SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of
The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported) January 31, 2001

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

(Exact name of registrant as specified in its charter)

Delaware	1-11596	58-1954497
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

1940 N.W. 67th Place, Suite A, Gainesville, Florida	32653
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code (352) 373-4200

Not applicable

(Former name or former address, if changed since last report)

Item 5. Other Events and Regulation FD Disclosure.

$6 Million Loan Agreement.

On January 31, 2001, the Registrant entered into a definitive loan agreement (the "Loan Agreement"), with BHC Interim Funding, L.P. ("BHC"). Pursuant to the terms of the Loan Agreement, BHC agreed to loan to the Registrant the principal amount of $6 million (the "BHC Loan"), with $3.5 million of the BHC Loan being funded at the closing of the BHC Loan and an additional $2.5 million to be funded if and when BHC in its sole discretion, agrees to advance all or a portion of such amount. The outstanding principal amount of the BHC Loan is payable on March 31, 2002, with interest payable monthly on the outstanding principal balance of the BHC Loan at the annual rate of $13.75%. As of January 31, 2001, the monthly interest payment obligation was $40,104. The proceeds from the BHC Loan will be used for the Registrant's working capital purposes.

As collateral for the repayment of the BHC Loan, the Registrant has granted to BHC a subordinated security interest in all of its accounts receivables, equipment, general intangibles, inventory, investment property, all deposits, books and records, proceeds and products thereof (the "BHC Collateral"). With certain exceptions, BHC's right to receive payment and assert its security interest under the BHC Loan is subordinated to the prior payment of up to $25 million to PNC Bank, National Association ("PNC") under the Loan Agreement, dated December 22, 2000, between the Registrant and PNC which governs the $22 million credit facility provided by PNC to the Registrant (the "PNC Credit Facility"). In connection with the Loan Agreement, the PNC Credit Facility was amended to allow the Registrant to use the proceeds from any issuance of equity or subordinated indebtedness after January 31, 2001, to pay all Subordinated Loans (as defined in the First Amendment to Loan Agreement and Consent, dated January 30, 2001, between PNC and the Registrant), including the BHC Loan.

Under the terms of the Loan Agreement, the Registrant, on a consolidated basis, is subject to a net worth requirement as of the end of each fiscal quarter of not less than $7 million and fixed charge coverage ratio requirements. The Registrant has also agreed not to incur any Indebtedness (as defined in the Loan Agreement) in excess of $45 million, other than certain enumerated exceptions. The Registrant has agreed that it will not pay any dividends on any shares of capital stock of the Registrant (other than dividends payable with shares of the class of stock on which the dividend is declared).

Subordination Agreements. In connection with the consummation of the Loan Agreement with BHC, BHC required the Ann L. Sullivan Living Trust, dated September 6, 1978, and the Thomas P. Sullivan Living Trust, dated September 8, 1978 (collectively the "Sullivan Trusts") to each enter into certain Subordination Agreements, each dated January 31, 2001. Thomas P. Sullivan, a trustee of the Thomas P. Sullivan Living Trust, is a director of the Registrant. Under the terms of the Subordination Agreements, the Sullivan Trusts have subordinated all amounts owing by the Registrant to the Sullivan Trusts in favor of the Registrant's obligations to BHC. Notwithstanding the subordination, the Registrant may (a) as long a no event of default under the Loan Agreement with BHC has occurred and is continuing and if such payments would not create

an event of default, continue to make regularly scheduled payments of principal and interest owing under certain promissory notes, dated May 28, 1999, in the original aggregate principal amount of $4.7 million, which were issued to the Sullivan Trusts in connection with the Registrant's acquisition of Perma-Fix of Michigan, Inc., Perma-Fix of South Georgia, Inc., and Perma-Fix of Orlando, Inc.; and (b) make such payments as may be required pursuant to a certain Mortgage, dated May 28, 1999, by Perma-Fix of Michigan, Inc. in favor of the Sullivan Trusts.

Warrants. Pursuant to the terms of the Loan Agreement and in order to induce BHC into extending the BHC Loan, the Registrant issued to BHC certain warrants (the "BHC Warrants") having a term of five years and allowing the purchase under certain conditions of up to 817,148 shares of the Registrant's common stock, par value $.001 per share (the "PESI Common Stock"), subject to being decreased as discussed below and subject further to antidilution provisions contained therein, at an initial exercise price equal the average closing price of one share of PESI Common Stock as reported on the NASDAQ for the five trading days immediately preceding the date of the Loan Agreement (the "FMV") multiplied by 75% (the "Closing Price"). The terms of the BHC Warrants provide that the number of shares which may be purchased upon the exercise of the BHC Warrants will automatically increase and the exercise price will be subject to adjustment if the BHC Loan is not paid in full prior to certain specified dates based on the following:

If the BHC Loan is not paid in full on or prior to. . .	Then the BHC Warrants will be exercisable for. . .	At an exercise price equal to the lower of the Closing Price or the FMV as of . . .
July 31, 2001	1,026,627 shares	July 31, 2001
August 31, 2001	1,236,112 shares	August 31, 2001
September 30, 2001	1,445,597 shares	September 30, 2001
October 31, 2001	1,655,082 shares	October 31, 2001
November 30, 2001	1,864,567 shares	November 30, 2001
December 31, 2001	2,074,052 shares	December 31, 2001
January 31, 2002	2,283,537 shares	January 31, 2002
March 31, 2002	3,783,537 shares	March 31, 2002
Each 30 days after March 31, 2002	an additional 300,000 shares for each 30 days	March 31, 2002

The terms of the BHC Warrants further provide that, notwithstanding the automatic increase in the number of shares exercisable under the BHC Warrants as reflected above, the total number of shares exercisable under the BHC Warrants will be decreased pro rata if the amount of the BHC Loan is below $6 million as of the above referenced measuring dates, and the number of shares exercisable under the BHC Warrants will be adjusted pro rata for any partial prepayment of principal after Closing, subject to a $400,000 minimum prepayment.

Notwithstanding the foregoing, the total number of shares of PESI Common Stock issued pursuant to the terms of the BHC Warrant will not exceed 4,465,910 or such other number as determined to be 19.9% of the total issued and outstanding shares of PESI Common Stock of the Company as of January 30, 2001.

The holder of the BHC Warrant may, at any time and from time to time during the term of the BHC Warrant, request the registration with the Securities and Exchange Commission (the "Commission") of the BHC Warrant and PESI Common Stock issuable upon the exercise of the BHC Warrant. In addition, the holder of the BHC Warrant is entitled, subject to certain conditions, to include the BHC Warrant and PESI Common Stock issuable upon the exercise of the BHC Warrant in a registration statement covering other securities which the Registrant proposes to register.

Stand-Still Agreement.

In connection with the consummation of the PNC Credit Facility, PNC Bank required the Registrant, Perma-Fix of Michigan, Inc. (a subsidiary of the Registrant), and RBB Bank Aktiengesellschaft ("RBB Bank") to enter into a Stand-Still Agreement, dated December 22, 2000, with PNC Bank. The Stand-Still Agreement provides, among other things, that until July 1, 2001, the Registrant and Perma-Fix of Michigan, Inc. will not make any payments on, and RBB Bank will not accept take any payments with respect to, the $3 million loan, dated August 29, 2000, by RBB Bank to the Registrant and the $750,000 loan, dated July 12, 2000, by RBB Bank to the Registrant (together, the "RBB Loans"). In addition, prior to July 1, 2003, RBB Bank agreed to not take any action or initiate any proceedings, judicial or otherwise, to enforce RBB Bank's rights or remedies with respect to the RBB Loans or obtain any judgment or prejudgment remedy against, the Registrant or Perma-Fix of Michigan, Inc. The Stand-Still Agreement will remain effective until payment in full of all outstanding obligations under the PNC Credit Facility.

Warrant Exercise.

On December 20, 2000, the Registrant amended a warrant issued to RBB Bank, dated July 17, 1996 (the "RBB Warrant"), for the purchase of up to 1,000,000 shares of PESI Common Stock at a purchase price of $3.50 per share. The RBB Warrant was amended to reduce the exercise price as to 200,000 shares of the 1,000,000 shares of PESI Common Stock issuable upon the exercise of the RBB Warrant from $3.50 per share to $1.00 per share. The exercise price of the other 800,000 shares of PESI Common Stock issuable upon the exercise of the RBB Warrant remains at $3.50 per share. RBB Bank has exercised the RBB Warrant for the purchase of 200,000 shares of PESI Common Stock at an exercise price of $1.00 per share. As of January 1, 2001, RBB Bank beneficially owned 10,024,030 shares of the Registrant's common stock, consisting of 6,512,780 outstanding shares of common stock and 3,511,250 shares of common stock which may be acquired by RBB Bank upon the exercise of various warrants issued by the Registrant.

Agreement to Acquire East Tennessee Materials and Energy Corporation.

The Registrant has entered into a Stock Purchase Agreement (the "Purchase Agreement") with East Tennessee Materials and Energy Corporation, a Tennessee corporation ("M&EC"), and all of the shareholders of M&EC, dated as of January 18, 2001. However, the Purchase Agreement was not executed by all of the parties thereto until February 22, 2001. The Purchase Agreement provides for the acquisition of all of the outstanding common stock of M&EC by the Registrant and M&EC with (a) M&EC acquiring 20% of its currently outstanding shares of common stock of M&EC, and (b) the Registrant acquiring the remaining outstanding shares of M&EC common stock (collectively, the "M&EC Acquisition"). Following consummation of the M&EC Acquisition, the Registrant will own all of the issued and outstanding common stock of M&EC.

If the acquisition of M&EC is completed, the purchase price to be paid by the Registrant for the M&EC common stock is approximately $3 million, which is payable by the Registrant issuing approximately 2,024,000 shares of the PESI Common Stock to the shareholders of M&EC. In addition, as partial consideration of the M&EC Acquisition, M&EC will issue shares of its newly created Series B Preferred Stock to certain shareholders of M&EC having a stated value of approximately $1.5 million.

The Registrant has previously loaned to M&EC approximately $1.4 million for M&EC's working capital purposes. Prior to the M&EC Acquisition, M&EC issued to the Registrant promissory notes evidencing all loans from the Registrant to M&EC and pledge to the Registrant all of M&EC's assets as security for the repayment of the promissory notes.

As a condition to the M&EC Acquisition, all of the participants in the M&EC's employee benefit plans must release M&EC and the Registrant from certain liabilities relating to such plans under the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). In addition, M&EC and the applicable governmental authorities must have entered into resolution agreements satisfactory to the Registrant regarding the resolution of any M&EC liabilities arising under ERISA in connection with such plans. The consummation of the M&EC Acquisition is further conditioned, among other things, upon M&EC and the applicable governmental authorities having entered a settlement satisfactory to the Registrant of all matters between the Internal Revenue Service ("IRS") and M&EC relating to the payment or failure to pay taxes.

Issuance of Warrants.

The Registrant engaged Ryan, Beck & Co., Inc. ("Ryan Beck") and Larkspur Capital Corporation ("Larkspur") to assist the Registrant in completing a private placement of the Registrant's securities and/or a new credit facility. In connection therewith, the Registrant issued the following warrants, each having a term of five years and an exercise price of $1.44 per share, the average closing price of the PESI Common Stock as reported on the NASDAQ for the five trading days immediately preceding the date of the issuance of the respective warrants: (a) on the date of the engagement, a warrant to Ryan Beck allowing the purchase of up to 75,000 shares of PESI Common Stock and a warrant to Larkspur allowing the purchase of up to

75,000 shares of PESI Common Stock; (b) on the closing of the BHC Loan, a warrant to Ryan Beck allowing the purchase of up to 85,069 shares of PESI Common Stock and a warrant to Larkspur allowing the purchase of up to 85,069 shares of PESI Common Stock; and (c) on the closing of the PNC Credit Facility, a warrant allowing the purchase of up to 534,722 shares of PESI Common Stock and a warrant to Larkspur allowing the purchase of up to 534,722 shares of PESI Common Stock. Ryan Beck has assigned 382,734 of such warrants to two of its partners in equal shares.

Item 7. Financial Statements and Exhibits.

(c) Exhibits.

2.1 Stock Purchase Agreement, dated January 18, 2001, among the Registrant, East Tennessee Materials and Energy Corporation, Performance Development Corporation, Joe W. Anderson, M. Joy Anderson, Russell R. and Cindy F. Anderson, Charitable Remainder Unitrust of William Paul Cowell, Kevin Cowell, Trustee, Joe B. and Angela H. Fincher, Ken-Ten Partners, Michael W. Light, Management Technologies, Incorporated, M&EC 401(k) Plan and Trust, PDC 401(k) Plan and Trust, Robert N. Parker, James C. Powers, Richard William Schenk, Trustee of the Richard Schenk Trust dated November 5, 1998, Talahi Partners, Hillis Enterprises, Inc., Tom Price and Virginia Price, Thomas John Abraham, Jr. and Donna Ferguson Abraham. The Stock Purchase Agreement contains a brief list identifying all schedules and exhibits to the Stock Purchase Agreement. Such schedules and exhibits are not filed herewith, and the Registrant agrees to furnish supplementally a copy of the omitted schedules and exhibits to the Commission upon request.

