shall be 50,000. Such number of shares may be increased or decreased by resolution of the Board; provided that no decrease shall reduce the number of shares of Series B Preferred Stock to a number less than the number of shares then outstanding plus the number of shares reserved for issuance upon the exercise of outstanding options, rights or warrants or upon the conversion of any outstanding securities issued by the Corporation convertible into Series B Preferred Stock.

2. **Dividends and Distributions.**

(A) Subject to the rights of the holders of any shares of any series of Preferred Stock (or any similar stock) ranking prior and superior to the Series B Preferred Stock with respect to dividends, the holders of shares of Series B Preferred Stock, in preference to the holders of common stock, par value \$0.001 per share (collectively, the "**Common Stock**"), of the Corporation, and of any other junior stock, shall be entitled to receive, when, as and if declared by the Board out of funds legally available for the purpose, quarterly dividends payable in cash on the first day of March, June, September and December in each year (each such date being referred to herein as a "**Quarterly Dividend Payment Date**"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Series B Preferred Stock, in an amount per share (rounded to the nearest cent) equal to the greater of (1) \$1.00 or (2) subject to the provision for adjustment hereinafter set forth, 1,000 times the aggregate per share amount of all cash dividends, and 1,000 times the aggregate per

share amount (payable in kind) of all non-cash dividends or other distributions, other than a dividend payable in shares of Common Stock or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock since the immediately preceding Quarterly Dividend Payment Date or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Series B Preferred Stock. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of shares of Series B Preferred Stock were entitled immediately prior to such event under clause (2) of the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) The Corporation shall declare a dividend or distribution on the Series B Preferred Stock as provided in paragraph (a) of this subsection immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock); *provided*, that in the event no dividend or distribution shall have been declared on the Common Stock during the period between any Quarterly Dividend Payment Date and the next subsequent Quarterly Dividend Payment Date, a dividend of \$1.00 per share on the Series B Preferred Stock shall nevertheless be payable on such subsequent Quarterly Dividend Payment Date.

(C) Dividends shall begin to accrue and be cumulative on outstanding shares of Series B Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series B Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Series B Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board may fix a record date for the determination of holders of shares of Series B Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be not more than 60 days prior to the date fixed for the payment thereof.

3. Voting Rights. The holders of shares of Series B Preferred Stock shall have the following voting rights:

(A) Subject to the provision for adjustment hereinafter set forth, each share of Series B Preferred Stock shall entitle the holder thereof to 1,000 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by

reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the number of votes per share to which holders of shares of Series B Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) Except as otherwise provided herein, in any other certificate of designations creating a series of Preferred Stock or any similar stock, or by law, the holders of shares of Series B Preferred Stock and the holders of shares of Common Stock and any other capital stock of the Corporation having general voting rights shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

(C) Except as set forth herein, or as otherwise provided by law, holders of Series B Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate action.

4. Certain Restrictions.

(A) Whenever quarterly dividends or other dividends or distributions payable on the Series B Preferred Stock as provided in Section 2 are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Series B Preferred Stock outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends, or make any other distributions, on any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series B Preferred Stock;

(ii) declare or pay dividends, or make any other distributions, on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series B Preferred Stock, except dividends paid ratably on the Series B Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series B Preferred Stock other than (A) such redemptions or purchases that may be deemed to occur upon the exercise of stock options, warrants or similar rights or grant, vesting or lapse of restrictions on the grant of any other performance shares, restricted stock, restricted stock units or other equity awards to the extent that such shares represent all or a portion of (x) the exercise or purchase price of such options, warrants or similar rights or other equity awards and (y) the amount of withholding taxes owed by the recipient of such award in respect of such grant, exercise, vesting or lapse of restrictions; (B) the repurchase, redemption, or other acquisition or retirement for value of any such shares from employees, former employees, directors, former directors, consultants or

former consultants of the Corporation or their respective estate, spouse, former spouse or family member, pursuant to the terms of the agreements pursuant to which such shares were acquired, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such junior stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Series B Preferred Stock; or

(iv) redeem or purchase or otherwise acquire for consideration any shares of Series B Preferred Stock, or any shares of stock ranking on a parity with the Series B Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board) to all holders of such shares upon such terms as the Board, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(B) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (a) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

5. Reacquired Shares. Any shares of Series B Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and cancelled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock subject to the conditions and restrictions on issuance set forth herein, in the Certificate of Incorporation, or in any other certificate of designations creating a series of Preferred Stock or any similar stock or as otherwise required by law.

6. Liquidation, Dissolution or Winding Up. Upon any liquidation, dissolution or winding up of the Corporation, voluntary or otherwise, no distribution shall be made (1) to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series B Preferred Stock unless, prior thereto, the holders of shares of Series B Preferred Stock shall have received the greater of (A) \$1,000 per share, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment, and (B) an amount, subject to the provision for adjustment hereinafter set forth, equal to 1,000 times the aggregate amount to be distributed per share to holders of shares of Common Stock, or (2) to the holders of shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series B Preferred Stock, except distributions made ratably on the Series B Preferred Stock and all such parity stock in proportion to the total amounts to which the holders of all such shares are entitled upon such liquidation, dissolution or winding up. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the aggregate amount to which holders of shares of Series B Preferred Stock were entitled immediately prior to such event under the proviso in clause (1) of the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding

immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

7. Consolidation, Merger, Etc. In case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case each share of Series B Preferred Stock shall at the same time be similarly exchanged or changed into an amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1,000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Series B Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

8. No Redemption. The shares of Series B Preferred Stock shall not be redeemable.

9. Rank. The Series B Preferred Stock shall rank, with respect to the payment of dividends and the distribution of assets, junior to all series of any other class of the Corporation's Preferred Stock, and shall rank senior to the Common Stock as to such matters.

10. Amendment. The Certificate of Incorporation of the Corporation shall not be amended in any manner which would materially alter or change the powers, preferences or special rights of the Series B Preferred Stock so as to affect them adversely without the affirmative vote of the holders of at least two-thirds of the outstanding shares of Series B Preferred Stock, voting together as a single class.

11. Fractional Shares. The Series B Preferred Stock may be issued in fractions of a share, which fractions shall entitle the holder, in proportion to such holder's fractional shares, to exercise voting rights, receive dividends, participate in distributions, and to have the benefit of all other rights of holders of Series B Preferred Stock.

IN WITNESS WHEREOF, this Certificate of Designation is executed on behalf of the Corporation by its Vice President and Chief Financial Officer and attested by its Assistant Secretary on this 2nd day of May, 2018.

**PERMA-FIX ENVIRONMENTAL
SERVICES, INC.**

By: BUP
Ben Naccarato, Vice President and
Chief Financial Officer

ATTEST:



Karen Siegel, Assistant Secretary

(SEAL)



**CERTIFICATE OF ELIMINATION
OF
SERIES A JUNIOR PARTICIPATING
PREFERRED STOCK
OF
PERMA-FIX ENVIRONMENTAL SERVICES, INC.**

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Corporation"), hereby certifies the following:

1. That the Certificate of Designations of the Series A Junior Participating Preferred Stock, par value \$.001 per share, of the Corporation (the "Series A Preferred") was filed with the Delaware Secretary of State on May 6, 2008 (the "Series A Preferred Certificate of Designations").
2. That no shares of the Series A Preferred are outstanding and no shares of Series A Preferred subject to the Certificate of Designations previously filed with respect to the Series A Preferred will be issued.
3. All shares of Series A Preferred reserved for issuance shall have the status of authorized and unissued shares of the Corporation's Preferred Stock.
4. That effective May 2, 2018, the Board of Directors of the Corporation unanimously adopted the following resolutions:

RESOLVED FURTHER, that upon the Existing Rights Plan Expiration Date it does not appear that any shares of the series designated as Series A Junior Participating Preferred Stock will be issued and outstanding and, if, upon the Existing Rights Plan Expiration Date, no shares of Series A Junior Participating Preferred Stock are outstanding, the officers of the Corporation are hereby authorized and directed, for and on behalf of the Corporation, to execute, deliver and file with the Delaware Secretary of State a Certificate of Elimination to eliminate the Series designated as Series A Junior Participating Preferred Stock.

5. That pursuant to the provisions of § 151(g) of the Delaware General Corporation Law, upon the effective date of the filing of this Certificate, this Certificate will have the effect of eliminating from the Corporation's Restated Certificate of Incorporation only those matters set forth in the Series A Preferred Certificate of Designations, with respect to the Series A Preferred.
-

IN WITNESS WHEREOF, this Certificate of Elimination is executed on behalf of the Corporation by its Vice President and Chief Financial Officer and attested by its Assistant Secretary on this 2nd day of May, 2018.

PERMA-FIX ENVIRONMENTAL SERVICES,
INC.

By: *BCP*
Ben Naccarato
Vice President and Chief Financial Officer

ATTEST:

 Karen Siegel
Karen Siegel, Assistant Secretary

(SEAL)



SECOND AMENDMENT TO AMENDED AND RESTATED REVOLVING CREDIT,
TERM LOAN AND SECURITY AGREEMENT AND WAIVER

THIS SECOND AMENDMENT TO AMENDED AND RESTATED REVOLVING CREDIT, TERM LOAN AND SECURITY AGREEMENT AND WAIVER, dated as of May 9, 2013 (this "Amendment"), relating to the Credit Agreement referenced below, is by and among PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (the "Borrower"), the lenders identified on the signature pages hereto (the "Lenders"), and PNC Bank, National Association, a national banking association, as agent for the Lenders (in such capacity, the "Agent"). Terms used herein but not otherwise defined herein shall have the meanings provided to such terms in the Credit Agreement.

WITNESSETH

WHEREAS, a credit facility has been extended to the Borrower pursuant to the terms of that certain Amended and Restated Revolving Credit, Term Loan and Security Agreement dated as of October 31, 2011 (as amended and modified from time to time, the "Credit Agreement") among the Borrower, the Lenders identified therein, and PNC Bank, National Association, as agent for the Lenders;

WHEREAS, the Borrower has requested certain modifications to the Credit Agreement;

WHEREAS, the Required Lenders have agreed to the requested modifications on the terms and conditions set forth herein;

NOW, THEREFORE, IN CONSIDERATION of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Amendment. Section 6.5(b) of the Credit Agreement is amended to read as follows:

“(b) Fixed Charge Coverage Ratio.

Cause to be maintained a Fixed Charge Coverage Ratio of not less than 1.25 to 1.0 for (i) the one quarter period ending as of June 30, 2013; (ii) the two quarter period ending as of September 30, 2013; (iii) the three quarter period ending as of December 31, 2013; and (iv) the four quarter period ending as of March 31, 2014 and as of the end of each fiscal quarter thereafter.”

2. Waiver. The Agent and the Required Lenders hereby waive the violation by the Borrower of Section 6.5(b) (Fixed Charge Coverage Ratio) for the quarter ending as of March 31, 2013.

3. Conditions Precedent. This Amendment shall be effective as of the date hereof upon satisfaction of each of the following conditions precedent:

- (a) the execution of this Amendment by the Borrower, the Required Lenders and the Agent; and
- (b) receipt by the Agent of a \$20,000 amendment fee.