99.1 Loan and Security Agreement by and between the Registrant and BHC Interim Funding, L.P., dated January 31, 2001. This agreement contains a list of schedules and exhibits omitted from the filed copy and the Registrant agrees to furnish supplementally a copy of any of the omitted schedules or exhibits to the Commission upon request.

99.2 Stand-Still Agreement, dated December 22, 2000, among the Registrant, Chem-Met Services, Inc., PNC Bank, National Association, and RBB Bank Aktiengesellschaft.

99.3 Subordination Agreement, dated January 31, 2001, among the Registrant, the Ann L. Sullivan Living Trust dated September 6, 1978, and BHC Interim Funding, L.P. A substantially similar Subordination Agreement was entered among the Registrant, the Thomas P. Sullivan Living Trust dated September 8, 1978, and BHC Interim Funding, L.P., and will be provided to the Commission upon request.

99.4 Subordination Agreement, dated January 31, 2001, among the Registrant, PNC Bank, National Association, and BHC Interim Funding, L.P.

99.5 Warrant, dated January 31, 2001, for the purchase of 817,148 shares of the Registrant's common stock issued by the Registrant to BHC Interim Funding L.P.

99.6 Warrant, dated December 22, 2000, issued by the Registrant to Ryan, Beck & Co, LLC (formerly Ryan, Beck & Co., Inc.) ("Ryan Beck") for the purchase of 213,889 shares of the Registrant's common stock. Substantially similar warrants for the purchase of an aggregate 191,067 shares of the Registrant's common stock assigned by Ryan Beck to each of Randy F. Rock and Michael J. Kollender, along with the remaining 98,768 warrants issued to Ryan Beck will be provided to the Commission upon request. Substantially similar warrants issued to Larkspur Capital Corporation for the purchase of an aggregate 694,791 shares of the Registrant's common stock will be provided to the Commission upon request.

99.7 First Amendment to Loan Agreement and Consent, dated January 30, 2001, between the Registrant and PNC Bank, National Association.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/ Richard T. Kelecy
Richard T. Kelecy
Chief Financial Officer

Dated: February 26, 2001

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STOCK PURCHASE AGREEMENT

THIS STOCK PURCHASE AGREEMENT ("Agreement"), dated as of the 18th day of January, 2001, among PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation ("Perma-Fix"); EAST TENNESSEE MATERIALS AND ENERGY CORPORATION, a Tennessee corporation ("M&EC"); PERFORMANCE DEVELOPMENT CORPORATION, a Tennessee corporation ("PDC"); JOE W. ANDERSON, an individual ("Joe Anderson"); RONALD W. ANDERSON, an individual ("Ron Anderson"); M. JOY ANDERSON, an individual; RUSSELL R. and CINDY E. ANDERSON, individuals; CHARITABLE REMAINDER UNITRUST OF WILLIAM PAUL COWELL, KEVIN COWELL, TRUSTEE; JOE B. and ANGELA H. FINCHER, individuals; KEN-TEN PARTNERS, a Tennessee partnership; MICHAEL W. LIGHT, an individual; MANAGEMENT TECHNOLOGIES, INCORPORATED, a Tennessee corporation; M&EC 401(K) PLAN AND TRUST, a qualified retirement plan; PDC 401(K) PLAN AND TRUST, a qualified retirement plan; ROBERT N. PARKER, an individual; JAMES C. POWERS, an individual; RICHARD WILLIAM SCHENK, TRUSTEE OF THE RICHARD SCHENK TRUST DATED NOVEMBER 5, 1998; TALAHI PARTNERS, a Tennessee partnership; HILLIS ENTERPRISES, INC., a Tennessee corporation ("Hillis"); TOM PRICE and VIRGINIA PRICE, both individuals (the "Prices"); THOMAS JOHN ABRAHAM, JR. and DONNA FERGUSON ABRAHAM, both individuals (the "Abraham's") (collectively, all of the above individuals and entities are referenced to herein as the "Stockholders"), and Bill J. Hillis, an individual ("Bill Hillis");

W I T N E S S E T H:

WHEREAS, the Stockholders are the owners of all of the issued and outstanding shares of capital stock of M&EC, consisting of 2,064,700 shares of common stock, no par value (the "Common Stock"), and of 270,487 shares of Series A Cumulative Preferred Stock (the "Series A Preferred");

WHEREAS, prior to Closing (as defined), all of M&EC's issued and outstanding Series A Cumulative Preferred Stock ("Series A Preferred") shall be converted into Common Stock on the basis of three shares of Common Stock for every share of Series A Preferred.

WHEREAS, as of Closing, the issued and outstanding Common Stock shall amount to all of the capital stock of M&EC, and there are not and shall not at the closing be any issued and outstanding securities, notes or other instruments convertible or exercisable into any capital stock of M&EC as of the Closing Date (as defined);

WHEREAS, prior to the Closing of the transactions contemplated by this Agreement (the "Closing") the Certificate of Incorporation of M&EC shall be amended through the filing of an Amended and Restated Charter for M&EC (the "Amended Charter"), a copy of which is attached hereto as Exhibit "A," with the Tennessee Secretary of State, to provide, among other things, that (i) sufficient Common Stock shall be authorized to allow and to provide the Stockholders to convert the outstanding Series A Preferred into

Common Stock prior to the Closing, (ii) M&EC is authorized to issue a new series of preferred stock, to be designated as "Series B Preferred Stock" (the "Series B Preferred"), with the Series B Preferred containing such terms, conditions, restrictions and provisions as set forth in the Amended Charter;

WHEREAS, on or prior to Closing, M&EC shall amend its Charter by filing with the Secretary of State of Tennessee a Certificate of Elimination (the "Series A Certificate of Elimination"), attached hereto as Exhibit "B," that such Series A Preferred is thereby eliminated;

WHEREAS, the parties desire that at the closing Perma-Fix purchase 80% of the issued and outstanding shares of Common Stock of M&EC, and the parties desire to provide for certain undertakings, conditions, representations, warranties and covenants in connection with such transactions contemplated hereby;

WHEREAS, the parties hereto desire that M&EC purchase 20% of the issued and outstanding shares of Common Stock of M&EC;

WHEREAS, the shares of Common Stock purchased by Perma-Fix and M&EC shall represent one hundred percent (100%) of the issued and outstanding shares of capital stock of M&EC;

WHEREAS, as of the date of this Agreement, the total amount of M&EC's Outstanding Obligations (excluding any amounts owed to Perma-Fix) shall not exceed the sum of $10,483,000;

WHEREAS, the total amount of the Outstanding Obligations of M&EC, excluding amounts owed to Perma-Fix, shall not exceed $8,365,000 as of the Closing;

WHEREAS, each Stockholder has approved the execution, delivery and performance by such Stockholder of this Agreement and the transaction contemplated hereunder and the obligations of such Stockholder hereunder;

WHEREAS, M&EC has approved the execution, delivery and performance by M&EC of this Agreement and the transaction contemplated hereunder and the obligations of M&EC hereunder;

WHEREAS, in reliance upon the representations made by the Stockholders in this Agreement and the Investors' Questionnaires completed prior to Closing by the Stockholders ("Investors' Questionnaires") and the holders of debt of M&EC which is being exchanged for Common Stock on or prior to the Closing pursuant to this Agreement, the transactions contemplated by this Agreement are such that the offer and exchange of securities by Perma-Fix hereunder will be exempt from registration under applicable federal securities laws since this is a private placement and intended to be a nonpublic offering pursuant to Section 4(2) of the Securities Act and/or Regulation D promulgated under the Securities Act;

WHEREAS, in order to induce Perma-Fix to enter into this Agreement, certain Stockholders have agreed to certain covenants to maintain the confidentiality of information they have received from M& EC and Perma-Fix, pursuant to the terms of this Agreement;

WHEREAS, Perma-Fix has previously loaned (the "Prior Perma-Fix Loans") $1,324,000 to M&EC on or prior to the date of this Agreement and intends to make certain other loans (the "Additional Perma-Fix Loans") to M&EC prior to Closing for the purpose of funding certain overdue obligations and resolving certain creditor issues of M&EC;

WHEREAS, prior to or at Closing M&EC shall execute a certain Promissory Note or Promissory Notes (collectively, the "M&EC Promissory Notes"), the form of which is attached hereto as Exhibit C, in favor of Perma-Fix, in the aggregate principal amount of the total of the Prior Loans, the Additional Loans, and all interest accrued from the date each loan was made until the date of execution of the applicable M&EC Promissory Note;

WHEREAS, prior to or at Closing M&EC shall execute a Security Agreement ("M&EC Security Agreement"), the form of which is attached hereto as Exhibit D, granting to Perma-Fix a security interest in its assets as security for meeting its obligations under the M&EC Promissory Notes, including but not limited to, the obligation of repayment in full of the aggregate principal amount under the M&EC Promissory Notes;

WHEREAS, prior to or at Closing M&EC shall execute and file a Financing Statement or UCC-1, as applicable (the "Financing Statement"), a copy of which is attached hereto as Exhibit E, in all applicable jurisdictions which will perfect the interests granted to Perma-Fix under the M&EC Security Agreement;

WHEREAS, on or prior to the Closing, M&EC and the applicable Stockholders shall agree that the Related Party Debt with M&EC shall be exchanged for shares of Perma-Fix Common Stock pursuant to the terms hereof and from and after the Closing Date there shall be no outstanding Related Party Debt or as otherwise satisfactory to Perma-Fix;

WHEREAS, at Closing, M&EC and the applicable Stockholders shall amend the promissory notes and other documentation regarding the Long Term Debt to reflect the items noted in the previous WHEREAS clause;

WHEREAS, at the Closing any and all obligations due from M&EC to Ray Bell Construction Company ("Ray Bell") must be exchanged for shares of Perma-Fix Common Stock based on $1.50 per share, and from and after the Closing M&EC shall have no obligations to Ray Bell;

WHEREAS, the Board of Directors of Perma-Fix has approved and adopted this Agreement; and

WHEREAS, the Board of Directors of M&EC and the Stockholders of M&EC have approved the execution, delivery and performance by M&EC of this Agreement and the transaction contemplated thereunder and the obligations of M&EC thereunder.

NOW, THEREFORE, in consideration of the premises and the mutual covenants, agreements, representations and warranties herein contained, the parties hereto agree as follows:

ARTICLE 1

DEFINITIONS

For purposes of this Agreement, the following terms shall have the respective meanings set forth below:

1.1 "Additional Perma-Fix Loans" has the meaning as defined in the fifteenth WHEREAS clause of this Agreement;

1.2 "Affiliate" has the meaning set forth in Rule 405 promulgated under the Securities Act, whether or not such is an Affiliate now or becomes an Affiliate after the date hereof.

1.3 "Amended Charter" has the meaning defined in the fourth WHEREAS clause of this Agreement.

1.4 "Common Stock" has the meaning defined in the first WHEREAS clause of this Agreement.

1.5 "Closing" has the meaning defined in the second WHEREAS clause of this Agreement.

1.6 "Closing Date" has the meaning as specified in Section 2.2 hereof.

1.7 "Code" means the Internal Revenue Code of 1986, as amended.

1.8 "Controlling Stockholders" means Joe Anderson, Bill Hillis, and PDC.

1.9 "ERISA" means the Employee Retirement Income Security Act of 1974, as amended, and the rules and regulations promulgated thereunder.

1.10 "ERISA M&EC Liability" means any and all damages, claims, demands, debts, actions, causes of action, suits, contracts, agreements, obligations, accounts, interest, penalties, excise taxes, defenses and liabilities of any kind or character whatsoever, known or unknown or accrued, absolute or contingent, of M&EC under ERISA or relating to or in connection with any Plans.

1.11 "ERISA PDC/MTI Liability" means any and all damages, claims, demands, debts, actions, causes of action, suits, contracts, agreements, obligations, accounts, interest, penalties, excise taxes, defenses and

liabilities of PDC and/or MTI of any kind or character whatsoever, known or unknown or accrued, absolute or contingent, under ERISA or relating to or in connection with any Plans.

1.12 "ERISA M&EC Resolution Agreement" means that certain resolution agreement among M&EC and the appropriate Governmental Authorities regarding the resolution of the ERISA M&EC Liability, the form and content of all of which (i) must be satisfactory to Perma-Fix in its sole discretion, and (ii) must not be contingent upon any conditions outside the control of M&EC, including, but not limited to, future payments by, or failure to make payments by, PDC and/or MTI under the ERISA PDC/MTI Resolution Agreement.

1.13 "ERISA PDC/MTI Resolution Agreement" means that certain resolution agreement among PDC, MTI and the appropriate Governmental Authorities regarding (i) the resolution of the ERISA PDC/MTI Liability for any and all acts and activities prior to the date of this Agreement, and (ii) the release of M&EC from any and all ERISA PDC/MTI Liability, the form and content of all of which (a) must be satisfactory to Perma-Fix in its sole discretion and (b) must not obligate M&EC or Perma-Fix under the ERISA PDC/MTI Resolution Agreement.

1.14 "Environmental Laws" mean all federal, state, and local environmental, health, and safety Laws, codes, ordinances and all rules and regulations promulgated thereunder, including, without limitation, Laws relating to emissions, discharges, releases or threatened releases of pollutants, contaminants, chemicals, or industrial, toxic, radioactive or hazardous substances or wastes (including, without limitation, air, surface water, groundwater, land surface or subsurface

strata) or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of pollutants, contaminants, chemicals, petroleum products or industrial, solid, toxic or hazardous or radioactive substances or wastes. Environmental Laws include, without limitation, (i) the Federal Water Pollution Control Act ("FWPCA"), 33 U.S.C. Section 1251, et seq.; (ii) the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. Section 9601, et seq.; (iii) the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. Section 6901, et seq.; (iv) the Clean Air Act ("Clean Air Act"), 42 U.S.C. Section 7401, et seq; (v) the Toxic Substances Control Act ("TSCA"), 15 U.S.C. Section 201, et seq.; (vi) the Tennessee Waste Management Act, (vii) the Atomic Energy Act of 1954, as amended, (viii) the Tennessee Air Quality Act; (ix) the Hazardous Materials Transportation Act; (x) the Energy Reorganization Act of 1974; (xi) any and all other analogous state and local statutes; and, (xii) all rules and regulations promulgated under any of the foregoing.

1.15 Intentionally left blank.

1.16 "Facility" means the Real Property (as defined below) operated and leased by M&EC, located at East Tennessee Technology Park, Building K-1200, 1014 Avenue D, Oak Ridge, Tennessee 37835 and described in Schedule F attached hereto.

1.17 "Financing Statement" has the meaning defined in the eighteenth WHEREAS clause of this Agreement.

1.18 "GAAP" means United States generally accepted accounting principles.

1.19 "Governmental Authority" means any agency, instrumentality, department, commission, court, tribunal or board of any government, whether foreign or domestic and whether national, federal, state, provincial, or local.

1.20 "IRS" means the United States Internal Revenue Service.

1.21 "IRS M&EC Claims" means any and all damages, claims, demands, debts, actions, causes of action, suits, contracts, agreements, obligations, accounts, interest, penalties, excise taxes, defenses and liabilities of any kind or character whatsoever, known or unknown or accrued, absolute or contingent, relating to or in connection with any and all Taxes remittable by, or due from, M&EC or for which M&EC may be liable.

1.22 "IRS PDC/MTI Claims" means any and all damages, claims, demands, debts, actions, causes of action, suits, contracts, agreements, obligations, accounts, interest, penalties, excise taxes, defenses and liabilities of any kind or character whatsoever, known, unknown or accrued, absolute or contingent relating to or in connection with any and all Taxes remittable by, or due from PDC or MTI, or for which PDC or MTI may be liable.

1.23 "IRS Settlement Agreement" means that certain valid and binding settlement agreement or agreements, as the case may be, between the IRS and M&EC regarding the settlement of the IRS M&EC Claims between the IRS and M&EC, the form and content of all of which (a) must be satisfactory to Perma-Fix in its sole discretion, and (b) must not be contingent upon any conditions outside the control of M&EC, including, but not limited to, future payments, or failure to make payments by, PDC and/or MTI under the IRS PDC/MTI Settlement Agreement.

1.24 "IRS PDC/MTI Settlement Agreement" means that certain settlement agreement or

agreements, as the case may be, among M&EC, PDC, MTI and the IRS regarding (a) the settlement of the IRS PDC/MTI Claims for activities prior to the Closing Date and (b) the release of M&EC from any and all IRS PDC/MTI Claims for activities before and after the Closing, all of which (i) must be satisfactory to Perma-Fix in its sole discretion and (ii) must not obligate M&EC or Perma-Fix under the IRS PDC/MTI Settlement Agreement.

1.25 "Intellectual Property Rights" has the meaning as defined in Section 4.10 of this Agreement.

1.26 "Investors' Questionnaires" collectively means those certain questionnaires to be completed by each Stockholder and Ray Bell.

1.27 "Jefferson Facility" means the real property, land, buildings, improvements and structures leased by PDC, located at 109 Jefferson Avenue, Oak Ridge, Tennessee.

1.28 "Laws" mean any and all federal, state and local laws, rules, regulations, codes, orders, ordinances, judgments, injunctions and decrees.

1.29 "Liens" mean all security interests, liens, mortgages, claims, charges, pledges, restrictions, equitable interests, easements, property rights or encumbrances of any nature.

1.30 "Material" or "Materiality" means having a material adverse effect on the financial condition, business, operations or prospects of M&EC or on the ability of the parties to consummate the transaction contemplated by the Agreement.

1.31 "M&EC Preferred Stock" means the M&EC Series A Cumulative Preferred Stock.

1.32 "M&EC Promissory Notes" has the meaning defined in the sixteenth WHEREAS clause of this Agreement.

1.33 "M&EC Security Agreement" has the meaning defined in the seventeenth WHEREAS clause of this Agreement.

1.34 "MTI" means Management Technologies, Incorporated, a Tennessee corporation and an affiliate of PDC.

1.35 "Outstanding Obligations" means any and all claims, demands, liabilities, obligations, accounts, contracts, debts, actions or causes of action, known or unknown, contingent or absolute, due by or against M&EC of any kind or character arising due to any or all of the acts, actions or activities of M&EC occurring or arising on or prior to the Closing, including, but not limited to, the amounts due to Perma-Fix by M&EC.

1.36 "Perma-Fix Common Stock" has the meaning as defined in Section 3.1.1 thereof.

1.37 "Plans" means Plans (as defined in Section 3(3) of ERISA) and other retirement, profit-sharing, deferred compensation, bonus, stock option, stock purchase and Plans and arrangements (individually, a "Plan", and collectively, the "Plans") in which the employees of any of M&EC, MTC, and or PDC or any of their Affiliates participate.

1.38 "Prior Perma-Fix Loans" has the meaning defined in the fifteen WHEREAS clause of this Agreement.

1.39 "Ray Bell" means the Ray Bell Construction Company, a Tennessee corporation.

1.40 "Real Property" means all real property, land, buildings, improvements and structures owned or leased by M&EC including, but not limited to the ETTP Facility, but excluding the Jefferson Facility.

1.41 "Related Party Debt" means all Outstanding Obligations due from M&EC to any and all of the Stockholders.

1.42 "Returns" mean all returns, declaration, reports, estimates, information returns and statements required to be filed with or supplied to any taxing authority in connection with any Taxes.

1.43 "SEC" means the U.S. Securities and Exchange Commission.

1.44 "Securities Act" means the Securities Act of 1933, as amended.

1.45 "Series A Certificate of Elimination" has the meaning defined in the fifth WHEREAS clause of this Agreement.

1.46 "Series A Preferred" has the meaning defined in the first WHEREAS clause of this Agreement.

1.47 "Series B Preferred" has the meaning defined in the fourth WHEREAS clause of this Agreement.

1.48 "Shares" means all of the shares of Common Stock of M&EC of whatsoever character and description.

1.49 "Stockholders" has the meaning defined above in the introductory paragraph of the Agreement.

1.50 "Subsidiaries" means all corporations fifty percent (50%) or more of the common stock or other form of equity of which shall be owned, directly or indirectly through one or more intermediaries, by another corporation.

1.51 "Taxes" mean all taxes, charges, fees, levies or other assessments, including, without limitation, income, gross receipts, excise, real and personal property, sales, transfer, license, withholding, payroll and franchise taxes, imposed by or required to be paid by any Governmental Authority or any Laws and shall include any interest, sanctions, penalties or additions to tax attributable to any of the foregoing.

ARTICLE 2

THE ACQUISITION

2.1 **Acquisition of M&EC**.

2.1.1 At the Closing, the Stockholders (other than Hillis) shall sell, assign, transfer, and

convey to Perma-Fix, and Perma-Fix shall purchase from the Stockholders, an amount of the Common Stock representing 80% of the issued and outstanding shares of Common Stock at the Closing (other than Hillis), free and clear of any and all Liens, pursuant and subject to the terms of this Agreement.

2.1.2 At the Closing, Hillis shall sell, assign, transfer and convey to Perma-Fix, and Perm-Fix shall purchase from Hillis, all of the issued and outstanding shares of Common Stock owned (beneficially and of record) by Hillis, free and clear of any and all Liens, pursuant to the terms of this Agreement.

2.1.3 At the Closing, the Stockholders (other than Hillis) shall sell, assign, transfer and convey to M&EC, and M&EC shall purchase from the Stockholders (other than Hillis), an amount of the Common Stock representing 20% of the issued and outstanding shares of Common Stock owned by the Stockholders (other than Hillis), free and clear of any and all Liens, pursuant to and subject to the terms of this Agreement.

2.1.4 At the Closing, the shares of Common Stock to be purchased by Perma-Fix and M&EC shall represent 100% of the issued and outstanding shares of capital stock of M&EC. There is no outstanding, and at the Closing there shall be no outstanding, contractual obligations or outstanding agreements, options, warrants, rights to subscribe for or purchase or otherwise receive from M&EC or any other party any of M&EC's capital stock or other securities of any kind or description of M&EC (including, but not limited to, Common Stock).

2.2 **Closing**. The Closing will take place at 10 a.m., Eastern Standard Time, pursuant to the terms of this Agreement, on a date within 60 days from the date hereof as determined by Perma-Fix (the "Closing Date"), which shall be no later than five business days after the last condition precedent required by Article 9 is complied with, at the offices of William E. Mason, Esquire, located in Knoxville, Tennessee, unless another date, place or time is agreed to in writing by Perma-Fix and M&EC.

ARTICLE 3

CONSIDERATION FOR SHARES

3.1 **Purchase Price**.

3.1.1 Subject to the terms of this Agreement, at the Closing Perma-Fix shall pay the following consideration for the shares of Common Stock (other than the shares of Common Stock owned by Hillis), as follows: delivery by Perma-Fix of $2,826,932 in the form of shares of Perma-Fix Common Stock, par value $.001 per share ("Perma-Fix Common Stock"), with the number of shares of Perma-Fix Common Stock to be issued being determined by dividing $2,826,932 by $1.50, with each Stockholder (other than Hillis) receiving that portion of such Perma-Fix Common Stock determined on a pro-rata basis based on the number of shares of Common Stock of M&EC such Stockholder (other than Hillis) owns at the Closing as compared to all of the issued and

outstanding shares of Common Stock at the Closing.

3.1.2 Subject to the terms of this Agreement, at the Closing, Perma-Fix shall pay Hillis for all of Hillis' shares of Common Stock the sum of $200,000 in the form of shares of Perma-Fix Common Stock, with the number of shares of Perma-Fix Common Stock to be issued being determined by dividing $200,000 by $1.50.

3.1.3 Subject to the terms of this Agreement, at the Closing M&EC shall pay the following consideration for its 20% of the Common Stock (other than shares of Common Stock owned by Hillis) as follows: delivery by M&EC of 1,467,396 shares of Series B Preferred, with such Series B Preferred containing such terms, conditions, restrictions and provisions set forth in the Amended Charter, with each share of Series B Preferred having a liquidation preference of $1.00 per share, and with each Stockholder (other than Hillis) receiving that portion of such Series B Preferred determined on a pro-rata basis based on the number of shares of Common Stock of M&EC owned by such Stockholders as compared to all of the issued and outstanding shares of Common Stock at the Closing.

3.2 **Exchange of Shares for the Purchase Price**. The procedure for the Stockholders exchanging all of their outstanding shares for the purchase price pursuant to this Agreement is as follows: at the Closing, the Stockholders (which are the beneficial and record owners of all of the issued and outstanding shares) shall deliver to Perma-Fix certificates representing all of the Stockholders' issued and outstanding Shares, duly and validly endorsed, in blank, with signatures guaranteed by a national bank or investment banking firm. At the Closing, Perma-Fix shall deliver to the Stockholders certificates representing the purchase price referenced in Section 3.1.1 and 3.1.2 hereof.