4. Representations and Warranties. The Borrower hereby represents and warrants in connection herewith that as of the date hereof (after giving effect hereto) (i) the representations and warranties set forth in Article V of the Credit Agreement are true and correct in all material respects (except those which expressly relate to an earlier date), and (ii) no Default or Event of Default has occurred and is continuing under the Credit Agreement.

5. Acknowledgments, Affirmations and Agreements. The Borrower (i) acknowledges and consents to all of the terms and conditions of this Amendment and (ii) affirms all of its obligations under the Credit Agreement and the Other Documents.

6. Credit Agreement. Except as expressly modified hereby, all of the terms and provisions of the Credit Agreement remain in full force and effect.

7. Expenses. The Borrower agrees to pay all reasonable costs and expenses in connection with the preparation, execution and delivery of this Amendment, including the reasonable fees and expenses of the Agent's legal counsel.

8. Counterparts. This Amendment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original. It shall not be necessary in making proof of this Amendment to produce or account for more than one such counterpart.

9. Governing Law. This Amendment shall be deemed to be a contract under, and shall for all purposes be construed in accordance with, the laws of the State of New York.

IN WITNESS WHEREOF, each of the parties hereto has caused a counterpart of this Amendment to be duly executed and delivered as of the date first above written.

BORROWER:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/Ben Naccarato
Name: Ben Naccarato
Title: CFO

AGENT AND LENDER:

PNC BANK, NATIONAL ASSOCIATION,
in its capacity as Agent and as Lender

By: /s/Alex M. Council IV
Name: Alex M. Council
Title: Vice President

THIRD AMENDMENT TO AMENDED AND RESTATED REVOLVING CREDIT,
TERM LOAN AND SECURITY AGREEMENT

THIS THIRD AMENDMENT TO AMENDED AND RESTATED REVOLVING CREDIT, TERM LOAN AND SECURITY AGREEMENT, dated as of August 2, 2013 (this "Amendment"), relating to the Credit Agreement referenced below, is by and among PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (the "Borrower"), the lenders identified on the signature pages hereto (the "Lenders"), and PNC Bank, National Association, a national banking association, as agent for the Lenders (in such capacity, the "Agent"). Terms used herein but not otherwise defined herein shall have the meanings provided to such terms in the Credit Agreement.

W I T N E S S E T H

WHEREAS, a credit facility has been extended to the Borrower pursuant to the terms of that certain Amended and Restated Revolving Credit, Term Loan and Security Agreement dated as of October 31, 2011 (as amended and modified from time to time, the "Credit Agreement") among the Borrower, the Lenders identified therein, and PNC Bank, National Association, as agent for the Lenders;

WHEREAS, the Borrower has requested certain modifications to the Credit Agreement;

WHEREAS, the Required Lenders have agreed to the requested modifications on the terms and conditions set forth herein;

NOW, THEREFORE, IN CONSIDERATION of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Amendments. The Credit Agreement is amended as set forth below:

(a) New definitions of "Change in Law", "Covered Entity", "FATCA", "Law", "Reportable Compliance Event", "Sanctioned Country", "Sanctioned Person", "Subordinated Lender", "Subordinated Loan" and "Subordination Agreement" are added to Section 1.2 in correct alphabetical order to read as follows:

"Change in Law" shall mean the occurrence, after the Closing Date, of any of the following: (a) the adoption or taking effect of any Applicable Law; (b) any change in any Applicable Law or in the administration, implementation, interpretation or application thereof by any Governmental Body; or (c) the making or issuance of any request, rule, guideline or directive (whether or not having the force of law) by any Governmental Body; provided that notwithstanding anything herein to the contrary, (x) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, regulations, guidelines, interpretations or directives thereunder or issued in connection therewith (whether or not having the force of Applicable Law) and (y) all requests, rules, regulations, guidelines, interpretations or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign regulatory authorities (whether or not having the force of law), in each case pursuant to Basel III, shall in each case be deemed to be a Change in Law regardless of the date enacted, adopted, issued, promulgated or implemented.

“Covered Entity” shall mean (a) Borrower, each of Borrower’s Subsidiaries, all Guarantors and all pledgers of Collateral and (b) each Person that, directly or indirectly, is in control of a Person described in clause (a) above. For purposes of this definition, control of a Person shall mean the direct or indirect (x) ownership of, or power to vote, 25% or more of the issued and outstanding equity interests having ordinary voting power for the election of directors of such Person or other Persons performing similar functions for such Person, or (y) power to direct or cause the direction of the management and policies of such Person whether by ownership of equity interests, contract or otherwise.

“FATCA” shall mean Sections 1471 through 1474 of the Code, as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with) and any current or future regulations or official interpretations thereof.

“Law” shall mean any law(s) (including common law), constitution, statute, treaty, regulation, rule, ordinance, opinion, issued guidance, release, ruling, order, executive order, injunction, writ, decree, bond, judgment, authorization or approval, lien or award of or any settlement arrangement, by agreement, consent or otherwise, with any Governmental Body, foreign or domestic.

“Reportable Compliance Event” shall mean that any Covered Entity becomes a Sanctioned Person, or is charged by indictment, criminal complaint or similar charging instrument, arraigned, or custodially detained, in connection with any Anti-Terrorism Law or any predicate crime to any Anti-Terrorism Law, or has knowledge of facts or circumstances to the effect that it is reasonably likely that any aspect of its operations is in actual or probable violation of any Anti-Terrorism Law.

“Sanctioned Country” shall mean a country subject to a sanctions program maintained under any Anti-Terrorism Law.

“Sanctioned Person” shall mean any individual person, group, regime, entity or thing listed or otherwise recognized as a specially designated, prohibited, sanctioned or debarred person, group, regime, entity or thing, or subject to any limitations or prohibitions (including but not limited to the blocking of property or rejection of transactions), under any Anti-Terrorism Law.

“Subordinated Lender” shall mean, collectively, William N. Lampton and Robert Ferguson.

“Subordinated Loan” shall mean the loan and Indebtedness evidenced by the [**Promissory Note**] dated as of August 2, 2013 in the original principal amount of \$3,000,000 between Borrower and Subordinated Lender.

“Subordination Agreement” shall mean the Subordination Agreement dated August 2, 2013 among Agent, Borrower and Subordinated Lender.”

(b) The definitions of “Anti-Terrorism Laws”, “Maximum Loan Amount”, “Maximum Revolving Advance Amount” and “Other Documents” in Section 1.2 are amended to read as follows:

“ “Anti-Terrorism Laws” shall mean any Laws relating to terrorism, trade sanctions programs and embargoes, import/export licensing, money laundering or bribery, and any regulation, order, or directive promulgated, issued or enforced pursuant to such Laws, all as amended, supplemented or replaced from time to time.

“Maximum Loan Amount” shall mean \$30,000,000.01 less repayments of the Term Loan.

“Maximum Revolving Advance Amount” shall mean \$18,000,000.

“Other Documents” shall mean the Mortgage, the Note, the Questionnaire, the Pledge Agreement, the Secured Subsidiaries Guaranty, any Lender-Provided Interest Rate Hedge, any Letter of Credit Document, the Subordination Agreement and any and all other agreements, instruments and documents, including guaranties, pledges, powers of attorney, consents, interest or currency swap agreements or other similar agreements and all other writings heretofore, now or hereafter executed by any Credit Party and/or delivered to Agent or any Lender in respect of the transactions contemplated by this Agreement.”

(c) The definitions of “Equipment Loans”, “Equipment Note” and “Maximum Equipment Loan Amount” set forth in Section 1.2 are deleted in their entirety and all provisions relating to the Equipment Loan, including, without limitation, Section 2.4(b) are deleted in their entirety.

(d) Section 2.2(g) is amended by adding the phrase “including without limitation any Change in Law,” after the word “thereof” and the comma in the second line of the subparagraph.

(e) Section 3.7(a) is amended by replacing the phrase “, or any change therein or in the interpretation or application thereof,” after the words “Applicable Law” in the first line of the subparagraph with the phrase “or any Change in Law”.

(f) Section 3.9(a) is amended by replacing the phrase “or any change therein” in the second line of the subparagraph with the phrase “or any Change in Law”.

(g) A new Section 3.11(d) is added to read as follows:

“(d) If a payment made to a Lender, Issuer, Participant or Agent under any Document would be subject to U.S. Federal withholding Tax imposed by FATCA if such Person fails to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender, Issuer, Participant or Agent shall deliver to Agent (in the case of a Lender or Issuer) and Borrowers (A) a certification signed by the chief financial officer, principal accounting officer, treasurer or controller of such Person, and (B) other documentation reasonably requested by Agent or Borrowers sufficient for Agent and Borrowers to comply with their obligations under FATCA and to determine that such Lender, Participant, Issuer, or Agent has complied with such applicable reporting requirements.”

(h) Section 5.24 is amended to read as follows:

“5.24 Anti-Terrorism Laws.

(a) Borrower represents and warrants that (i) no Covered Entity is a Sanctioned Person and (ii) no Covered Entity, either in its own right or through any third party, (A) has any of its assets in a Sanctioned Country or in the possession, custody or control of a Sanctioned Person in violation of any Anti-Terrorism Law; (B) does business in or with, or derives any of its income from investments in or transactions with, any Sanctioned Country or Sanctioned Person in violation of any Anti-Terrorism Law; or (C) engages in any dealings or transactions prohibited by any Anti-Terrorism Law.

(b) Borrower covenants and agrees that (i) no Covered Entity will become a Sanctioned Person, (ii) no Covered Entity, either in its own right or through any third party, will (A) have any of its assets in a Sanctioned Country or in the possession, custody or control of a Sanctioned Person in violation of any Anti-Terrorism Law; (B) do business in or with, or derive any of its income from investments in or transactions with, any Sanctioned Country or Sanctioned Person in violation of any Anti-Terrorism Law; (C) engaged in any dealings or transactions prohibited by any Anti-Terrorism Law or (D) use the Advances to fund any operations in, finance any investments or activities in, or, make any payments to, a Sanctioned Country or Sanctioned Person in violation of any Anti-Terrorism Law, (iii) the funds used to repay the Obligations will not be derived from any unlawful activity, (iv) each Covered Entity shall comply with all Anti-Terrorism Laws and (v) Borrower shall promptly notify Agent in writing upon the occurrence of a Reportable Compliance Event.”

(i) Section 5.25 is deleted in its entirety.

(j) Section 7.8 is amended by (i) deleting the semicolon and the word “and” in subsection (h); (ii) replacing the period in subsection (i) with a semicolon; and (iii) adding a new subsection (j) to read as follows:

“(j) Indebtedness due under the Subordinated Loan Documentation; and any refinancings of such Indebtedness, provided that in connection with such refinancing: (i) the aggregate principal amount of such Indebtedness is not increased, (ii) the scheduled maturity date of such Indebtedness is not shortened, (iii) the covenants or defaults are not materially more restrictive or more onerous than analogous provisions in the Subordinated Loan Documentation as in effect on the date hereof, and (iv) an intercreditor agreement in form and substance satisfactory to Agent and the Required Lenders shall have been executed and delivered to Agent prior to the consummation of such refinancing (it being agreed that an intercreditor agreement containing terms substantially similar to the terms set forth in the Subordination Agreement will be satisfactory);”.