ARTICLE 4

REPRESENTATIONS, WARRANTIES AND COVENANTS OF THE CONTROLLING STOCKHOLDERS

The Controlling Stockholders, jointly and severally, represent, warrant and covenant to Perma-Fix that, as of the date of this Agreement and as of the Closing, the following:

4.1 **Organization of PDC.** PDC is a corporation duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation, and has the corporate power to own its properties and to carry on its business as is now being conducted

4.2 **Organization of M&EC**. M&EC is a corporation duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation, and has the corporate power to own its properties and to carry on its business as is now being conducted. M&EC is duly qualified and in good standing as a foreign corporation in each jurisdiction in which the nature of the business conducted by it or the character of the property owned, leased or used by it makes such qualification necessary. A list of all such jurisdictions, separately shown and indicated, is set forth on Schedule 1 attached hereto.

4.3 **Capital Stock of M&EC at Signing and Closing**.

4.3.1 As of the date of this Agreement (the "Signing Date"), the authorized capital stock of M&EC consists solely of (i) four million (4,000,000) shares of Common Stock, of which 2,064,700 shares are issued and outstanding, all of which issued and outstanding shares of Common Stock are owned of record and beneficially by the Non-Party Stockholders and the Stockholders; (ii) 500,000 shares of Series A Preferred Stock, of which 270,487 shares are issued and outstanding. All of the issued and outstanding shares of Common Stock are (i) validly authorized and issued, (ii) fully paid and nonassessable and (iii) free and clear of any and all liens. Subsequent to June 30, 2000, M&EC has not declared or paid any dividend, or declared or made any distribution on, or authorized the creation or issuance of, or issued, or authorized or effected any split-up or any other recapitalization of, any of its capital stock, or directly or indirectly redeemed, purchased or otherwise acquired any of their respective outstanding capital stock or agreed to take any such action. As of the Signing Date, there are no outstanding contractual obligations of M&EC to repurchase, redeem or otherwise acquire any of its outstanding shares of capital stock. As of the Signing Date, there are no outstanding agreements, options, warrants or rights to subscribe for or purchase or otherwise receive from M&EC or any other party any of M&EC's capital stock or other securities of any kind or description of M&EC.

4.3.2 **Capital Stock of M&EC at Closing.** The Controlling Stockholders covenant and agree, jointly and severally, that as of the Closing, the authorized capital stock of M&EC shall consist solely of (i) four million (4,000,000) shares of Common Stock, of which 2,876,161_ shares are issued and outstanding, all of which issued and outstanding shares of Common Stock are owned of record and beneficially by the Non-Party Stockholders and the Stockholders; (ii) 1,467,396 shares of Series B Preferred Stock, all of which are or shall be held by the Stockholders. No shares of Common Stock, Series A Preferred Stock, or Series B Preferred Stock (collectively, the "M&EC Capital Stock") shall be held in treasury or reserved for issuance at a later date as of the Closing. As of Closing, all of the issued and outstanding shares of M&EC Capital Stock shall be (i) validly authorized and issued, (ii) fully paid and nonassessable and (iii) free and clear of any and all Liens. Subsequent to the Signing Date through the Closing Date, M&EC shall not declare or pay any dividend, or declare or make any distribution on, or authorize the creation or issuance of, or issue, or authorize or effect any split-up or any other recapitalization of, any of its capital stock, or directly or indirectly redeemed, purchased or otherwise acquired any of their respective outstanding capital stock or agreed to take any such action. As of Closing, there shall be no outstanding contractual obligations of M&EC to repurchase, redeem or otherwise acquire any of its outstanding shares of capital stock. As of Closing, there shall be no outstanding agreements, options, warrants or rights to subscribe for or purchase from or otherwise receive from M&EC or any other party any of M&EC's Capital Stock or other securities of any kind or description of M&EC.

4.4 **Ownership Interests in Securities**. Set forth on Schedule 2 attached hereto is a list of all equity or ownership interests in, and all bonds and debentures of, other business enterprises which M&EC owns and such Schedule indicates any such interests which are held subject to any legal, contractual or other limitations or restrictions on the right to resell the same.

4.5 **Financials; Liabilities and Net Worth**.

4.5.1 Financial Statements. M&EC has previously furnished Perma-Fix with a true and correct copy of (i) the audited financial statements of M&EC and its Subsidiaries on a combined basis for the fiscal year ended December 31, 1998 ("Audited Financial Statements"), consisting

of, among other things (a) a balance sheet as of December 31, 1998, and (b) statement of income and related earnings for the fiscal year ended December 31, 1998 and (ii) the unaudited financial statements of M&EC and its Subsidiaries for the fiscal year ended December 31, 1999, ("Unaudited Financial Statements"), consisting of, among other things (y) a balance sheet as of December 31, 1999, and (z) statement of income and related earnings for the fiscal year ended December 31, 1999. The Unaudited Financial Statements are true, correct and complete in all Material respects and fairly present the financial conditions and results of operations of M&EC and its Subsidiaries on a combined basis as of the date thereof. The Audited Financial Statements have been

prepared in accordance with GAAP and present fairly the financial condition of M&EC as of such dates and the results of operations of M&EC for such periods. For the purposes of this Agreement, the Audited Financial Statements and Unaudited Financial Statements (together, the "Financial Statements") shall be deemed to include any notes to such financial statements. The Financial Statements have been prepared in conformity with GAAP, consistently applied throughout the periods indicated and on a basis consistent with prior periods.

4.5.2 Liabilities. Except as set forth in Schedule 3 attached hereto, M&EC does not have any liabilities or obligations either accrued, absolute, contingent, known or unknown, matured or unmatured, or otherwise, which have not been:

4.5.2.1 reflected in the Financial Statements; or

4.5.2.2 incurred consistent with past practices of M&EC in the ordinary and normal course of M&EC's business since December 31, 1997.

Notwithstanding anything herein to the contrary, the outstanding obligations of M&EC do no exceed $10,483,000 (excluding any amounts owed to Perma-Fix) as of the date of this Agreement.

45.3 Net Worth. Except as set forth in Schedule 4 attached hereto, there are no claims against or liabilities or obligations of, or any legal basis for any claims against or liabilities or obligations of, M&EC which might result in a material reduction in the net worth of M&EC from that shown in the Audited Financial Statements or any material charge against net earnings of M&EC.

4.6 **Transactions Since Last Financial Statement**. Except as set forth on Schedule 5, between the date of the most recent Financial Statements and the date of this Agreement, M&EC has not engaged in any Material transaction not in the ordinary and normal course of business and, except as set forth on such Schedule 5, there has not been, occurred or arisen since the date of the most recent Financial Statements:

4.6.1 any Material adverse change in the financial condition or in the operations of the business of M&EC from that shown on the Financial Statements; or

4.6.2 any damage or destruction in the nature of a casualty loss, or interference with its business from such loss or from any labor dispute or court or governmental action, order or decree, whether covered by insurance or not, Materially and adversely affecting the properties or business of M&EC; or

4.6.3 any increase, except increases given in accordance with prior practice, in the compensation payable or to become payable by M&EC to any of M&EC's employees or any increase in the benefits,

regardless of amount, in any bonus, insurance, pension or other plan, program, payment or arrangement with respect to employee benefits made to, for or with any officers or employees; or

4.6.4 any extraordinary loss (as defined in Opinions No. 9 and No. 30 of the Accounting Principles Board of American Institute of Certified Public Accountants) suffered by M&EC, which is Material to M&EC, or any waiver by M&EC of any rights which are Material to M&EC.

4.7 **Tax and Other Returns, Reports**

4.7.1 Tax Returns. All federal, state, local, foreign, personal property, and real property tax returns required to be filed by M&EC have been filed with the appropriate governmental agencies in all jurisdictions in which such returns and reports are required to be filed, except as disclosed on Schedule 6 attached hereto.

4.7.2 Payment of Taxes. All federal, state, local and foreign taxes (including interest and penalties), due from M&EC (i) have been fully paid, or (ii) are being contested in good faith by appropriate proceedings and are disclosed on Schedule 6 attached hereto, or (iii) have been fully resolved through the IRS Settlement Agreement and are set forth on Schedule 6 attached hereto.

4.7.3 Waiver of Statute of Limitations. No waivers of statutes of limitation in respect of any Returns or tax reports have been given or requested, except as shown on such Schedule 6.

4.7.4 Tax Deficiencies. There are no potential tax deficiencies which may arise from issues which have been raised or which have not yet been raised but which might reasonably be expected to be raised by the IRS or any other taxing authority that have not been disclosed on Schedule 6 and may reasonably be expected to have a Material Adverse Effect on M&EC.

4.8 **Property**

4.8.1 Assets. Except as disclosed in Schedule 7 attached hereto, M&EC owns and has good and marketable title in and to all of the assets used by it in the operation or conduct of its business, or required by M&EC for the normal and ordinary conduct of its business, free and clear of any and all Liens.

4.8.2 Real Property. M&EC owns no Real Property.

4.8.3 Leases. Schedule 7 sets forth a true and complete list of each lease of real or personal property executed by or binding upon M&EC, as lessee, sublessee, tenant or assignee setting forth in each case a brief description of the property covered by the lease, the rental and the terms thereunder. Except as

set forth in Schedule 7, each lease is in full force and effect, without any default or breach thereof by any party thereto. No consent of any landlord, lessor or any other party is required under any

such lease to keep such lease in full force and effect without being terminable or in default after the execution and delivery of this Agreement and consummation of the transactions contemplated by this Agreement. True and complete copies of all leases required to be listed on Schedule 7, including all amendments, addenda, waivers and all other binding documents, have heretofore been delivered to Perma-Fix.

4.8.4 Notice. Except as set forth on Schedule 7, none of M&EC, nor any of the Controlling Stockholders has received actual or constructive notice of any violation of any zoning, use, occupancy, building, or environmental statute, ordinance, regulation, order, or other law or requirement affecting or relating to any activities performed at any time on any Real Property. Except as set forth in Schedule 7, none of the Stockholders nor M&EC has any knowledge of any past, present, or future events, conditions, circumstances, activities, incidents, actions, or plans that may in any way interfere with or limit the continued use of said Real Property for all present or presently proposed use of said Real Property.

4.8.5 Personal Property. M&EC owns the full right and interest and has good and marketable title in and to, or leases under equipment leases, all Material personal and intangible property used by M&EC in the conduct of M&EC's business, except as otherwise disclosed in Schedule 7, and none of such personal and intangible property is subject (i) to any contracts of sale, or (ii) to any Liens, except as listed in Schedule 7.

4.8.6 Notice from Insurance Carrier. None of the Controlling Stockholders nor M&EC has received any notice of, or writing referring to, any requirements or recommendations by any insurance company which has issued a policy covering any part of the Real Property requiring or recommending any repairs or work or other action being taken on any part of the Real Property, except as otherwise disclosed in Schedule 7. All utilities required for the operation of the Real Property in the manner currently operated by M&EC are installed and operating, and all installation and connection charges have been paid in full or provided for, except as listed in Schedule 7.

4.9 **Intellectual Property**.

4.9.1 Ownership**.** Schedule 8 attached hereto is a true and complete list of all patents, trademarks, trade names, service marks, copyrights, web domain addresses, mask works, any applications for and registrations of such patents, trademarks, trade names, service marks, copyrights, mask works, web domain addresses, and all processes, formulae, methods, schematics, technology, know-how, computer software programs or applications and tangible or intangible proprietary information or material that M&EC is licensed or otherwise possesses legally enforceable rights to use and are necessary to conduct the business of M&EC

as currently conducted, or planned to be conducted, the absence of which would be reasonably likely to be Material (the "Intellectual Property Rights"). None of the Intellectual Property Rights is subject to any outstanding order, judgment, decree, stipulation, or agreement restricting the use of such Intellectual Property Rights, and to the best of their knowledge none infringes on, or is being infringed by, other intellectual property rights of any other person or entity. M& EC has promulgated and used commercially reasonable efforts to enforce and maintain any reasonably necessary trade secret or confidentiality measures regarding the Intellectual Property Rights. M&EC has not given and is not bound by an agreement or indemnification regarding Intellectual Property Rights in connection with any property or service produced, used or sold by M&EC.

4.9.2 No Breach of License. Neither any of the Controlling Stockholders nor M&EC is, or will as a result of the execution and delivery of this Agreement or the performance of their respective obligations under this Agreement or otherwise be, in breach of any license, sublicense or other agreement relating to the Intellectual Property Rights, or any Material licenses, sublicenses and other agreements as to which M&EC is a party and pursuant to which M&EC is authorized to use any third party patents, trademarks or copyrights ("Third Party Intellectual Property Rights"), including software which is used in the manufacture of, incorporated in, or forms a part of any product sold or services rendered by or expected to be sold or services rendered by M&EC, the breach of which would be reasonably likely to be Material, except as disclosed in Schedule 8 hereof.