(k) Section 7.17 is amended to read as follows:

“7.17. Prepayment of Indebtedness.

At any time, prepay, repurchase, redeem, retire or otherwise acquire, or make any payment on account of any principal of, interest on or premium payable in connection with the prepayment or redemption of any Indebtedness for borrowed money (other than Indebtedness owed to the Lender under this Agreement or the Other Documents), except any such prepayment, repurchase, redemption, retirement or acquisition (i) expressly permitted in the Subordination Agreement or (ii) in connection with the refinancing of Indebtedness in compliance with Section 7.8(j).”

(l) Article X is amended by (i) replacing the period at the end of Section 10.17 with a semicolon and the word “or” and (ii) adding a new Section 10.18 to read as follows:

“10.18 Subordinated Loan Default.

An event of default has occurred under the Subordinated Loan Documents, which default shall not have been cured or waived within any applicable grace period or if any Person party to a Subordination Agreement breaches or violates, or attempts to terminate or challenge the validity of, such agreement.”

(m) Section 15.17 is amended to read as follows:

“15.17 Certifications From Banks and Participants: USA PATRIOT Act

(a) Each Lender or assignee or participant of a Lender that is not incorporated under the Laws of the United States of America or a state thereof (and is not excepted from the certification requirement contained in Section 313 of the USA PATRIOT Act and the applicable regulations because it is both (i) an affiliate of a depository institution or foreign bank that maintains a physical presence in the United States or foreign country, and (ii) subject to supervision by a banking authority regulating such affiliated depository institution or foreign bank) shall deliver to Agent the certification, or, if applicable, recertification, certifying that such Lender is not a “shell” and certifying to other matters as required by Section 313 of the USA PATRIOT Act and the applicable regulations: (1) within ten (10) days after the Closing Date, and (2) as such other times as are required under the USA PATRIOT Act.

(b) The USA PATRIOT Act requires all financial institutions to obtain, verify and record certain information that identifies individuals or business entities which open an “account” with such financial institution. Consequently, Lender may from time to time request, and Borrower shall provide to Lender, Borrower’s name, address, tax identification number and/or such other identifying information as shall be necessary for Lender to comply with the USA PATRIOT Act and any other Anti-Terrorism Law.”

2. Conditions Precedent. This Amendment shall be effective as of the date hereof upon satisfaction of each of the following conditions precedent:

- (a) the execution of this Amendment by the Borrower, the Required Lenders and the Agent;
 - (b) the execution by the Borrower of the Third Amended, Restated and Substituted Revolving Credit Note; and
-

(c) the execution by the Subordinated Lender, the Agent and the Borrower of the Subordination Agreement.

3. Representations and Warranties. The Borrower hereby represents and warrants in connection herewith that as of the date hereof (after giving effect hereto) (i) the representations and warranties set forth in Article V of the Credit Agreement are true and correct in all material respects (except those which expressly relate to an earlier date), and (ii) no Default or Event of Default has occurred and is continuing under the Credit Agreement.

4. Acknowledgments, Affirmations and Agreements. The Borrower (i) acknowledges and consents to all of the terms and conditions of this Amendment and (ii) affirms all of its obligations under the Credit Agreement and the Other Documents.

5. Credit Agreement. Except as expressly modified hereby, all of the terms and provisions of the Credit Agreement remain in full force and effect.

6. Expenses. The Borrower agrees to pay all reasonable costs and expenses in connection with the preparation, execution and delivery of this Amendment, including the reasonable fees and expenses of the Agent's legal counsel.

7. Counterparts. This Amendment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original. It shall not be necessary in making proof of this Amendment to produce or account for more than one such counterpart.

8. Governing Law. This Amendment shall be deemed to be a contract under, and shall for all purposes be construed in accordance with, the laws of the State of New York.

IN WITNESS WHEREOF, each of the parties hereto has caused a counterpart of this Amendment to be duly executed and delivered as of the date first above written.

BORROWER:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/Ben Naccarato
Name: Ben Naccarato
Title: CFO

AGENT AND LENDER:

PNC BANK, NATIONAL ASSOCIATION,
in its capacity as Agent and as Lender

By: /s/Alex M. Council IV
Name: Alex M. Council IV
Title: Vice President

THIRD AMENDED, RESTATED AND SUBSTITUTED
REVOLVING CREDIT NOTE

\$18,000,000

August 2, 2013

This Third Amended, Restated and Substituted Revolving Credit Note is executed and delivered under and pursuant to the terms of that certain Amended and Restated Revolving Credit, Term Loan and Security Agreement dated as of October 31, 2011 (as amended, restated, supplemented or modified from time to time, the "Credit Agreement") by and among the undersigned, as Borrower, the various financial institutions named therein or which hereafter become a party thereto (each individually a "Lender" and collectively, "Lenders") and PNC BANK, NATIONAL ASSOCIATION (in its individual capacity, "PNC"), as agent for Lenders (in such capacity, "Agent"). Capitalized terms not otherwise defined herein shall have the meanings provided in the Credit Agreement.

FOR VALUE RECEIVED, the Borrower hereby promises, to pay to the order of PNC BANK, NATIONAL ASSOCIATION ("Payee"), at the office of Agent located at PNC Bank Center, Two Tower Center, 8th Floor, East Brunswick, New Jersey 08816 or at such other place as Agent may from time to time designate to Borrower in writing:

(i) the principal sum of EIGHTEEN MILLION DOLLARS (\$18,000,000) or, if different, from such amount, the unpaid principal balance of Payee's Commitment Percentage of the Revolving Advances as may be due and owing under the Credit Agreement, payable in accordance with the provisions of the Credit Agreement, subject to acceleration upon the occurrence of an Event of Default under the Credit Agreement or earlier termination of the Credit Agreement pursuant to the terms thereof; and

(ii) interest on the principal amount of the Revolving Advances under this Revolving Credit Note from time to time outstanding until such principal amount is paid in full at the applicable Revolving Rate in accordance with the provisions of the Credit Agreement. In no event, however, shall interest exceed the amount collectible at the maximum interest rate permitted by law. Upon and after the occurrence of an Event of Default, and during the continuation thereof, interest shall be payable at the Default Rate.

This Revolving Credit Note is one of the Revolving Credit Notes referred to in the Credit Agreement and is secured by the liens granted pursuant to the Credit Agreement and the Other Documents, is entitled to the benefits of the Credit Agreement and the Other Documents and is subject to all of the agreements, terms and conditions therein contained.

This Revolving Credit Note is subject to mandatory prepayment and may be voluntarily prepaid, in whole or in part, on the terms and conditions set forth in the Credit Agreement.

If an Event of Default under Section 10.7 of the Credit Agreement shall occur, then this Revolving Credit Note shall immediately become due and payable, without notice, together with reasonable attorneys' fees if the collection hereof is placed in the hands of an attorney to obtain or enforce payment hereof. If any other Event of Default shall occur under the Credit Agreement or any of the Other Documents, and the same is not cured within any applicable grace or cure period, then this Revolving Credit Note may, as provided in the Credit Agreement, be declared to be immediately due and payable, without notice, together with reasonable attorneys' fees, if the collection hereof is placed in the hands of an attorney to obtain or enforce payment hereof.

This Revolving Credit Note shall be construed and enforced in accordance with the laws of the State of New York.

The Borrower expressly waives any presentment, demand, protest, notice of protest, or notice of any kind except as expressly provided in the Credit Agreement.

This Revolving Credit Note is an amendment to, and is in substitution and replacement of, that certain Second Amended, Restated and Substituted Revolving Credit Note dated as of October 31, 2011 in the amount of \$25,000,000 (the "Replaced Note"). This Revolving Credit Note represents the same indebtedness as the Replaced Note and is secured by the same collateral securing the Replaced Note and is not intended to constitute a novation in any manner whatsoever.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.,
a Delaware corporation

By: /s/Ben Naccarato

Name: Ben Naccarato

Title: CFO

ELEVENTH AMENDMENT TO AMENDED AND RESTATED REVOLVING CREDIT,
TERM LOAN AND SECURITY AGREEMENT AND WAIVER

THIS ELEVENTH AMENDMENT TO AMENDED AND RESTATED REVOLVING CREDIT, TERM LOAN AND SECURITY AGREEMENT AND WAIVER, dated as of March 29, 2019 (this "Amendment"), relating to the Credit Agreement referenced below, is by and among PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (the "Borrower"), the lenders identified on the signature pages hereto (the "Lenders"), and PNC Bank, National Association, a national banking association, as agent for the Lenders (in such capacity, the "Agent"). Terms used herein but not otherwise defined herein shall have the meanings provided to such terms in the Credit Agreement.

WITNESSETH

WHEREAS, a credit facility has been extended to the Borrower pursuant to the terms of that certain Amended and Restated Revolving Credit, Term Loan and Security Agreement dated as of October 31, 2011 (as amended and modified from time to time, the "Credit Agreement") among the Borrower, the Lenders identified therein, and PNC Bank, National Association, as agent for the Lenders;

WHEREAS, the Borrower has requested certain modifications to the Credit Agreement; and

WHEREAS, the Required Lenders have agreed to the requested modifications on the terms and conditions set forth herein;

NOW, THEREFORE, IN CONSIDERATION of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Amendments. The Credit Agreement is amended as set forth below:

(a) New definitions "Beneficial Owner", "Certificate of Beneficial Ownership" and "Eleventh Amendment Closing Date" are added to Section 1.2 in correct alphabetical order to read as follows:

"Beneficial Owner" shall mean each of the following: (a) each individual, if any, who, directly or indirectly, owns 25% or more of Borrower's equity interests and (b) a single individual with significant responsibility to control, manager, or direct Borrower.

"Certificate of Beneficial Ownership" shall mean a certificate in form and substance acceptable to Agent (as amended or modified by Agent from time to time in its sole discretion), certifying, among other things, the Beneficial Owner of Borrower.

“Eleventh Amendment Closing Date” shall mean March 29, 2019.”

(b) The definitions of “Fixed Charge Coverage Ratio”, “Subordinated Lender”, “Subordinated Loan” and “Subordination Agreement” in Section 1.2 are amended to read as follows:

“Fixed Charge Coverage Ratio” shall mean and include, with respect to any fiscal period, the ratio of (A) EBITDA for such period minus Unfinanced Capital Expenditures made during such period minus cash taxes paid by Borrower during such period minus any cash dividends or distributions made by Borrower during such period to (b) all Senior Debt Payments during such period. For purposes of calculating the Fixed Charge Coverage Ratio any prepayments on the Subordinated Loan following Borrower’s receipt of the Release of Restricted Insurance Closure Fund shall be excluded from Senior Debt Payments provided Undrawn Availability is greater than \$3,000,000 after making such prepayment.

“Subordinated Lender” shall mean Robert Louis Ferguson.

“Subordinated Loan” shall mean the loan and Indebtedness evidenced by the Loan and Securities Purchase Agreement and the Promissory Note in the original principal amount of \$2,500,000 between Borrower and Subordinated Lender. The Promissory Note shall have an interest rate of 4% with interest only for the first twelve months and thereafter monthly payments of \$208,300.