4.10 **Agreements, Contracts and Commitments**.

4.10.1 Contracts. Except as set forth on Schedule 9, M&EC is not a party to or bound by:

4.10.1.1 any collective bargaining agreements or any agreements that contain any severance pay liabilities or obligations;

4.10.1.2 any bonus, deferred compensation, pension, profit-sharing or retirement plans, programs or other similar employee benefit arrangements;

4.10.1.3 any employment agreement, contract or commitment with an employee;

4.10.1.4 any agreement of guaranty or indemnification running from M&EC to any person or entity, including, but not limited to, any Affiliate, other than guarantees or indemnifications issued in the ordinary course of M& EC's business relating solely to indemnification of certain of its customers due to M&EC's disposal of waste generated by such customers at permitted disposal facilities not affiliated with M&EC;

4.10.1.5 any agreement, contract or commitment which would reasonably be expected to have a Material adverse impact on the business of M&EC;

4.10.1.6 any agreement, indenture or other instrument which contains restrictions with respect to payment of dividends or any other distribution in respect of M&EC or any other outstanding securities of M&EC;

4.10.1.7 any agreement, contract or commitment containing any covenant limiting the freedom of M&EC to engage in any line of business or compete with any person;

4.10.1.8. any agreement, contract or commitment relating to capital expenditures in excess of ten thousand dollars ($10,000.00) and involving future payments;

4.10.1.9 any agreement, contract or commitment relating to the acquisition of assets or capital stock of any business enterprise;

4.10.1.10 any contract with the Department of Defense or any other department or agency of the United States Government, or to any subcontract under any such contract, which is subject to renegotiation under the Renegotiation Act of 1951, as amended; or

4.10.1.11 any agreement, contract or commitment not made in the ordinary course of business which involves Five Thousand Dollars ($5,000) or more or has a remaining term of one (1) year or more from December 31, 1999, or is not cancelable on thirty (30) days or less notice without penalty. M&EC has not breached, and there is not any claim, or, to the best of M&EC's or any of the Controlling Stockholders' knowledge, any claim that M&EC has breached any of the terms or conditions of any agreement, contract or commitment set forth in this Agreement or in any of the Schedules attached hereto or of any other agreement, contract or commitment, if any such breach or breaches in the aggregate could result in the imposition of damages or the loss of benefits in an amount or of a kind Material to M&EC.

4.11 **Written List.** Attached hereto as Schedule 10 is a written list of all contracts, leases, agreements and instruments which are in any single case Material, together with true and correct copies of each document requested by Perma-Fix and a written description of each oral arrangement so listed. Without limiting the generality of the foregoing, the aforesaid list includes all the contracts, agreements and instruments of the following types to which M&EC is a party, or by which it is bound (without regard to whether such contracts, agreements and instruments are Material):

4.11.1 leases of, and contracts for, the purchase or sale of Real Property;

4.11.2 labor union contracts together with a list of all labor unions representing or, to their best knowledge, attempting to represent employees of M&EC;

4.11.3 pension, retirement, profit-sharing, bonus, stock purchase, stock option, hospitalization or insurance plans (and certificates or other documents issued thereunder) or vacation pay, severance pay and other similar benefit arrangements for officers, directors, employees or agents;

4.11.4 employment contracts or agreements, contracts with other persons engaged in sales or service activities, advertising contracts and brokering contracts which are not terminable by M&EC without liability upon termination notice of thirty (30) days or less;

4.11.5 written or oral agreements, understandings and arrangements with officers, directors, employees, agents, or Affiliates of M&EC, or any of the Stockholders relating to present or future compensation of, or other benefits available to, such persons;

4.11.6 contracts, and other arrangements of any kind, whether oral or written, with any director, officer, employee, trustee, stockholder or Affiliate of M&EC, or the Stockholders or to which any director, officer, employee or Affiliate of M&EC is a party;

4.11.7 contracts, purchase orders and other arrangements of any nature involving an expenditure of Five Thousand Dollars ($5,000.00) or more not made in the ordinary course of business or which involve an unperformed commitment, under contracts not otherwise disclosed hereunder, in excess of Twenty-Five Thousand Dollars ($25,000.00); and

4.11.8 indentures, loan agreements, notes, mortgages, conditional sales contracts, and other agreements for financing.

4.12 **No Breach of Statute or Contract; Governmental Authorizations**.

4.12.1 No Violation. Neither the execution and delivery of this Agreement by M&EC, nor any of the Stockholders nor the performance or compliance by M&EC, or any of the Stockholders with any of the terms and provisions of this Agreement will violate any Laws of any governmental agency or authority, domestic or foreign, or will at the Closing conflict with or result in a breach of any of the terms, conditions or provisions of any judgment, order, injunction, decree or ruling of any court or governmental agency or authority, domestic or foreign, to which any of M&EC, or the Stockholders or the Stockholders may be subject to, or bound by, or of any agreement or instrument to which M&EC, or the Stockholders is a party or by which any of them is bound, or constitute a default thereunder, or result in the creation of any Liens

upon the Common Stock or any of the property or assets of M&EC, or cause any acceleration of maturity of any obligation or loan, or give to others any interest or rights, including rights of termination or cancellation, in or with respect to any of the properties, assets, agreements, contracts, or business of M&EC, or cause any acceleration or termination or cancellation, in or with respect to any of the properties, assets, agreements, contracts or business of M&EC.

4.12.2 Permits and Licenses. Schedule 11 attached hereto is a true and complete list of all permits, licenses and franchises presently held by, or used in connection with, the normal and ordinary business of M&EC and all applications for any of the foregoing filed by M&EC, or the Stockholders relating to the business of M&EC with any Governmental Authority. All permits, licenses and franchises used by M&EC to conduct M&EC's business are in the name of M&EC none are in the name of any other party.

4.12.3 Reports. Schedule 11 is a true and complete list of all Material reports made by, or with respect to M&EC, or the Stockholders since December 1997, except as otherwise furnished pursuant to this Agreement, to or from the Federal Trade Commission ("FTC"), Environmental Protection Agency ("EPA"), Equal Employment Opportunity Commission ("EEOC"), reports under the Occupational Safety and Health Act ("OSHA"), the Department of Labor, Tennessee Department of Environmental Quality and all other state or federal government agencies or departments, and tax returns to, tax rulings from, and tax audit reports from the IRS, relating in any manner to the business of M&EC.

4.12.4 Violation of Law. Except as disclosed in Schedule 13, M&EC is not in violation of any Laws, (including, but not limited to, Environmental Laws), which violation might be Material, and none of the Real Property owned or leased by M&EC is contaminated or requires remediation of any kind as a result of being contaminated.

4.12.5 Permits under Environmental Laws. M&EC has obtained, presently holds and has adhered to all permits, licenses, and other authorizations required under federal, state, and local laws (including, but not limited to, any and all Environmental Laws), (i) which are Material or necessary for, the conduct of M&EC's business as such business is currently being operated, including, but not limited to, any and all permits and licenses required under the Environmental Laws for M&EC to conduct M&EC's business as currently conducted, and (ii) such other permits, licenses and other authorizations relating to pollution or protection of the environment, including, without limitation, laws relating to emissions, discharges, releases or threatened releases of pollutants, contaminants (chemicals or industrial or toxic wastes into the environment including,

without limitation, ambient air, surface waste, groundwater, soil or land), or otherwise relating to the manufacture, processing, recycling, reclamation, distribution, use, treatment, storage, disposal, transport,

or handling of pollutants, contaminants, chemicals, petroleum products, or industrial or solid or toxic wastes or radioactive materials, except as disclosed in Schedule 13 attached hereto. M&EC is in compliance with all terms and conditions of all such required permits, licenses and other authorizations, and with all other limitations, restrictions, conditions, standards, prohibitions, requirements, obligations, schedules, and timetables contained in such Environmental Laws, except as disclosed in Schedule 13 attached hereto. None of M&EC, nor any of the Controlling Stockholders after due inquiry, has any knowledge of any past, present, or future events, actions, or plans that may interfere with or prevent full compliance or continued full compliance as described above, or that may give rise to any common law or legal liability or otherwise form the basis of any claim, action, demand, suit, proceeding, hearing, study, or investigation related to the manufacture, processing, recycling, reclamation, distribution, use, treatment, storage, disposal, transport or threatened release of, any pollutant, contaminant, chemical or industrial or solid or toxic waste or radioactive materials, except as disclosed in Schedule 13.

4.12.6 Other Permits. Except as set forth in Schedule 13, neither the execution and delivery of this Agreement nor the consummation thereof will violate any of the terms of any of the permits, licenses, approvals and authorities held by M&EC or cause the termination or cancellation of any of the permits, licenses, approvals and authorities held by M&EC. None of M&EC, nor any of their Stockholders has received official notice that M&EC is in violation of any law, regulation, ordinance or rule applicable to them or their operations.

4.13 **No Litigation or Adverse Effects.** Except as set forth in Schedule 14, there is no suit, action or legal, administrative, arbitration, or other proceeding, or governmental investigation, or any change in the zoning, use, occupancy or building ordinances affecting the real property or any leasehold interests of M&EC pending or, to the best of the knowledge of M&EC or the Controlling Stockholders threatened, which could be Material. Further, there is no suit, action or legal, administrative, arbitration, governmental investigation or other proceeding against M&EC, or to the best of the knowledge of M&EC or the Controlling Stockholders threatened, involving any claims based upon negligence, product warranties, product liability or any other type of claim (including, but not limited to, those arising under any Environmental Laws) exceeding potential liability (including costs of defense and attorneys' fees), whether or not covered by insurance, in an amount in excess of Ten Thousand Dollars ($10,000.00) with respect to the individual suit, action, proceeding or investigation, or potential liability (including costs of defense and attorneys' fees) of Twenty-Five Thousand Dollars ($25,000.00) in the aggregate of all such suits, actions, proceedings or investigations, except (a) workers' compensation, automobile accident and other routine claims wholly covered by existing insurance (including costs of defense and attorneys' fees) and (b) as set forth in Schedule 14 hereto.

4.14 **Authorization, Execution and Delivery of Agreement.** Each of M&EC and the Stockholders has the power, authority and capacity to enter into this Agreement and to carry out the transactions contemplated hereby. The execution, delivery and the performance of this Agreement by M&EC and the corporate Stockholders have been duly and validly authorized and

approved by all requisite corporate action on the part of M&EC, PDC, and MTI. This Agreement constitutes the valid and binding agreement and obligation of M&EC, PDC, MTI and the other Stockholders and is enforceable in accordance with its terms against each of them, subject to bankruptcy, insolvency and other laws of similar import.

4.15 **Ability to Conduct the Business.** None of M&EC, nor any of the Stockholders is subject to, or bound by, any judgment, order, writ, injunction or decree of any court or of any governmental body or agency or of any arbitrator which could prevent the execution, delivery or performance of this Agreement or the use by M&EC of assets owned, leased or used by M&EC, or the conduct of M&EC's business, as presently conducted by M&EC, in accordance with present practices, after the Closing. None of M&EC, nor any of the Stockholders is a party to, bound by, or a beneficiary of, any agreement which could prevent the use of assets Material to M&EC or the conduct of business as currently conducted by M&EC in each case after the Closing.

4.16 **Disclosure**. No representation or warranty by M&EC, or the Stockholders contained in this Agreement and no statement contained in any certificate, list, disclosure schedule, exhibit or other instrument furnished, or to be furnished, to Perma-Fix pursuant hereto, contains or will contain any untrue statement of a Material fact or omits, or will omit, to state a Material fact necessary to make the statements contained therein not misleading.

4.17 **Broker's or Finder's Fee**. No agent, broker, person or firm acting on behalf of M&EC, and/or any of the Stockholders or under the authority of M&EC, and/or any of the Stockholders is or will be entitled to any commission or broker's or finder's fee from any of the parties hereto in connection with this Agreement or any of the transactions contemplated herein.

4.18 **Insurance**. M&EC has in full force and effect policies of insurance of the types, including insurance policies under which M&EC officers, directors and Affiliates or any of them, in such capacity, is named insured, and in the amounts and with insurance carriers as set forth in Schedule 13 attached hereto, and will continue all of such insurance in full force and effect up to and until the Closing. The amounts and types of such insurance policies and the insurance carriers issuing such policies fully meet M&EC's contractual, legal or regulatory commitments and are fully adequate to insure against risks to which M&EC is normally exposed in the operation of its businesses and as required by Governmental Authority and the Environmental Laws.