“Subordination Agreement” shall mean the Subordination Agreement to be entered into among Agent, Borrower and Subordinated Lender.”

(c) Section 2.1(a)(y)(a)(iii) is amended to read as follows:

“(iii) a \$1,000,000 availability block established from a portion of the South Georgia Insurance Proceeds which can be removed in Agent’s discretion, minus”.

(d) Section 3.3(b) is amended to read as follows:

“(b) Facility Fee.

Borrower shall pay to Agent a fee for the ratable benefit of Lenders in an amount equal to (0.375%) per annum multiplied by the amount by which the Maximum Revolving Advance Amount and the maximum amount of the Equipment Loans exceeds the daily unpaid balance of the Revolving Advances and the Equipment Loans plus the aggregate amount of any outstanding Letters of Credit that are available to be drawn during each calendar quarter. Such fee shall be payable to Agent in arrears on the first day of each calendar quarter with respect to the previous calendar quarter.”

(e) A new Section 5.30 is added to read as follows:

“5.30. Certificate of Beneficial Ownership.

The Certificate of Beneficial Ownership executed and delivered to Agent for Borrower on or prior to the Eleventh Amendment Closing Date, as updated from time to time in accordance with this Agreement, is accurate, complete and correct as of the date hereof and as of the date of any such update is delivered. Borrowers acknowledge and agree that the Certificate of Beneficial Ownership is one of the Other Documents”.

(f) Section 6.5 is amended to read as follows:

“6.5. Financial Covenants.

(a) Tangible Adjusted Net Worth.

Maintain at all times a Tangible Adjusted Net Worth in an amount not less than \$25,000,000.

(b) Fixed Charge Coverage Ratio.

Cause to be maintained a Fixed Charge Coverage Ratio of not less than 1.15 to 1.0 for (i) the two quarter period ending as of June 30, 2019; (ii) the three quarter period ending as of September 30, 2019; and (iii) the four quarter period ending as of December 31, 2019 and for each fiscal quarter thereafter. The Fixed Charge Coverage Ratio will not be tested for the quarter ending as of March 31, 2019.”

(g) A new Section 6.12 is added to read as follows:

“6.12. Certificate of Beneficial Ownership and Other Additional Information.

Provide to Agent: (i) confirmation of the accuracy of the information set forth in the most recent Certificate of Beneficial Ownership provided to Agent; (ii) a new Certificate of Beneficial Ownership, in form and substance acceptable to Agent, when the individual(s) to be identified as a Beneficial Owner have been changed; and (iii) such other information and documentation as may reasonably be requested by Agent from time to time for purposes of compliance by Agent with applicable laws (including without limitation the USA Patriot Act and other “know your customer” and anti-money laundering rules and regulations), and any policy or procedure implemented by Agent to comply therewith.”

2. No Eurodollar Rate Loans. The Borrower shall not have the option to elect any Eurodollar Rate Loans until it is in compliance with the Fixed Charge Coverage Ratio as confirmed by the Agent.

3. Waiver. The Agent and the Required Lenders hereby waive the violation by the Borrower of the Fixed Charge Coverage Ratio covenant set forth in Section 6.5(b) of the Credit Agreement for the quarter ending as of December 31, 2018.

4. Conditions Precedent. This Amendment shall be effective as of the date hereof upon satisfaction of each of the following conditions precedent:

(a) the execution of this Amendment by the Borrower, the Required Lenders and the Agent; and

(b) receipt by the Agent of an amendment fee of \$20,000.

5. Conditions Subsequent. Upon the execution of the documents evidencing the Subordinated Loan the Borrower will submit to the Agent copies of the documents and the Subordination Agreement in form and substance satisfactory to the Agent.

6. Representations and Warranties. The Borrower hereby represents and warrants in connection herewith that as of the date hereof (after giving effect hereto) (i) the representations and warranties set forth in Article V of the Credit Agreement are true and correct in all material respects (except those which expressly relate to an earlier date), and (ii) no Default or Event of Default has occurred and is continuing under the Credit Agreement.

7. Acknowledgments, Affirmations and Agreements. The Borrower (i) acknowledges and consents to all of the terms and conditions of this Amendment and (ii) affirms all of its obligations under the Credit Agreement and the Other Documents.

8. Credit Agreement. Except as expressly modified hereby, all of the terms and provisions of the Credit Agreement remain in full force and effect.

9. Expenses. The Borrower agrees to pay all reasonable costs and expenses in connection with the preparation, execution and delivery of this Amendment, including the reasonable fees and expenses of the Agent's legal counsel.

10. Counterparts. This Amendment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original. It shall not be necessary in making proof of this Amendment to produce or account for more than one such counterpart.

11. Governing Law. This Amendment shall be deemed to be a contract under, and shall for all purposes be construed in accordance with, the laws of the State of New York.

IN WITNESS WHEREOF, each of the parties hereto has caused a counterpart of this Amendment to be duly executed and delivered as of the date first above written.

BORROWER:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/Ben Naccarato

Name: Ben Naccarato

Title: CFO

AGENT AND LENDER:

PNC BANK, NATIONAL ASSOCIATION,
in its capacity as Agent and as Lender

By: /s/Alex M Council

Name: Alex Council

Title: Vice President

Exhibit 1.2(a)

[Letterhead of Company]

COMPLIANCE CERTIFICATE _____, 20__

PNC Bank, National Association, as Agent
One Piedmont Town Center
4720 Piedmont Row Drive
Suite 300
Charlotte, NC 28210
Attention: Alex Council

The undersigned, the [Chief Executive Officer][President][Chief Financial Officer][Controller] of Perma-Fix Environmental Services, Inc., a Delaware corporation, gives this certificate to PNC Bank, National Association, as Agent (in such capacity, the "Agent"), in accordance with the requirements of Section 9.7 and 9.8 (Annual and Quarterly Financial Statements) of that certain Revolving Credit, Term Loan and Security Agreement dated as of October 31, 2011, among the Borrower, the financial institutions which are parties thereto as Lenders, and the Agent (the "Loan Agreement").

Capitalized terms used in this Certificate, unless otherwise defined herein, shall have the meanings ascribed to them in the Loan Agreement.

1. Based upon my review of the financial statements of the Company for the [Fiscal Year/Quarter] ending _____, 20__, copies of which are attached hereto, I hereby certify that:
 - (a) Section 6.5(a), the Tangible Adjusted Net Worth is [satisfied / not satisfied] at \$ _____ when compared to the required amount of at least \$25,000,000.
 - (b) Section 6.5(b), the Fixed Charge Coverage Ratio is [satisfied / not satisfied] at _____ to 1.0 when compared to the required **1.15 to 1.0** for (i) the two quarter period ending as of June 30, 2019; (ii) the three quarter period ending as of September 30, 2019; and (iii) the four quarter period ending as of December 31, 2019 and as of the end of each fiscal quarter thereafter.
 - (c) Sections 7.4, Investments are [satisfied/not satisfied] as there are \$xx,xxx (if none, so state) outstanding.
 - (d) Sections 7.5(a), Loans are [satisfied/not satisfied] as no advances, loans or extensions of credit have been made except for extensions of trade credit in connection with the sale of Inventory in the Ordinary Course of Business and Section 7.5(b), Loans to employees in the Ordinary Course of Business in the amount of \$xx,xxx (if none, so state) are [less/more] than the allowable amount of \$1,000,000 in the aggregate.
 - (e) Sections 7.6, Capital Expenditures are [satisfied/not satisfied] as \$xx,xxx is [less/more] than the allowable amount of \$3,000,000 for any fiscal year.
-

- (f) Sections 7.7, Dividends and Distributions are [satisfied/not satisfied] as the payment of all dividends and distributions comply with the provisions of Section 7.7.
 - (g) Sections 7.8, Create additional Indebtedness is [satisfied/not satisfied] as such additional Indebtedness complies with the provisions of Section 7.8.
 - (h) Sections 7.11, Leases are [satisfied/not satisfied] as \$xx,xxx is [less/ more] when compared to the annual rental payments for all property of \$1,000,000.
2. No Default exists on the date hereof, other than: _____ [if none, so state]; and
 3. No Event of Default exists on the date hereof, other than _____ [if none, so state].
 4. As of the date hereof, if applicable, Borrower is current in all material respects in payment of all accrued rent, warehouse fees, and other charges to Persons who own or lease any premises where any of the Collateral is located, and there are no pending disputes or claims regarding Borrowers' failure to pay or delay in payment of any such rent or other charges.
 5. Additionally, as of the date hereof, as required by Section 9.3, to the best of my knowledge, Borrower is in compliance in all material respects with all federal, state and local laws relating to environmental protection and control and occupational safety and health, or if such is not the case, specifying in all areas of material non-compliance of which such officer has actual knowledge and the proposed action Borrower will implement in order to achieve compliance in all material respects unless full compliance is otherwise required.
 6. The financial statements attached hereto are complete and accurate in all respects and were prepared in accordance with GAAP, consistently applied, except for the absence of footnotes and subject to year end audit adjustments, and except as may be disclosed in such financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

_____ as **[Chief Executive Officer] [President] [Chief Financial Officer] [Controller]**

Dated _____

LOAN AND SECURITIES PURCHASE AGREEMENT

THIS LOAN AND SECURITIES PURCHASE AGREEMENT (this "Loan Agreement") is entered into on this 1st day of April, 2019, between PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation ("PESI"), having a notice address of 8302 Dunwoody Place #250, Atlanta, Georgia 30350, and ROBERT LOUIS FERGUSON, an individual, residing at, and having a notice address at, 160 Bradley Blvd., Richland, Washington 99352 ("Lender").

W I T N E S S E T H

WHEREAS, the Lender desires to lend to PESI, and PESI desires to borrow from the Lender, the sum of \$2,500,000 pursuant to the terms and conditions set forth in this Loan Agreement, and, in consideration thereof, the Lender will acquire and PESI agrees to issue to Lender certain shares of PESI Common Stock and warrants to acquire PESI Common Stock ("Warrants") on the terms and conditions set forth herein;

WHEREAS, the Lender has been previously furnished copies of PESI's SEC filings (as defined below).

WHEREAS, the Lender is a consultant of a subsidiary of the Company;

WHEREAS, the shares of Common Stock and Warrants to be issued to the Lender hereunder are to be issued in the form of units; with the total number of units to be issued hereunder to be 75,000 units, with each unit consisting of one (1) share of Common Stock and a Warrant to purchase up to 0.8 of one shares of Common Stock, on the terms set forth herein and in the attached Warrant; and

WHEREAS, each share of Common Stock to be issued to the Lender hereunder having a value equal to \$3.51, being the closing bid price for a share of PESI Common Stock on Nasdaq.com immediately preceding the execution of this Loan Agreement, and for each Warrant to be issued to the Lender hereunder having an attributable value equal to \$0.125 per Warrant.

NOW THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged the parties agree as follows.

1. Lending Agreement. Subject to the terms and conditions hereinafter set forth, the Lender agree to lend to PESI, and PESI agrees to borrow from the Lender, a sum of TWO MILLION. FIVE HUNDRED THOUSAND DOLLARS (\$2,500,000.00) (the "Loan"), as evidenced by the Note (as defined below).

2. Promissory Note. The Loan shall be evidenced by a Promissory Note of even date herewith in the principal amount of TWO MILLION, FIVE HUNDRED THOUSAND DOLLARS (\$2,500,000.00), in substantially the form and substance as set forth in Exhibit "A" to this Loan Agreement (the "Note"). The Note will bear interest on the unpaid principal thereof at a fixed annual rate equal to 4.0%. Commencing on May 1, 2019, and on the 1st day of each month thereafter for a period of twelve months, PESI shall pay to the Lender payment of interest accrued and unpaid on the outstanding principal balance of the Note. Beginning the thirteenth month PESI shall pay Lender equal successive payments of principal in the amount of \$208,333.33 plus interest accrued on the outstanding principal balance of the Note. The entire unpaid principal balance of the Note and all accrued and unpaid interest thereon is due and payable on April 30, 2021 (the "Maturity Date"). PESI may prepay the Note, in whole or in part, at any time, without premium or penalty, but with interest accrued to the date of prepayment, during the first twelve (12) months of this Note, which prepayment or prepayments can, at PESI's discretion, be applied against future principal installment payments due from PESI to Lender during the second year of the Note so long as the total principal amount of the Note is paid in full by April 30, 2021.

3. Purpose. The funds advanced under the Note will be used by PESI, in connection with working capital purposes in the ordinary course of PESI' business.

4. Recourse. The Note will be full recourse to PESI, but the payment of the Note and the obligations of PESI in this Loan Agreement will be unsecured, and the obligations represented by this Loan Agreement and the Note shall be subordinated to, and a second position loan after, PESI's indebtedness to PNC Bank, N.A.

5. Issuance of Shares and Warrants. In consideration of the Loan and in reliance on the representations, warranties, and covenants of Lender set forth in this Loan Agreement, within ten business days following the Closing Date (as defined below), PESI will issue to the Lender (a) an aggregate of 75,000 shares (the "Shares") of PESI Common Stock and (b) Warrants to purchase up to 60,000 shares of PESI Common Stock (the "Warrant Shares") at the exercise price of \$3.51 per share, which is the closing bid price for a share of PESI Common Stock on Nasdaq.com immediately preceding the execution of this Loan Agreement. The Warrants may be exercised during the period beginning six months from the date of issuance and ending five years from the date of issuance. The Warrants will be substantially in the form attached as Exhibit "B" to this Loan Agreement.

6. Closing Date; Conditions Precedent. The Lender shall fund the full amount of the Note as soon as all of the condition's precedent set forth at paragraphs 6.1 through 6.3 hereof have been satisfied (the "Closing Date"):

- 6.1 Authority. This Loan Agreement, the Note, and issuance of the Shares, the Warrants, and the Warrant Shares shall have been duly reviewed and approved by the Audit Committee of the Board of Directors and authorized by the entire Board of Directors of PESI;
- 6.2 Stock Quotation or Listing. There will be no action or proceeding pending or threatened against PESI by the Nasdaq to prohibit or terminate the quotation of PESI Common Stock, or the trading thereof on The Nasdaq Capital Market;
- 6.3 PNC Approval. PESI's lender, PNC Bank, N.A., shall have provided the necessary written approvals to allow the Loan on terms satisfactory to PESI.

7. Representations and Warranties of PESI. PESI represents and warrants to the Lender that:

- 7.1 Reporting Company. PESI is subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Since January 1, 2019, PESI has filed with the SEC all reports required to be filed under the Exchange Act and PESI is and, as of the time Closing Date will be, current in its reporting obligations under the Exchange Act.
- 7.2 Material Changes. To PESI's knowledge, no material event has occurred or exists with respect to PESI that is required to be disclosed under the securities laws and that has not been disclosed by PESI under applicable securities laws or which has not been publicly announced as of the date hereof or disclosed to Lender and which has or would have a Material Adverse Effect (as defined in paragraph 12.3) on PESI and its subsidiaries, taken as a whole.
- 7.3 Power and Authority. PESI has the necessary corporate authority and right to enter into and carry out the provisions of this Loan Agreement and other documents contemplated herein and to consummate the transactions contemplated hereby.
- 7.4 Litigation. Except as otherwise disclosed in PESI's SEC Filings, there is no action, suit, proceeding or investigation pending, threatened against on PESI, which, if adversely determined, would have a Material Adverse Effect on PESI and its subsidiaries, taken as a whole.
- 7.5 No Default. To PESI's knowledge, the making and performance by PESI of this Loan Agreement or the documents to be executed in connection herewith will not violate any provision or constitute a default under any indenture, agreement or instrument to which PESI is bound or affected, the effect of which would result in a Material Adverse Effect on PESI and its subsidiaries, taken as a whole, except as disclosed in PESI's SEC Filings or disclosed in Schedule 6.5 hereof.
- 7.6 Enforceability. Each of this Loan Agreement, the Note, and the Warrants constitute the valid and legally binding obligations of PESI enforceable against PESI in accordance with their respective terms, except as may be limited by bankruptcy, insolvency, reorganization or other similar laws affecting the enforcement of creditor's rights generally and by general principals of equity.

8. Investor Representations and Warranties. The Lender hereby acknowledges, represents, warrants, and covenants, jointly and severally, to PESI as follows:

- 8.1 Investment Intent. The Lender is acquiring the Shares and Warrants for his own account as principal, not as a nominee or agent, for investment purposes only, and not with a view to, or for, resale, distribution or fractionalization thereof in whole or in part and no other person has a direct or indirect beneficial interest in such Shares and Warrants. The Lender does not have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participation to such person or to any third person, with respect to any of the Shares and Warrants for which the Lender is subscribing;
- 8.2 Authority. The Lender has full power and authority to enter into this Loan Agreement, and this Loan Agreement constitutes a valid and legally binding obligation of the Lender;
- 8.3 Documents and SEC Filings. PESI has previously furnished the Lender copies of the following documents which have been filed by PESI with the SEC pursuant to Sections 13(a), 14(a), (b) or (c) or 15(d) of the Exchange Act (such documents are hereinafter collectively called the "SEC Filings"):
 - (a) Annual Report on Form 10-K for the year ended December 31, 2017 (the "Form 10-K"), which report includes, among other things, consolidated Balance Sheets at December 31, 2017 and December 31, 2016, and Consolidated Statements of Operations, Consolidated Statements of Shareholders' Equity and Consolidated Statements of Changes in Financial Position of PESI for the two year periods ended December 31, 2017, and December 31, 2016, examined and reported on by Grant Thornton LLP, independent certified public accountants;
 - (b) Quarterly Reports on Form 10-Q, filed with the SEC for quarters ended March 31, 2018, June 30, 2018, and September 30, 2018; and
 - (c) Current Reports on Form 8-K filed with the SEC on January 23, 2018, January 24, 2018, March 14, 2018, April 10, 2018, April 25, 2018, May 2, 2018, May 9, 2018, May 31, 2018, July 30, 2018, August 8, 2018, November 7, 2018, and January 23, 2019.

8.4 Investment Representations. The Lender acknowledge and agrees that the Shares and Warrants acquired under this Loan Agreement and the Warrant Shares issuable under the Warrants are not being registered under any applicable federal or state securities laws on the ground that the issuance thereof is exempt from registration, and are not being registered under the Securities Act of 1933, as amended (the "Act"), on the ground that the issuance thereof is exempt from registration under Rule 506 of Regulation D and/or Section 4(2) of the Act and that reliance by PESI on such exemptions is predicated in part on the Lender's representations and warranties set forth in this Loan Agreement. In furtherance thereof, the Lender represent and warrant to and agrees with PESI and its affiliates as follows:

- (a) Lender realizes that the basis for the exemption may not be present if, notwithstanding such representations, Lender has in mind merely acquiring the Shares, Warrants or Warrant Shares for a fixed or determinable period in the future, or for a market rise, or for sale if the market does not rise. The Lender does not have any such intention;
- (b) Lender has the financial ability to bear the economic risk of his investment, has adequate means for providing for current needs and personal contingencies and has no need for liquidity with respect to an investment in PESI;
- (c) Lender has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of the prospective investment in the Shares, Warrants and the Warrant Shares; and
- (d) Lender is an accredited investor as defined in Rule 501 of the Act, for the following reasons, which are not intended to be exclusive: Lender has a net worth in excess of \$1,000,000 (exclusive of the value of such Lender's primary residence) and net income in excess of \$200,000 in each of the two most recent years and has reasonable expectation of reaching the same income level in the current year.

8.5 Due Diligence. The Lender:

- (a) has been furnished for a reasonable period of time prior to the date hereof with the SEC Filings and all documents which have been delivered to, or made available upon request by, the Lender (collectively with this Loan Agreement, the "Investment Materials") and Lender has carefully read and evaluated the Investment Materials and understand the risks involved in an investment in the Shares and Warrants, including the risks set forth under the section titled "Risk Factors" in the Form 10-K and the considerations set forth in the Investment Materials, and have relied solely (except as indicated in subsections (b) and (c) below) on the information contained in the Investment Materials (including all exhibits thereto);
- (b) has been provided an opportunity, for a reasonable period of time prior to the date hereof, to obtain additional information concerning the acquisition of the Shares and Warrants, PESI and all other information to the extent PESI possesses such information or can acquire it without unreasonable effort or expense;
- (c) has been given the opportunity, for a reasonable period of time prior to the date hereof, to ask questions of and receive answers from, PESI or its representatives concerning the terms and conditions of the acquisition of the Shares and Warrants and other matters pertaining to an investment therein, and have been given the opportunity for a reasonable period of time prior to the date hereof to obtain such additional information necessary to verify the accuracy of the information contained in the Investment Materials or that which was otherwise provided in order to evaluate the merits and risks of a purchase of the Shares and Warrants;

- (d) has not been furnished with any oral representation or oral information in connection with the acquisition of the Shares and Warrants which is not contained in the Investment Materials; and
- (e) has determined that the Shares and Warrants are a suitable investment for the Lender and that at this time the Lender could bear a complete loss of such investment.

8.6 Restricted Use of Confidential Information.

- (a) The Lender acknowledges that certain Investment Materials disclosed to him may contain material information regarding PESI that has not been disclosed to the public (“Confidential Information”). Lender agree that such Confidential Information will be kept confidential by him and, without limiting the foregoing, will not be disclosed by the Lender to any person except (i) with the specific prior written consent of PESI, (ii) to a person that has executed a confidentiality agreement, the terms and conditions of which are approved in writing by PESI, or (iii) to the Lender’s representatives that have a fiduciary relationship to the Lender and have acknowledged to the Lender that he or she is aware that such information is Confidential Information and is subject to the restrictions and limitations of this Section 8.6.
- (b) The Lender agrees that neither he nor any affiliate or representative will trade in PESI’s securities while in possession of such Confidential Information of PESI and will not communicate such information to any other person under circumstances except as otherwise provided in Subsection 8.6(a) above.
- (c) The term “Confidential Information” does not include information which is or becomes generally available to the public other than as a result of a disclosure by the Lender or any of his affiliates or representatives.
- (d) If the Lender or any of his affiliates or representatives are requested or become legally compelled (by oral questions, interrogatories, requests for information or documents, subpoena, civil or criminal investigative demand, or similar process) or is required by a regulatory body to make any disclosure that is prohibited or otherwise constrained by this Agreement, the undersigned will provide PESI with prompt notice of such request so that PESI may seek an appropriate protective order or other appropriate remedy and/or waive compliance with this Section 8.6.