4.19 **Completeness of Documents -- M&EC**. The copies of the Charter and Bylaws of M&EC, and of all leases, instruments, agreements or other documents (including all Schedules and documents delivered

pursuant to this Agreement) which have been or will be delivered to Perma-Fix pursuant to the terms of this Agreement or in connection with the transactions contemplated hereby, are, or if not now delivered, will when delivered, be true, complete and correct.

4.20 **Completeness of Documents -- PDC**. The copies of the Articles of Incorporation and Bylaws of PDC, and of all leases, instruments, agreements or other documents relating to any and all transactions with M&EC, directly or indirectly, the Plans or Taxes (including all Schedules and documents delivered pursuant to this Agreement) which have been or will be delivered to Perma-Fix pursuant to the terms of this Agreement or in connection with the transactions

contemplated hereby, are, or if not now delivered, will when delivered, be Materially true, complete and correct.

4.21 **Disposition of Assets**. Since January 1, 2000, M&EC has not made any sale or other disposition of its properties or assets or surrendered any of its rights with respect thereto, or made any additions to its properties or assets, or entered into any agreements, or entered into any other transaction, except in each instance in the ordinary course of business or as set forth in Schedule 14 attached hereto, and no such sale, disposition, surrender, addition, agreement or transaction set forth in such Schedule 16 is Material.

4.22 **Obligations to Employees**.

4.22.1 **Obligations to Employees -- M&EC**. Other than the ERISA M&EC Liability, which shall be settled or resolved in full as of the date of Closing by entry of M&EC and the appropriate Governmental Authorities into the ERISA M&EC Settlement Agreement, all obligations of M&EC, whether arising by operation of law, contract, agreement, or otherwise, for payments to trusts or other funds or to any Governmental Authority or to any employees, directors, officers, agents, or any other individual (or any of their respective heirs, legatees, beneficiaries, or legal representatives) with respect to profit-sharing, pension or retirement benefits, or any other employee benefit of any kind whatsoever relating to M&EC or any of its employees, have been paid, except as set out in Schedule 17. Other than the ERISA M&EC Liability, which shall be settled or resolved in full as of the Closing by entry of M&EC and the appropriate Governmental Authorities into the ERISA M&EC Settlement Agreement, all legally enforceable obligations of M&EC, whether arising by operation of law, contract, agreement, or otherwise, for bonuses or other forms of compensation or benefits which are, or may become, payable to its employees, directors, officers, agents, or any other individual (or their respective heirs, legatees, beneficiaries or legal representative) or any entities or to any Governmental Authority relating to M&EC or any of the employees of M&EC with respect to periods ending on or before the Closing have been paid. Other than the ERISA M&EC Liability, which shall be settled or resolved in full as of the Closing by entry of M&EC and the appropriate Governmental Authorities into the ERISA M&EC Settlement Agreement, neither M&EC nor any of its Affiliates has any accumulated

funding deficiencies, as such term is defined in the Employee Retirement Income Security Act of 1974 ("ERISA") and in the Code with respect to any employee benefit plan as defined in ERISA maintained or established for employees of M&EC. M&EC has not incurred any liability to the Pension Benefit Guaranty Corporation ("PBGC") other than for the payment of insurance premiums all of which have been paid when due, the IRS or the Department of Labor ("DOL") with respect to any such employee benefit plan that affects, or might affect M&EC, and does not have any withdrawal liability with respect to any multiemployer pension plan ("Multiemployer Plan") which is subject to the Multiemployer Pension Plan Amendments Act of 1980. The consummation of this Agreement will not result in either a complete or partial withdrawal from any of the Multiemployer Plans. All of the employee benefit plans of which M&EC or any Affiliate of M&EC is the plan sponsor relating to M&EC or any of their employees have been amended as, when and to the extent necessary to comply with and qualify under the applicable provisions of the Code; and all such employee benefit plans have been administered in accordance with the applicable provisions of the Code and ERISA. Except as indicated in Schedule 17, any employee benefit plans relating to M&EC or any of their employees which are pension benefit plans have received, or have applied for and expect to receive, determination letters from the IRS

to the effect that such plans are qualified and exempt from federal income taxes under Sections 401(a) and 501(a), respectively, of the Code, and, no amendments have been made to any such employee benefit plans other than those covered by such determination letters or applications for such determination letters with respect to such amendments which have been timely filed with the IRS. No determination letter received with respect to any employee benefit plan relating to M&EC or any of its employees has been revoked nor has revocation been threatened. Each of the employee benefit plans has been administered at all times and in all respects in accordance with their respective terms. Except as set out in Schedule 15, there are no pending investigations by any Governmental Authority involving any employee benefit plans relating to M&EC or any of its employees, no deficiency or termination proceedings involving such employee benefit plans, and no threatened or pending claims (except for claims for benefits payable in the normal operation of the employee benefit plans), suits or proceedings against any such employee benefit plan or asserting any rights or claims to benefits under any such employee benefit plan nor are there any facts which could give rise to any liability in the event of any such investigation, claim, suit or proceeding. Other than the ERISA M&EC Liability, which shall be settled or resolved in full as of the Closing by entry of M&EC and the appropriate Governmental Authorities into the ERISA M&EC Settlement Agreement, neither the employee benefit plans nor any trusts created thereunder relating to M&EC or to any of their employees, nor any trustee, administrator or other fiduciary thereof, has engaged in a "prohibited transaction" (as such term is defined in Section 4975 of the Code or Section 406 of the ERISA); and has not experienced any reportable event within the meaning

of ERISA or other event or condition which presents a material risk of termination of any such employee benefit plan by the PBGC, has had any tax imposed upon it by the IRS for any alleged violation under Section 4975 of the Code, or has engaged in any transaction which might subject M&EC or any such employee benefit plan to any liability for such tax. The terms of any such employee benefit plans comply with ERISA and the Code in all respects, and, any and all reporting and disclosure requirements of ERISA or the Code and the DOL with respect to any such employee benefit plan have been timely met, other than regarding ERISA M&EC Liability, which shall be settled or resolved in full as of the Closing by entry of M&EC and the appropriate Governmental Authorities into the ERISA M&EC Settlement Agreement. The information supplied to the actuary by M&EC, PDC, MTI, and the Stockholders for use in preparing those reports was complete and accurate and none of M&EC, nor the Stockholders has reason to believe that the conclusions expressed in such reports are incorrect. In the event of termination of any employee benefit plan of M&EC or any of its Affiliates relating to M&EC or to any of their employees, there will be no liability of M&EC or the plan with respect to the providing of benefits accrued thereunder subject to future variations in levels of compensation assuming continued investment returns at rates actuarially predicted. Further, if termination (whether complete or partial) of any plan has occurred, then, all liabilities with respect thereto have been satisfied in full and no present liability exists with respect to any such prior termination. Schedule 17 also includes a list of any and all pension or benefit obligations of M&EC and/or its Affiliates which have not been fully funded.

4.22.2 **Obligations to Employees - -- PDC/MTI**. Other than the ERISA PDC/MTI Liability, which shall be settled or resolved in full as of the date of Closing by entry of PDC/MTI and the appropriate Governmental Authorities into the ERISA PDC/MTI Settlement Agreement, all obligations of PDC and/or MTI whether arising by operation of law, contract, agreement, or otherwise, for payments to trusts or other funds or to any Governmental Authority or to any employees, directors, officers, agents, or any other individual (or any of their respective heirs,

legatees, beneficiaries, or legal representatives) with respect to profit-sharing, pension or retirement benefits, or any other employee benefit of any kind whatsoever relating to PDC/MTI or any of their employees, have been paid, except as set out in Schedule 17. Other than the ERISA PDC/MTI Liability, which shall be settled or resolved in full as of the Closing by entry of PDC/MTI and the appropriate Governmental Authorities into the ERISA PDC/MTI Settlement Agreement, all legally enforceable obligations of PDC and/or MTI, whether arising by operation of law, contract, agreement, or otherwise, for bonuses or other forms of compensation or benefits which are, or may become, payable to their employees, directors, officers, agents, or any other individual (or their respective heirs, legatees, beneficiaries or legal representative) or any entities or to any Governmental Authority relating to PDC/MTI

or any of the employees of PDC/MTI with respect to periods ending on or before the Closing have been paid. Other than the ERISA PDC/MTI Liability, which shall be settled or resolved in full as of the Closing by entry of PDC/MTI and the appropriate Governmental Authorities into the ERISA PDC/MTI Settlement Agreement, neither PDC nor any of its Affiliates has any accumulated funding deficiencies, as such term is defined in the Employee Retirement Income Security Act of 1974 ("ERISA") and in the Code with respect to any employee benefit plan as defined in ERISA maintained or established for employees of PDC and/or MTI. PDC and/or MTI have not incurred any liability to the Pension Benefit Guaranty Corporation ("PBGC") other than for the payment of insurance premiums all of which have been paid when due, the IRS or the Department of Labor ("DOL") with respect to any such employee benefit plan that affects, or might affect PDC and/or MTI. Other than the ERISA PDC/MTI Liability, which shall be settled or resolved in full as of the Closing by entry of PDC, MTI and the appropriate Governmental Authorities into the ERISA PDC/MTI Settlement Agreement, neither the employee benefit plans nor any trusts created thereunder relating to PDC/MTI or to any of their employees, nor any trustee, administrator or other fiduciary thereof, has engaged in a "prohibited transaction" (as such term is defined in Section 4975 of the Code or Section 406 of the ERISA); and has not experienced any reportable event within the meaning of ERISA or other event or condition which presents a material risk of termination of any such employee benefit plan by the PBGC, has had any tax imposed upon it by the IRS for any alleged violation under Section 4975 of the Code, or has engaged in any transaction which might subject PDC and/or MTI or any such employee benefit plan to any liability for such tax. The terms of any such employee benefit plans comply with ERISA and the Code in all respects, and, any and all reporting and disclosure requirements of ERISA or the Code and the DOL with respect to any such employee benefit plan have been timely met, other than regarding ERISA PDC/MTI Liability, which shall be settled or resolved in full as of the Closing by entry of M&EC and the appropriate Governmental Authorities into the ERISA PDC/MTI Settlement Agreement. The information supplied to the actuary by M&EC, PDC, MTI, and the Stockholders for use in preparing those reports was complete and accurate and none of M&EC, nor the Stockholders has reason to believe that the conclusions expressed in such reports are incorrect.

4.23 **Condition of Plant, Machinery and Equipment**. Except as set forth on Schedule 18, all of the items of the property, plant and equipment owned, operated or leased by M&EC is, in all material respects, in good condition and repair, reasonable wear and tear excepted, and M&EC agrees to maintain such items in good operating condition until the Closing, except for equipment leased by M&EC from CROET which is "as is" and "where is." Casualty losses to such property, plant and equipment are covered by insurance with normal industry deductibles being applicable to the extent stated in Schedule 18.

4.24 **Books of Account**. M&EC has maintained its books of account in accordance with GAAP, applied on a consistent basis with prior periods.

4.25 **Stock Redemptions**. There are no shares of Common Stock which are subject to redemption or purchase in lieu of redemption, which prior to December 31, 1999, were not paid for in full. From December 31, 1999, through the date of this Agreement, M&EC has not purchased or redeemed or entered into any agreement to purchase or redeem any Common Stock, except as set out in Schedule 19.

4.26 **Minute Books**. M&EC has maintained its corporate minute books and all such books are current.

4.27 **Indebtedness of Stockholders, etc**. Except as set forth on Schedule 17, none of the Stockholders, Affiliates, officers, directors or employees of M&EC is (i) indebted to M&EC, and M&EC is not indebted to their Affiliates, Stockholders or any of their officers, directors or employees, (ii) a party to or has any interest in a contract, agreement or lease with M&EC or in which M&EC is a party to or bound by, or (iii) a customer or supplier of M&EC, which during any one of the preceding three (3) years supplied to or purchased from M&EC a amount of property or services exceeding Ten Thousand Dollars ($10,000.00) in any one (1) year.

4.28 **Business Prospects**. Since December 31, 1999, there has not occurred any event or other occurrence which might have a material affect on the business or business prospects of M&EC.

4.29 **Bank Accounts; Powers of Attorney**. Schedule 20 attached hereto sets forth each bank account and borrowing resolution authorizing officers or agents of M&EC to borrow money and lists the persons authorized to transact business on behalf of M&EC with respect to each such account or borrowing resolution. Schedule 20 also lists all powers of attorney granted by M&EC to any other person.

4.30 **Sensitive Payments**. M&EC has not made or received, and to its best knowledge, after reasonable due inquiry, none of its Stockholders, officers, directors, employees, agents, or other representative of M& EC or any person acting on behalf of M&EC, has made or received, directly or indirectly, any bribes, kickbacks, illegal political contributions with corporate funds, improper payments from corporate funds that are falsely recorded on the books and records of M&EC, payments to governmental officials in their individual capacities or illegal payments from corporate funds to obtain or retain business.

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ARTICLE 5

REPRESENTATIONS, WARRANTIES AND COVENANTS OF THE STOCKHOLDERS

5.1 **Purchase for Investment**. Each Stockholder severally represents and warrants that the shares of Perma-Fix Common Stock and the Series B Preferred are being purchased or acquired solely for the Stockholder's own account, for investment purposes only and not with a view toward the distribution or resale to others. Each Stockholder acknowledges, understands and appreciates that the shares of Perma-Fix Common Stock and the Series B Preferred to be delivered hereunder have not been registered under the Securities Act by reason of a claimed exemption under the provisions of the Securities Act which depends, in large part, upon the Stockholder's representations as to investment invention, investor status, and related and other matters set forth herein. Each Stockholder understands that, in the view of the SEC, among other things, a purchase now with an intent to distribute or resell would represent a purchase and acquisition with an intent inconsistent with its representation to Perma-Fix, and the SEC might regard such a transfer as a deferred sale for which the registration exemption is not available.

5.2 **Certain Risk**. Each Stockholder severally recognizes that the purchase of the Perma-Fix Common Stock and the Series B Preferred involves a high degree of risk in that (a) Perma-Fix and M&EC have sustained losses in the past from operations, and will require substantial funds in the future; (b) that Perma-Fix has a substantial accumulated deficit; (c) an investment in the Company is highly speculative and only investors who can afford the loss of their entire investment should consider investing in Perma-Fix and the Perma-Fix Common Stock; (d) an investor may not be able to liquidate such investor's investment in Perma-Fix Common Stock the Series B Preferred; (e) transferability of Perma-Fix Common Stock is extremely limited; (f) there is no market for the Series B Preferred; (g) no return on investment, whether through distributions, appreciation, transferability or otherwise, and no performance by, through or of Perma-Fix or M&EC, has been promised, assured, represented or warranted by Perma-Fix or M&EC, or by any director, officer, employee, agent or representative thereof; and, (h) while the Perma-Fix Common Stock is presently quoted and traded on the Boston Stock Exchange and the NASDAQ SmallCap Market (the "NASDAQ"), the Perma-Fix Common Stock and the Series B Preferred subscribed for and that are purchased under this Agreement (y) are not registered under applicable U.S. or state securities laws, and

thus may not be sold, conveyed, assigned or transferred unless registered under such laws or unless an exemption from registration is available under such laws, as more fully described herein, and (z) there can be no assurance that the Common Stock of Perma-Fix will continue to be quoted, traded or listed for trading or quotation on the Boston Stock Exchange or the NASDAQ or on any other organized market or quotation system.

5.3 **Prior Investment Experience**. Each Stockholder severally acknowledges that he, she or it has prior investment experience, including investment in non-listed and non-registered securities, or has employed the services of an investment advisor, attorney or accountant to read all of the documents furnished or made available by Perma-Fix to he, she, or it has and to evaluate the merits and risks of such an investment on its behalf, and that he, she, or it has recognizes the highly speculative nature of this investment.

5.4 **No Review by the SEC**. Each Stockholder hereby severally acknowledges that this offering of the Perma-Fix Common Stock and the Series B Preferred have not been reviewed by the SEC because this private placement is intended to be a nonpublic offering pursuant to Section 4(2) of the Securities Act and/or Regulation D promulgated under the Securities Act.

5.5 **No Public Market**. Each Stockholder severally understands that although there is presently a public market for the Perma-Fix Common Stock, Rule 144 (the "Rule") promulgated under the Securities Act requires, among other conditions, a one-year holding period following full payment of the consideration therefore prior to the resale (in limited amounts) of securities acquired in a nonpublic offering without having to satisfy the registration requirements under the Securities Act. Each Stockholder understands that Perma-Fix makes no representation or warranty regarding its fulfillment in the future of any reporting requirements under the Exchange Act, or its dissemination to the public of any current financial or other information concerning the Perma-Fix, as is required by the Rule as one of the conditions of its availability. Each Stockholder understands and hereby acknowledges that Perma-Fix is under no obligation to register the shares of Perma-Fix Common Stock issued pursuant to this Agreement under the Securities Act. Each Stockholder severally agrees to hold Perma-Fix and its directors, officers and controlling persons and their respective heirs, representatives, successors and assigns harmless and to indemnify them against all liabilities, costs and expenses incurred by them as a result of any misrepresentation made by the Stockholders contained in this Section 5.5 or any sale or distribution by the Stockholder in violation of the Securities Act or any applicable state securities or "blue sky" laws (collectively, "Securities Laws").

5.6 **Legend**. Each Stockholder severally understands and agrees that there will be placed on the certificate or certificates representing the Perma-Fix Common Stock issued under this Agreement, any substitutions therefore and any certificates for additional shares which might be distributed with respect to such Perma-Fix Common Stock, a legend stating in substance

"The shares represented by this certificate have been acquired for investment and have not been registered under the Securities Act of 1933, as amended (the "Securities Act") in reliance on an exemption contained in Section 4(2) of the Securities Act and/or Regulation D promulgated under the Securities Act. These shares may only be transferred pursuant to an effective registration statement under the Securities Act and any applicable state securities laws unless there is furnished to Perma-Fix Environmental Services, Inc. (the "Company") an opinion of counsel or other evidence satisfactory to Company counsel, to the effect that such registration is not required."

5.7 **Public Solicitation**. No Stockholder has received any public solicitation or advertisement concerning an offer to sell the shares of Perma-Fix Common Stock or the Series B Preferred issued or to be issued under this Agreement.

5.8 **SEC Filings**. Each Stockholder severally acknowledges that he, she, or it has been previously furnished with true and complete copies of the following documents which have been filed with the SEC pursuant to Sections 13(a), 14(a), 14(c) or 15(d) of the Exchange Act, and that such have been furnished to the Stockholders a reasonable time prior to the date hereof: (i) Annual Report on Form 10-K for the year ended December 31, 1999 (the "Form 10-K"); (ii) Quarterly Report on Form 10-Q for the quarter ended March 31, 2000; (iii) Quarterly Report on Form 10-Q for the quarter ended June 30, 2000; (iv) Quarterly Report on Form 10-Q for the

quarter ended September 30, 2000; and (v) the information contained in any reports or documents required to be filed by Perma-Fix under Sections 13(a), 14(a), 14(c) or 15(d) of the Securities Exchange Act of 1934, as amended, since the distribution of the Form 10-K.

5.9 **Knowledge of Purchasers' Representatives**. The Stockholders have previously appointed Robert W. Parker, Certified Public Accountant, as their purchaser's representative (as defined under Rule 506 of Regulation D) and the acquisition of the Perma-Fix Common Stock and Series B Preferred pursuant to the terms of this Agreement is directed by such purchaser's representative, Robert W. Parker is a sophisticated person who has such knowledge and experience in financial and business matters that he is individually capable of evaluating the merits and risks of the purchase of the shares of Perma-Fix Common Stock under this Agreement.

5.10 **Reliance**. Each Stockholder severally understands and acknowledges that Perma-Fix and M&EC are relying upon all of the representations, warranties, covenants, understandings, acknowledgments and agreements contained in this Agreement in determining whether to accept this subscription and to issue the Perma-Fix Common Stock and the Series B Preferred to the Stockholders.

5.12 **Accuracy of Representations and Warranties**. All of the representations, warranties, understandings and acknowledgments that each Stockholder has severally made herein are true and correct

in all material respects as of the date of execution hereof. Each Stockholder will perform and comply fully in all material respects with all covenants and agreements set forth herein, and each Stockholder covenants and agrees that until the acceptance of this Agreement by Perma-Fix, Stockholder shall inform Perma-Fix immediately in writing of any changes in any of the representations or warranties provided or contained herein.

5.13 **Survival**. Each Stockholder expressly acknowledges and agrees that all of the Stockholders' representations, warranties, agreements and covenants set forth in this Agreement shall be of the essence hereof and shall survive the execution, delivery and Closing of this Agreement and the acquisition of the Perma-Fix Common Stock and the Series B Preferred.

5.14 **Confidential Information**. In order to induce Perma-Fix to enter into this Agreement and as part of the sale of the goodwill of M&EC, each of the Controlling Stockholders covenants and agrees that for twelve (12) months following the Closing Date, each Controlling Stockholder and their Affiliates shall hold in confidence and shall not disclose, directly or indirectly, any and all information, knowledge or data relating to all sales and pricing information, customer lists, records, memorandums, reports or other representations whether in printed or machine readable form, technology, proprietary process or intellectual property ("Confidential Information") relating to, M&EC, and its business, which shall have been obtained by the Controlling Stockholders prior to the Closing as an executive officer of M&EC or in any other capacity.

Notwithstanding the provisions of Section 5.14 hereof, the Controlling Stockholders shall not be held liable for disclosure of information which (i) was in the public domain or is generally available to the public at the time of its disclosure by the Controlling Stockholders through means unrelated to the Controlling Stockholders' disclosure; or (ii) is disclosed with the written approval of Perma-Fix; or (iii) is required to be disclosed by law.

5.15 **Solicitation of Transactions**. M&EC and the Stockholders shall not and will not allow any of their employees, agents, representatives or Affiliates (including, but not limited to any of M&EC's officers, directors, employees, agents, representatives or Affiliates), to (i) negotiate, sell, offer to sell or solicit offers to purchase any of the assets of M&EC (other than sales of products in the ordinary course of their businesses); (ii) negotiate, sell, offer to sell or solicit offers to purchase or exchange, any capital stock of M&EC or any subsidiary of M&EC to, from or with any other party (other than pursuant to the terms of this Agreement) or enter into any merger, consolidation, liquidation or similar transaction involving, directly or indirectly, M&EC or any Subsidiary of M&EC (other than pursuant to the terms of this Agreement) and none of the Stockholders, M&EC nor any of their Affiliates will negotiate with or provide financial, technical or other information to any person (other than pursuant to the terms of this Agreement) in connection with any such proposed purchase or transaction; or, (iii) negotiate, sell, offer to sell or solicit any offers to purchase any outstanding shares of M&EC's capital stock or any other securities of M&EC (other than pursuant to the

terms of this Agreement); provided however, that the parties agree that if all of the terms, conditions, covenants, representations and warranties are complied with, prior to Closing existing Stockholders may, after providing written notice to Perma-Fix, agree among themselves, and exchange, transfer or sell interests in Common Stock, or Class A Preferred Stock among themselves, in private transactions, to be set out at Closing in Schedule 21, and agreed to by Perma-Fix, for the purpose of reaching agreement on the transactions contemplated by this Agreement.

5.16 **Rights and Restrictions for Series B Preferred Stock**. Each of the Stockholders agree and covenant that the Series B Preferred Stock shall be subject to the following rights of first refusal in addition to the other rights:

5.16.1 Offer. From and after the Closing, before any Stockholder transfers, sells or assigns any Series B Preferred Stock, that Stockholder (the "Selling Stockholder") shall notify Perma-Fix in writing that the Selling Stockholder wants to transfer such Series B Preferred Stock (as the case may be, "Offered Shares"). The notice shall contain a full and complete designation of the price at and terms on which the Selling Stockholder is proposing to a third party for transfer of the Offered Shares or which a third party is proposing to the Selling Stockholder.

5.16.2 Acceptance Perma-Fix, within 15 days of receipt of the notice described above (the "Initial Offer Period"), shall have the right to purchase the Offered Shares at the price and on the terms stated in the notice. If Perma-Fix elects not to exercise its right to purchase, Perma-Fix shall within 15 days from receipt of such notice, notify the other Stockholders in writing of the Selling Stockholder's intent to transfer the Offered Shares and the price and terms of the Transfer, including a full description of the potential purchaser of the Offered Shares. The Stockholders (other than the Selling Stockholder), shall have the right, exercisable by written notice to Perma-Fix during an additional period of 15 days (the "Additional Offer Period"), to purchase the Offered Shares at the price and on the terms stated in the Selling Stockholder's notice to Perma-Fix. If the other Stockholders elect not to exercise their right to purchase, the Selling Stockholder may transfer to a non-Affiliate of the Selling Stockholder the Offered Shares for a price and on terms no less favorable than those described in the notice for a period of 15 days following the end of the Additional Offer Period. If the Selling Stockholder does not complete the transfer of the Offered Shares during such period to a non-Affiliate of the Selling Stockholder, the provisions of

this Section 5.16 shall again apply to any later transfer. If more than one Stockholder decides to purchase the Offered Shares, the accepting Stockholders, shall each purchase shares from the Offered Shares in proportion to their respective percentage interests in Common Stock at the time of closing.