(e) The Lender acknowledges that this Section 8.6 as to the disclosure to him by PESI of any Confidential Information shall constitute a confidentiality agreement for the purposes of Regulation FD promulgated by the SEC.

8.7 No Reliance. The Lender is not relying on PESI or its affiliates with respect to economic considerations involved in an investment in the Shares, Warrants and Warrant Shares. The Lender has relied on the advice of, or has consulted with only his lawyer, accountant, and advisors in connection with the transactions contemplated by this Loan Agreement. The Lender is capable of evaluating the merits and risks of an investment in the Shares and Warrants on the terms and conditions set forth in this Loan Agreement.

8.8 Restrictions on Transfer. In addition to the restrictions contained in Section 8.6 hereof, the Lender represents, warrants and agrees that he will not sell or otherwise transfer the Shares and Warrants without registration under the Act or an exemption therefrom and fully understands and agrees to bear the economic risk of any purchase because, among other reasons, the Shares, Warrants and the Warrant Shares have not been registered under the Act or under the securities laws of any state and, therefore, cannot be resold, pledged, assigned or otherwise disposed of unless, *inter alia*, they are subsequently registered under the Act and under the applicable securities laws of such states or an exemption from such registration is available. In particular, the Lender is aware that the Shares and Warrants (as well as the Warrant Shares when issued) are "restricted securities," as such term is defined in Rule 144 promulgated under the Act ("Rule 144"), and they may not be sold pursuant to Rule 144 unless all of the conditions of Rule 144 are met. The Lender also understands that PESI is under no obligation to register the Shares, the Warrants, or the Warrant Shares on the Lender's behalf or to assist the Lender in complying with any exemption from registration under the Act or applicable state securities laws. The Lender further understands that U. S. securities laws, applicable state securities laws, and the provisions of this Loan Agreement further restrict sales or transfers of the Shares, Warrants and Warrant Shares.

8.9 Representations. No representations or warranties have been made to the Lender by PESI, or any officer, employee, agent, affiliate or subsidiary of PESI, other than the representations of PESI contained herein and in connection with this Loan Agreement the Lender has not relied upon any representations other than those expressly contained herein.

8.10 Financial Information. Any information which the Lender has heretofore furnished to PESI with respect to his financial position and business experience is correct and complete as of the date of this Loan Agreement and if there should be any material change in such information the Lender shall immediately furnish such revised or corrected information to PESI.

- 8.11 Restrictive Legends. The Lender understands and agrees that the certificates for the Shares and Warrants (and the Warrant Shares when issued) will bear, substantially, the following legend until (a) such securities will have been registered under the Act and effectively been disposed of in accordance with an effective registration statement; or (b) in the opinion of counsel for PESI such securities may be sold without registration under the Act, as well as any applicable “Blue Sky” or state securities laws:

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE “ACT”), AND ARE SUBJECT TO RESTRICTIONS ON TRANSFERABILITY AS SET FORTH IN THIS CERTIFICATE AND THE LOAN AGREEMENT, DATED April 1, 2019, BETWEEN PERMA-FIX ENVIRONMENTAL SERVICES, INC., AND ROBERT FERGUSON. THE SECURITIES REPRESENTED HEREBY ALSO MAY NOT BE OFFERED, SOLD, PLEDGED, HYPOTHECATED, ASSIGNED, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT WHICH IS CURRENT WITH RESPECT TO THESE SECURITIES OR PURSUANT TO A SPECIFIC EXEMPTION FROM REGISTRATION UNDER THE ACT BUT ONLY UPON A HOLDER HEREOF FIRST HAVING OBTAINED THE WRITTEN OPINION OF COUNSEL, REASONABLY ACCEPTABLE TO COUNSEL FOR PESI, TO THE EFFECT THAT THE PROPOSED DISPOSITION MAY BE EFFECTUATED WITHOUT REGISTRATION UNDER THE ACT.”

- 8.12 Speculative Investment. The Lender understand that an investment in the Shares, the Warrants and the Warrant Shares is a speculative investment that involves a high degree of risk and the potential loss of the entire investment.
- 8.13 Overall Commitments. The Lender’s overall commitment to investments that are not readily marketable is not disproportionate to the Lender’s net worth, and an investment in the Shares, the Warrants and the Warrant Shares will not cause such overall commitment to become excessive.
- 8.14 Survival. The representations, warranties and agreements of the Lender set forth in this Loan Agreement will survive the Closing.

9. Indemnity. The Lender agree, jointly and severally, to indemnify and hold harmless PESI, its officers and directors, employees and its affiliates and each other person, if any, who controls any thereof, against any loss, liability, claim, damage and expense whatsoever (including, but not limited to, any and all expenses whatsoever reasonably incurred in investigating, preparing or defending against any litigation commenced or threatened or any claim whatsoever) arising out of or based upon any false representation or warranty or breach or failure by the Lender to comply with any of the provisions of Section 8 of this Loan Agreement.

10. Default. A default will occur under the Note (a "Default") upon the failure of PESI to pay within 30 days when due any interest on or principal of the Note or any renewals or modifications thereof.

11. Remedies. Upon a Default (as defined in paragraph 9, above), the Lender will have the option to declare the Note and any renewals, extensions or modifications thereof to be immediately due and payable whereupon the Note or any renewals or modifications thereof shall become forthwith due and payable upon written demand, and the Lender will thereafter have the right to elect by written election delivered to PESI to receive in full and complete satisfaction of all of PESI's obligations under the Note either:

- (a) the cash amount equal to the sum of the unpaid principal balance owing under the Note and all accrued and unpaid interest thereon (the "Payoff Amount"); or
- (b) the number of whole shares of PESI Common Stock (the "Payoff Shares") determined by dividing the Payoff Amount by the dollar amount equal to the closing bid price of PESI's Common Stock on the date immediately prior to the date of Default of this Note, as reported or quoted on the primary nationally recognized exchange or automated quotation system on which the Common Stock is listed; provided however, that for the purposes of determining the amount of Payoff Shares the dollar amount of such closing bid price shall not be less than \$3.51, being the closing bid price for PESI Common Stock as disclosed on Nasdaq.com immediately preceding the signing of this Loan Agreement.

The Lender's option to elect the Payoff Amount or the Payoff Shares is mutually exclusive, and the Lender may not elect a combination of the Payoff Amount and the Payoff Shares. If the Lender elect to receive the Payoff Shares, the issuance of the Payoff Shares will be subject to compliance with the regulations of the primary nationally recognized exchange or automated quotation system on which the Common Stock is listed, the then applicable federal and state securities laws and the Lender providing, as of the issuance of the Payoff Shares, substantially the same representations and warranties as set forth in paragraph 8 of this Loan Agreement. If issued, the Payoff Shares will not be registered and the Lender will not be entitled to registration rights with respect to the Payoff Shares. Notwithstanding any other provision of this Loan Agreement, the Note, or the Warrants, the aggregate number of Shares, Warrant Shares, and Payoff Shares that are or will be issued to the Lender pursuant to this Loan Agreement, the Note, and the Warrants, together with the aggregate shares of PESI Common Stock and other PESI voting securities owned by the Lender as of the date of issuance of the Payoff Shares, shall not exceed the lesser of: (a) the number of shares of PESI Common Stock equal to 14.9% of the number of shares of PESI Common Stock issued and outstanding as of the date immediately prior to the Default, less the number of shares of PESI Common Stock owned by the Lender immediately prior to the date of such Default plus the number of shares of PESI Common Stock that may be acquired by the Lender under warrants and/or options outstanding immediately prior to the date of such Default; or (b) 14.9% of the voting power of all PESI voting securities issued and outstanding as of the date of the Default, less the voting power of shares of PESI voting securities held by the Lender as of the date of such Default plus the voting power of shares of PESI Common Stock that may be acquired by the Lender under warrants and/or options outstanding immediately prior to the date of such Default. Subject to the terms of this Loan Agreement, PESI will issue the Common Stock certificate representing 100% of the Payoff Shares to Lender. PESI will not be obligated to issue any fractional shares of Common Stock as Payoff Shares.

12. Miscellaneous. It is further agreed as follows:

- 12.1 Amendment and Waiver. This Loan Agreement may not be amended or modified in any way, except by an instrument in writing executed by all of the parties hereto; provided, however, the Lender may, in writing: (a) extend the time for performance of any of the obligations of PESI; (b) waive any default by PESI; and (c) waive the satisfaction of any condition that is precedent to the performance of the Lender's obligations under this Loan Agreement.
- 12.2 Non-Waiver; Cumulative Remedies. No failure on the part of the Lender to exercise and no delay in exercising any right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise by the Lender of any right hereunder preclude any other or further right of exercise thereof. The remedies herein provided are cumulative and not alternative.
- 12.3 Material Adverse Effect. The term "Material Adverse Effect" when used in connection with an entity means any change, event, violation, inaccuracy, circumstance or effect, individually or when aggregated with other changes, events, violations, inaccuracies, circumstances or effects, that is materially adverse to the business, assets (including intangible assets), revenues, financial condition or results of operations of such entity, it being understood that none of the following alone or in combination shall be deemed, in and of itself, to constitute a Material Adverse Effect: (a) changes attributable to the public announcement or pendency of the transactions contemplated hereby, (b) changes in general national or regional economic conditions, or (c) any federal or state rulemaking or regulations or changes in applicable laws.
- 12.4 Governing Law. This Loan Agreement shall be governed by and construed in accordance with the law of the State of Delaware (except with respect to usury laws which shall be governed by the laws of the state of Washington), regardless of the law that might otherwise govern under applicable principals of conflicts of law thereof.
- 12.5 Descriptive Headings. The descriptive headings of the paragraphs of this Loan Agreement are for convenience only and shall not be used in the construction of the terms hereof.

- 12.6 Integrated Agreement. This Loan Agreement, the Note and the Warrants executed pursuant hereto or in connection herewith constitute the entire agreement between the parties hereto, and there are no agreements, understandings, warranties or representations between the parties other than those set forth in such documents.
- 12.7 Binding Effect. This Loan Agreement shall be binding on and inure to the benefit of the parties hereto and their respective successors, personal representatives, legal representatives and assigns.
- 12.8 Third Party Beneficiary. Nothing in this Loan Agreement, express or implied, is intended to confer on any person, other than the parties hereto and their respective successors and assigns, any rights or remedies under or by reason of this Loan Agreement.
- 12.9 Maximum Legal Rate of Interest. Notwithstanding any other provisions of this Loan Agreement or the Note to the contrary, the total interest charges incurred by PESI pursuant to the Note shall not exceed the maximum legal rate of interest under Washington law. If the holder of the Note shall ever be entitled to receive, collect or apply, as interest on the Loan, any amount in excess of the maximum legal rate of interest permitted to be charged by applicable law, and, in the event any holder of the Note ever receives, collects or applies, as interest, any such excess, such amount which would be excessive interest shall be applied to the reduction of the unpaid principal balance of the applicable Note, and if the principal balance is paid in full, any remaining excess shall be forthwith paid to PESI. In determining whether or not the interest paid or payable under any specific contingency exceeds the highest lawful rate, PESI and the Lender shall, to the maximum extent permitted, under applicable law: (a) characterize any non-principal payment as an expense, fee or premium rather than as interest; (b) exclude voluntary prepayments and the effects thereof; (c) "spread" the total amount of interest on the Note throughout the entire term of the Note so that the interest rate is uniform throughout the entire term of the Note.
- 12.10 No Responsibility of Lender. Notwithstanding any term or provision of this Loan Agreement or the Note, the Lender shall not have any right as to management, conduct or operation of the business and affairs of PESI or any of their subsidiaries.
- 12.11 Counterparts; Facsimile Signatures. This Loan Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other party, it being understood that all parties need not sign the same counterpart. Delivery by facsimile to counsel for the other party of a counterpart executed by a party shall be deemed to meet the requirements of the previous sentence.
- 12.12 Assignment. No party may assign either this Loan Agreement or any of its rights, interests, or obligations hereunder without the prior written approval of the other parties. This Loan Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and permitted assigns.
- 12.13 Attorneys' Fees. The substantially prevailing party in any situation or suit to enforce any provision of this agreement shall be entitled to reasonable attorney's fees and any costs incurred, including, without limitation, costs of collection, enforcing a judgment and on appeal or in any bankruptcy proceeding (including efforts to modify or vacate any automatic stay or injunction).

IN WITNESS WHEREOF, the parties have caused this Loan and Securities Purchase Agreement to be duly executed as of the day and year first above written.

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation

By: /s/ Ben Naccarato
CFO

(“PESI”)

/s/ Robert Ferguson
ROBERT FERGUSON, an individual

(“Lender”)

EXHIBIT "B"

NEITHER THIS SECURITY NOR THE SECURITIES INTO WHICH THIS SECURITY IS EXERCISABLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR REASONABLY ACCEPTABLE TO THE COMPANY TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY.

COMMON STOCK PURCHASE WARRANT

To Purchase 60,000 Shares

of Common Stock of

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

April 1, 2019

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") CERTIFIES that, for value received, ROBERT FERGUSON, an individual (the "Holder"), is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after six months from the date of issuance of this Warrant (the "Initial Exercise Date") and on or prior to the fifth anniversary of the date of this Warrant (the "Termination Date") but not thereafter, to subscribe for and purchase from Perma-Fix Environmental Services, Inc., a Delaware corporation (the "Company"), up to 60,000 shares (the "Warrant Shares") of common stock, par value \$0.001 per share, of the Company ("Common Stock"). The purchase price of one share of Common Stock (the "Exercise Price") under this Warrant is \$3.51, which is the closing bid price for a share of the Company's Common Stock on Nasdaq.com immediately preceding the execution of the Loan Agreement (as defined below), subject to adjustment hereunder. The Exercise Price and the number of Warrant Shares for which the Warrant is exercisable shall be subject to adjustment as provided herein. **This Warrant shall be subject to, and the capitalized terms used and not otherwise defined herein shall have the meanings set forth in, that certain Loan and Securities Purchase Agreement (the "Loan Agreement"), dated April 1, 2019, between the Company and the Holder.**

1. Title to Warrant. Prior to the Termination Date and subject to compliance with applicable laws and the terms of this Warrant, this Warrant and all rights hereunder are transferable, in whole or in part, at the office or agency of the Company by the Holder in person or by duly authorized attorney, upon surrender of this Warrant together with the Assignment Form annexed hereto properly endorsed; provided, however, that the assignee is an accredited investor, as such term is defined in Rule 501 promulgated under the Securities Act of 1933, as amended (the Securities Act"). The transferee shall have signed an investment letter in form and substance reasonably satisfactory to the Company and its counsel and in compliance with the terms and provisions of paragraph 5 of this Warrant.

2. Authorization of Shares. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue and subject to compliance with applicable federal and state securities laws).

3. Exercise of Warrant.

3.1 Procedure. Exercise of the purchase rights represented by this Warrant may be made at any time or times on or after the Initial Exercise Date and on or before the Termination Date by satisfying each of the following:

- (a) delivery to the Company of a duly executed facsimile copy of the Notice of Exercise Form attached hereto;
- (b) surrender of this Warrant to the Company and receipt by the Company of this Warrant within 10 days of the date the Notice of Exercise is delivered to the Company;
- (c) receipt by the Company of payment of the aggregate Exercise Price of the shares to be purchased, with such payment made by wire transfer or cashier's check drawn on a United States bank;
- (d) receipt by the Company of such written investment representations and warranties by the Holder as the Company may reasonably request in accordance with paragraph 8 of the Loan Agreement.

This Warrant will be deemed to have been exercised (the "Exercise Date") on the later of (x) the date the Notice of Exercise is delivered to the Company by facsimile copy, (y) the date this Warrant is received by the Company, and (z) the date the Exercise Price is received by the Company.

3.2 Issuance of Warrant Shares. Certificates representing the shares of Common Stock purchased hereunder will be delivered to the Holder within 10 Trading Days following the Exercise Date ("Warrant Share Delivery Date"). The Warrant Shares shall be deemed to have been issued, and Holder or any other person so designated to be named therein shall be deemed to have become a holder of record of such shares for all purposes, as of the date the Exercise Date. If the Company fails to deliver to the Holder a certificate or certificates representing the Warrant Shares pursuant to this paragraph 3.2 within 20 Trading Days following the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to Holder a new Warrant evidencing the rights of Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

3.3 Charges, Taxes and Expenses. Issuance of certificates for Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that if certificates for Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder; and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto.

4. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which Holder would otherwise be entitled to purchase upon such exercise, the Company shall pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price.

5. Transfer, Division and Combination.

5.1 Transfer. Subject to compliance with any applicable securities laws and the conditions set forth in paragraphs 1 and 5.4 hereof and to the provisions of paragraph 8.8 of the Loan Agreement, this Warrant and all rights hereunder are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Promptly following such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled.

5.2 Division; Combination. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with paragraph 5.1, as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice.

5.3 Issuance; Records. The Company shall prepare, issue and deliver at its own expense (other than transfer taxes) the new Warrant or Warrants under this paragraph 5. The Company agrees to maintain, at its aforesaid office, books for the registration and the registration of transfer of the Warrants.

5.4 Securities Laws Compliance. If, at the time of the surrender of this Warrant in connection with any transfer of this Warrant, the transfer of this Warrant shall not be registered pursuant to an effective registration statement under the Securities Act and under applicable state securities or blue sky laws, the Company may require, as a condition of allowing such transfer, that:

- (a) the Holder or transferee of this Warrant, as the case may be, furnish to the Company a written opinion of counsel (which opinion shall be in form, substance and scope customary for opinions of counsel in comparable transactions and satisfactory to the Company and its counsel) to the effect that such transfer may be made without registration under the Securities Act and under applicable state securities or blue-sky laws;
- (b) the holder or transferee execute and deliver to the Company an investment letter in form and substance acceptable to the Company; and
- (c) the transferee be an “accredited investor” as defined in Rule 501 promulgated under the Securities Act or a qualified institutional buyer as defined in Rule 144A under the Securities Act.

6. No Rights as Shareholder until Exercise. This Warrant does not entitle the Holder to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof. The Warrant Shares shall be deemed to have been issued, and Holder or any other person so designated to be named therein shall be deemed to have become a holder of record of such shares for all purposes, as of the close of business on the date the Exercise and all taxes required to be paid by the Holder, if any, pursuant to paragraph 3.3 prior to the issuance of such shares, have been paid.

7. Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft, or destruction of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

8. Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday, Sunday or a legal holiday, then such action may be taken or such right may be exercised on the next succeeding day not a Saturday, Sunday or legal holiday.

9. Adjustments of Exercise Price and Warrant Shares. The number and kind of securities purchasable upon the exercise of this Warrant and the Exercise Price shall be subject to adjustment from time to time upon the happening of any of the following. If the Company:

- (a) pays a dividend in shares of Common Stock to all holders of its outstanding Common Stock,
- (b) subdivides or stock splits its outstanding shares of Common Stock into a greater number of shares,
- (c) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock, or
- (d) issues any shares of its capital stock in a reclassification of the Common Stock,

then the number of Warrant Shares purchasable upon exercise of this Warrant immediately prior thereto shall be adjusted so that the Holder shall be entitled to receive the kind and number of Warrant Shares or other securities of the Company which it would have owned or have been entitled to receive had such Warrant been exercised in advance thereof. Upon each such adjustment of the kind and number of Warrant Shares or other securities of the Company which are purchasable hereunder, the Holder shall thereafter be entitled to purchase the number of Warrant Shares or other securities resulting from such adjustment at an Exercise Price per Warrant Share or other security obtained by multiplying the Exercise Price in effect immediately prior to such adjustment by the number of Warrant Shares purchasable pursuant hereto immediately prior to such adjustment and dividing by the number of Warrant Shares or other securities of the Company that are purchasable pursuant hereto immediately after such adjustment. An adjustment made pursuant to this paragraph shall become effective immediately after the effective date of such event retroactive to the record date, if any, for such event.

10. Reclassification, Merger, Consolidation or Disposition of Assets. If the Company shall reclassify its capital stock, consolidate or merge with or into another corporation (where the Company is not the surviving corporation), or sell, transfer or otherwise dispose of all or substantially all of its property, assets or business to another corporation and, pursuant to the terms of such reclassification, merger, consolidation or disposition of assets, shares of Common Stock of the successor or acquiring corporation, or any cash, shares of stock or other securities or property of any nature whatsoever (including warrants or other subscription or purchase rights) in addition to or in lieu of Common Stock of the successor or acquiring corporation ("Other Property"), are to be received by or distributed to the holders of Common Stock of the Company, then the Holder shall have the right thereafter to receive, upon exercise of this Warrant, the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and Other Property receivable upon or as a result of such reclassification, merger, consolidation or disposition of assets by a Holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such event. In case of any such reclassification, merger, consolidation or disposition of assets, the successor or acquiring corporation (if other than the Company) shall expressly assume the due and punctual observance and performance of each and every covenant and condition of this Warrant to be performed and observed by the Company and all the obligations and liabilities hereunder, subject to such modifications as may be deemed appropriate (as determined in good faith by resolution of the Board of Directors of the Company) in order to provide for adjustments of Warrant Shares for which this Warrant is exercisable which shall be as nearly equivalent as practicable to the adjustments provided for in this paragraph 10. For purposes of this paragraph 10, "Common Stock of the successor or acquiring corporation" shall include stock of such corporation of any class which is not preferred as to dividends or assets over any other class of stock of such corporation and which is not subject to redemption and shall also include any evidences of indebtedness, shares of stock or other securities which are convertible into or exchangeable for any such stock, either immediately or upon the arrival of a specified date or the happening of a specified event and any warrants or other rights to subscribe for or purchase any such stock. The foregoing provisions of this paragraph 10 shall similarly apply to successive reclassifications, mergers, consolidations or disposition of assets.

11. Notice of Adjustment. Whenever the number of Warrant Shares or number or kind of securities or other property purchasable upon the exercise of this Warrant or the Exercise Price is adjusted, as herein provided, the Company shall give notice thereof to the Holder, which notice shall state the number of Warrant Shares (and other securities or property) purchasable upon the exercise of this Warrant and the Exercise Price of such Warrant Shares (and other securities or property) after such adjustment, setting forth a brief statement of the facts requiring such adjustment and setting forth the computation by which such adjustment was made.

12. Authorized Shares. The Company covenants that during the period this Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of executing stock certificates to execute and issue the necessary certificates for the Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed.

13. Miscellaneous.

- 13.1 Jurisdiction/Venue. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflicts of law thereof. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the state of Delaware, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or inconvenient venue for such proceeding.
- 13.2 Restrictions. The Holder acknowledges that the Company has no obligation to register this Warrant or the Warrant Shares with the Securities and Exchange Commission or any state securities agency, and the Warrant Shares acquired upon the exercise of this Warrant, if not registered, will have restrictions upon resale imposed by state and federal securities laws.

- 13.3 Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Loan Agreement.
- 13.4 Limitation of Liability. No provision of this Warrant, in the absence of any affirmative action by Holder to exercise this Warrant or purchase Warrant Shares, and no enumeration herein of the rights or privileges of Holder, shall give rise to any liability of Holder for the purchase price of any Common Stock exercisable under this Warrant or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.
- 13.5 Successors and Assigns. Subject to applicable securities laws and the terms of this Warrant, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of all Holders from time to time of this Warrant and shall be enforceable by any such Holder or holder of Warrant Shares.
- 13.6 Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.
- 13.7 Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.
- 13.8 Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

[SIGNATURES APPEAR ON NEXT PAGE]

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized.

Dated: April 1, 2019

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/ Ben Naccarato

Name: Ben Naccarato

Title: CFO

(“PESI”)

/s/ Robert Ferguson

ROBERT FERGUSON, an individual

(the “Holder”)

NOTICE OF EXERCISE

To: Perma-Fix Environmental Services, Inc.

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any. Payment shall take the form of in lawful money of the United States.

(2) Please issue a certificate or certificates representing said Warrant Shares in the name of the undersigned or in such other name as is specified below:

(3) The Warrant Shares shall be delivered to the following:

(4) Accredited Investor. The undersigned is an “accredited investor” as defined in Regulation D under the Securities Act of 1933, as amended.

[PURCHASER]

By: _____

Name: _____

Title: _____

Dated: _____

ASSIGNMENT FORM

(To assign the foregoing warrant, execute this form and supply required information. Do not use this form to exercise the warrant.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

_____ whose address is

_____.

Dated: _____, _____

Holder's Signature: _____

Holder's Address: _____

Signature Guaranteed: _____

NOTE: The signature to this Assignment Form must correspond with the name as it appears on the face of the Warrant, without alteration or enlargement or any change whatsoever, and must be guaranteed by a bank or trust company. Officers of corporations and those acting in a fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Warrant.

FIRST AMENDMENT

to

2017 STOCK OPTION PLAN NONQUALIFIED STOCK OPTION AGREEMENT DATED JULY 27, 2017, BY AND BETWEEN PERMA-FIX ENVIRONMENTAL SERVICES, INC. AND ROBERT FERGUSON (“CONSULTANT”)
(“2017 NONQUALIFIED STOCK OPTION AGREEMENT”)

WHEREAS, on July 27, 2017, Robert Ferguson (the “Consultant”) and Perma-Fix Environmental Services, Inc. (the “Company”) entered into the 2017 Nonqualified Stock Option Agreement.

WHEREAS, Section 4 of the 2017 Nonqualified Stock Option Agreement provides that the exercise of a certain number of options is subject to attainment of the following goals: (a) Upon treatment and disposal of three (3) gallons of waste at the Company’s PFNWR facility on or before January 27, 2018, 10,000 shares of the Options shall become exercisable; (b) Upon treatment and disposal of two thousand (2,000) gallons of waste at the Company’s PFNWR facility on or before January 27, 2019, 30,000 shares of the Option shall become exercisable; and (c) Upon treatment and disposal of fifty thousand (50,000) gallons of waste at the Company’s PFNWR facility and assistance, on terms satisfactory to the Company, in preparing appropriate justifications of cost and pricing date for the waste, and obtaining a long-term commercial contract relating to the treatment, storage and disposal of waste on or before January 27, 2021, sixty thousand (60,000) shares of the Option shall become exercisable;

WHEREAS, this First Amendment to the 2017 Nonqualified Stock Option Agreement (the “Amendment”) was approved by the Compensation and Stock Option Committee (“the Compensation Committee”) and the Board of Directors (the “Board”) of the Company on January 17, 2019, amending the date as noted for goal in letter “(b)” in Section 4 of the 2017 Nonqualified Stock Option Agreement.

NOW, THEREFORE, the 2017 Nonqualified Stock Option Agreement is hereby amended as follows:

1. Amendment to Section 4. “The Goals. The exercise of the Options is subject to attainment of the following goals:”

Section 4.

Letter (b) of the 2017 Nonqualified Stock Option Agreement is hereby amended by deleting the words “January 27, 2019” and substituting in lieu thereof the words “March 31, 2020.”

2. Amendment to the “Cover Page” of the 2017 Nonqualified Stock Option Agreement:

“01/27/2019” under the “Exercise Dates” is hereby amended and replaced with “03/31/2020.”

The 2017 Nonqualified Stock Option Agreement is hereby amended and modified by this Amendment only to the extent specifically amended or modified by this Amendment. None of the other terms, conditions or provisions of the Employment Agreement is amended or modified by this Amendment.

The "Company"

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation

By: /s/Mark Duff

Name: Mark Duff

Title: President/CEO

The "Consultant"

By: /s/Robert Ferguson

Name: Robert Ferguson

EXHIBIT 21.1

LIST OF SUBSIDIARIES OF PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(THE "COMPANY")

Treatment

Perma-Fix of Florida, Inc. ("PFF"), a Florida Corporation, is a 100% owned subsidiary of the Company.

Diversified Scientific Services, Inc., ("DSSI") a Tennessee Corporation, is a 100% owned subsidiary of the Company.

East Tennessee Materials and Energy Corporation, ("M&EC") a Tennessee Corporation, is a 100% owned subsidiary of the Company. The Company is in closure status .

Perma-Fix of Northwest Richland, Inc. ("PFNWR"), a Washington Corporation, is a 100% owned subsidiary of the Company.

Perma-Fix Northwest, Inc. ("PFNW"), a Washington Corporation, is a 100% owned subsidiary of the Company.

Services

Safety and Ecology Corporation ("SEC"), a Nevada corporation, is a 100% owned subsidiary of the Company.

SEC Radcon Alliance, LLC ("SECRA"), a Tennessee corporation, is a 100% owned subsidiary of the Company.

Perma-Fix Environmental Services UK Limited, a United Kingdom corporation, is a 100% owned subsidiary of the Company.

Safety and Ecology Holdings Corporation ("SEHC"), a Nevada corporation, is a 100% owned subsidiary of the Company.

SEC Federal Services Corporation, a Nevada corporation, is a 100% owned subsidiary of the Company.

Perma-Fix of Canada, a Canadian corporation, is a 100% owned subsidiary of the Company.

Medical

Perma-Fix Medical S.A, a Polish Corporation, is a majority owned subsidiary of the Company.

Perma-Fix Medical Corporation, a Delaware corporation, is a 100% owned subsidiary of Perma-Fix Medical, S.A.

Discontinued Operations

Perma-Fix of South Georgia, Inc. ("PFSG"), a Georgia Corporation, is a 100% owned subsidiary of the Company.

Perma-Fix of Michigan, Inc. ("PFMI"), a Michigan Corporation, is a 100% owned subsidiary of the Company.

Perma-Fix of Memphis, Inc. ("PFM"), a Tennessee Corporation, is a 100% owned subsidiary of the Company.

Perma-Fix of Dayton, Inc. ("PFD"), an Ohio Corporation, is a 100% owned subsidiary of the Company.

Perma-Fix Treatment Services, Inc. ("PFTS"), an Oklahoma Corporation, is a 100% owned subsidiary of the Company.

Perma-Fix of Orlando, Inc. ("PFO"), a Florida Corporation, is a 100% owned subsidiary of the Company.

Perma-Fix of Maryland, Inc. ("PFMD"), a Maryland Corporation, is a 100% owned subsidiary of the Company.

Perma-Fix of Pittsburgh, Inc. ("PFP"), a Maryland Corporation, is a 100% owned subsidiary of the Company.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report dated April 1, 2019, with respect to the consolidated financial statements included in the Annual Report of Perma-Fix Environmental Services, Inc. on Form 10-K for the year ended December 31, 2018. We consent to the incorporation by reference of said report in the Registration Statements of Perma-Fix Environmental Services, Inc. on Forms S-3 (File No. 333-158472, File No. 333-115061, File No. 333-70676, File No. 333-43149, File No. 333-87437 and File No. 333-14513) and Forms S-8 (File No. 333-223917, File No. 333-203137, File No. 333-153086, and File No. 333-110995).

/s/GRANT THORNTON LLP

Atlanta, Georgia
April 1, 2019

CERTIFICATIONS

I, Mark Duff, certify that:

1. I have reviewed this annual report on Form 10-K of Perma-Fix Environmental Services, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of the internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 1, 2019

/s/ Mark Duff

Mark Duff
Chief Executive Officer, President and Principal Executive Officer

CERTIFICATIONS

I, Ben Naccarato, certify that:

1. I have reviewed this annual report on Form 10-K of Perma-Fix Environmental Services, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of the internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 1, 2019

/s/ Ben Naccarato

Ben Naccarato
Chief Financial Officer and Principal Financial Officer

EXHIBIT 32.1

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Perma-Fix Environmental Services, Inc. ("PESI") on Form 10-K for the year ended December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-K"), I, Mark Duff, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Form 10-K fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §78m or §78o(d)); and
- (2) The information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: April 1, 2019

/s/ Mark Duff

Mark Duff
Chief Executive Officer, President and
Principal Executive Officer

This certification is furnished to the Securities and Exchange Commission solely for purpose of 18 U.S.C. §1350 subject to the knowledge standard contained therein, and not for any other purpose.

EXHIBIT 32.2

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Perma-Fix Environmental Services, Inc. ("PESI") on Form 10-K for the year ended December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-K"), I, Ben Naccarato, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Form 10-K fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §78m or §78o(d)); and
- (2) The information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: April 1, 2019

/s/ Ben Naccarato

Ben Naccarato
Chief Financial Officer and Principal Financial Officer

This certification is furnished to the Securities and Exchange Commission solely for purpose of 18 U.S.C. §1350 subject to the knowledge standard contained therein, and not for any other purpose.