5.16.3 Terms of Series B Preferred Stock. The terms and conditions of the Series B Preferred Stock shall be as set forth in the Amended Charter.

5.16.4 Legend. Each Stockholder severally understands and agrees that there will be placed on the certificate or certificates representing the Class B Preferred Stock, any substitutions therefore and any certificates for additional or substitute shares which might be distributed with respect to such Class B Preferred Stock, a legend stating in substance

"The shares represented by this certificate have been acquired for investment and have not been registered under the Securities Act of 1933, as amended (the "Securities Act") in reliance on an exemption contained in Section 4(2) and/or Section 3(a)(9) of the Securities Act. These shares may only be transferred pursuant to an effective registration statement under the Securities Act and any applicable state securities laws unless there is furnished to Perma-Fix Environmental Services, Inc. (the "Company") an opinion of counsel or other evidence satisfactory to Company counsel, to the effect that such registration is not required. In addition, the shares represented by this certificate may only be transferred in accordance with the terms of a Stock Purchase Agreement among the Company, East Tennessee Materials and Energy Corporation ("M&EC"), a Tennessee corporation; Performance Development Corporation, a Tennessee corporation; Joe W. Anderson, an individual; M. Joy Anderson, an individual; Russell R. and Cindy E. Anderson, individuals; Charitable Remainder Unitrust of William Paul Cowell, Kevin Cowell, Trustee; Joe B. and Angela H. Fincher, individuals; Ken-Ten Partners, a Tennessee partnership; Michael W. Light, an individual; Management Technologies, Incorporated, a Tennessee corporation; M&EC 401(K) Plan and Trust, a qualified retirement plan; PDC 401(K) Plan and Trust, a qualified retirement plan; Robert N. Parker, an individual; James C. Powers, an individual; Richard William Schenk, Trustee of the Richard Schenk Trust Dated November 5, 1998; Talahi Partners, a Tennessee partnership; Hillis Enterprises, Inc. a Tennessee corporation, Tom Price and Virginia Price, both individuals, and Thomas John Abraham and Donna Ferguson Abraham, both individuals, and the Charter of M&EC, as amended, both of which include a right of first refusal regarding these shares in favor of the Company, copies of which may be inspected by the holder of this certificate at the principal offices of the Company, or furnished by the Company to the holder of this certificate upon written request, without charge."

5.18 **Common Stock of M&EC as of Closing**. Each of the Stockholders severally represents, warrants and covenants that as of the Closing, that such Stockholder is the owner of record and beneficially, free and clear of any and all Liens, of the number of shares of Common Stock indicated in Exhibit G hereto.

5.19 **Specific Enforcement**. The parties hereto recognize and agree that, in the event any of the Stockholders breaches or threatens to breach any of the provisions of this Article 5, immediate irreparable

injury would be caused to Perma-Fix and M&EC, for which there is no adequate remedy at law. It is accordingly agreed that in the event of a failure by any of the Stockholders to perform their obligations under this Article 5, Perma-Fix and/or M&EC shall be entitled to specific performance through injunctive relief to prevent breaches of any provision of this Article 5 and to specifically enforce any provision of Article 5 and the terms and provisions thereof in any action instituted in any court of the United States or any state thereof having subject matter jurisdiction, in addition to any other remedy to which Perma-Fix and/or M&EC may be entitled, at law or in equity.

ARTICLE 6

REPRESENTATIONS AND WARRANTIES OF PERMA-FIX

Perma-Fix represents and warrants to the Stockholders as follows:

6.1 **Organization, etc**. Perma-Fix is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. Perma-Fix has the corporate power to own its property and to carry on its business as now being conducted; Perma-Fix has the corporate power and authority to execute and deliver this Agreement, consummate the transactions contemplated hereby, and to perform the transactions contemplated by this Agreement.

6.2 **Authorization, Execution and Delivery of Agreement**. The execution, delivery and performance of this Agreement by Perma-Fix have been duly and validly authorized and approved by the Board of Directors of Perma-Fix. This Agreement constitutes the valid and binding agreement of Perma-Fix, enforceable in accordance with its terms, subject to bankruptcy, insolvency and other laws of similar import, and Perma-Fix has taken, or will use reasonable efforts to take prior to the Closing, all other action required by law on the part of Perma-Fix and Perma-Fix's Certificate or Articles of Incorporation and bylaws or otherwise to effect the transactions contemplated by this Agreement.

6.3 **No Breach of Statute or Contract, Governmental Authorizations**. Neither the execution and delivery of this Agreement by Perma-Fix nor compliance with the terms and provisions of this Agreement by Perma-Fix will violate (i) any law, statute, rule or regulation of any governmental authority, domestic or foreign, or will at the Closing Date conflict with or result in a breach of any of the terms, conditions or provisions of any judgment, order, injunction, decree or ruling of any court or governmental agency or authority to which Perma-Fix is subject, which in the aggregate would have a material effect on Perma-Fix and its subsidiaries, taken as a whole, or (ii) any agreement or instrument to which it is a party or by which it is bound or constitute a default thereunder which would have a material effect on Perma-Fix and its Subsidiaries, taken as a whole, or (iii) result in the creation of any Lien upon any property or assets of Perma-Fix or cause any acceleration of maturity of any obligation or loan which would have a material effect

on Perma-Fix and its subsidiaries, taken as a whole, or (iv) give to others any interest or rights, including rights of termination or cancellation, in or with respect to any of the material properties, assets, agreements, contracts or business of Perma-Fix which would have a material effect on Perma-Fix and its subsidiaries, taken as a whole.

6.4 **Broker's or Finder's Fees**. No agent, broker, person or firm acting on behalf of Perma-Fix, or under its authority, is or will be entitled to any commission or broker's or finder's fee from any of

the parties hereto in connection with any of the transactions contemplated herein, except for Ryan Beck whose fees, if any, shall be paid by Perma-Fix.

ARTICLE 7

COVENANTS OF CONDUCT AND TRANSACTIONS PRIOR TO AND AFTER THE CLOSING

7.1 **Investigations; Operation of Business of M&EC**. M&EC and the Controlling Stockholders agree, jointly and severally, between the date of this Agreement and the Closing:

7.1.1 Access to Premises and Books. That Perma-Fix and its representatives shall have full access at reasonable times to all premises and books and records relating to M&EC, and shall cause M&EC to provide to Perma-Fix and its representatives full access to premises and books and records, and to cause M&EC's officers to furnish Perma-Fix with such financial and operating data and other information with respect to the business and properties of M&EC, as Perma-Fix shall from time to time request; provided, however, that any such investigation shall not affect any of the representations, warranties or covenants of M&EC or the Stockholders hereunder; and, provided further, that any such investigation shall be conducted in such manner as not to interfere unreasonably with the operation of the business of M&EC. In the event of termination of this Agreement, Perma-Fix will return to M&EC any and all financial statements, agreements, documents, memoranda or other repositories of information relating to M&EC that Perma-Fix has obtained in connection with its review, and Perma-Fix agrees that any written information relating to M&EC and M&EC's financial condition, business, operations and prospects are strictly confidential and shall not be voluntarily disclosed to any third party or used by Perma-Fix for its benefit or the benefit of any other person, except for such information or documents (i) available generally to the public, (ii) in the possession of Perma-Fix prior to its receipt under this Agreement, (iii) obtained by Perma-Fix from a third party who has an independent right to such information or documents, or (iv) as otherwise required by law to be disclosed; provided, however, that any confidentiality requirements contained in this Section shall terminate and be null and void twelve (12) months from the date of this Agreement.

7.1.2 Business Organization of M&EC. To cause M&EC, to the extent required for continued operation of M&EC's business without impairment, to use M&EC's best efforts to preserve substantially intact the business organization of M&EC to keep available the services of the present officers and employees of M&EC and to preserve the present relationships of M&EC with persons having significant business relations therewith such as suppliers, customers, brokers, agents or otherwise.

7.1.3 Ordinary Course of Business To cause M&EC to conduct M&EC's businesses only in the ordinary course and, by way of amplification and not limitation, M&EC will not without the prior written consent of Perma-Fix (except as otherwise specifically provided in this Agreement):

7.1.3.1 issue any capital stock or make any changes to its authorized, issued or outstanding capital stock, grant any stock options or rights to acquire shares of any of its capital stock or any security convertible into any class of its capital stock or agree to do any of the

foregoing; or

7.1.3.2 declare, set aside, or pay any dividend or distribution with respect to any of its capital stock or any other securities convertible into any class of capital stock; or

7.1.3.3 directly or indirectly redeem, purchase or otherwise acquire any of its capital stock or enter into any agreement to purchase or redeem any of the Common Stock except pursuant to Section 5.15; or

7.1.3.4 effect a split or reclassification of any of its capital stock convertible into any class of capital stock, purchase, redeem, retire or otherwise acquire any shares of any class of its capital stock or any security convertible into any class of its capital stock or agree to do any of the foregoing; or

7.1.3.5 change its charter or bylaws; or

7.1.3.6 except consistent with past practices, grant any increase in the compensation payable or to become payable by it to its officers or employees or any increase, regardless of amount, in any bonus, insurance, pension or other benefit plan, program, payment or arrangement made to, for, or with any officers or employees; or

7.1.3.7 engage in any transaction not in the ordinary course of business; or

7.1.3.8 borrow or agree to borrow any funds or assume, endorse, guarantee or agree to guarantee or otherwise as an accommodation become liable or responsible for obligations of any other individual, firm or corporation; or

7.1.3.9 waive any rights of substantial value; or

7.1.3.10 enter into an agreement, contract or commitment which, if entered into prior to the date of this Agreement, would be required to be listed in a Schedule pursuant to the terms of this Agreement or is in excess of Ten Thousand Dollars ($10,000.00); or

7.1.3.11 acquire any Real Property; or

7.1.3.12 enter into any agreement with the Stockholders, M&EC or any of their Affiliates, officers or directors; or

7.1.3.13 adopt, enter into, or amend materially any employment contract or any bonus, stock option, profit-sharing, pension, retirement, incentive, or similar employee benefit program; or

7.1.3.14 pay or incur any obligation or liability, absolute or contingent, other than liabilities incurred in the ordinary and usual course of its business; or

7.1.3.15 mortgage, pledge, or subject to lien or other encumbrance any of its properties or assets; or

7.1.3.16 except for transactions in the ordinary and usual course of its business,

sell or transfer any of its properties or assets or cancel, release or assign any indebtedness owed to it or any claims held by it; or

7.1.3.17 make any investment of a capital nature in excess of Ten Thousand Dollars ($10,000.00) for any one item or group of similar items, contributions to capital, property transfers, or otherwise, or by the purchase of any property or assets of any other individual, firm, or corporation; or

7.1.3.18 enter into any other agreement not in the ordinary and usual course of business; or

7.1.3.19 merge or consolidate with any other corporation, acquire any of its assets or capital stock, solicit any offers for any of its assets or capital stock, or, except in the ordinary course of

business, acquire any assets of any other person, corporation, or other business organization, or enter into any discussions with any person concerning, or agree to do, any of the foregoing; or

7.1.3.20 enter into any transaction or take any action which would, if effected prior to the Closing, constitute a breach of any of the representations, warranties or covenants contained in this Agreement.

7.1.4 Sale of Assets. Without the prior written consent of Perma-Fix, M&EC will not undertake or enter into any sale, disposition, surrender, acquisition, agreement or transaction relating to any of its assets except in the ordinary course of business or as contemplated by this Agreement.

7.2 **No Selling of Shares or Granting of Options**. Prior to the Closing, except for (i) as otherwise expressed provided in this Agreement, and (ii) the conversion of the Class A Preferred Stock into Common Stock as described in this Agreement, none of the Stockholders nor M&EC shall sell, transfer, assign or otherwise dispose of any of the Shares or grant any options, warrants, or other rights to purchase or otherwise acquire any Shares or other shares of the capital stock of M&EC or issue any securities convertible into any shares of the capital stock of M&EC.

7.3 **Consents**. M&EC, the Stockholders and Perma-Fix shall each use their best efforts to obtain the consent or approval of each person or Governmental Authority whose consent or approval shall be required in order to permit M&EC, the Stockholders or Perma-Fix, as the case may be, to consummate the transactions contemplated by this Agreement.

7.4 **Governmental Reports**. Between the date of this Agreement and the Closing, the Stockholders and M&EC shall furnish, make available to Perma-Fix any and all reports, not heretofore delivered to Perma-Fix under this Agreement or which are filed subsequent to the date of this Agreement, to any state, federal or local government, agency or department, including, but not limited to, the SEC, the IRS, the EPA, the FTC and the TDEC relating, directly or indirectly to, M&EC.

7.5 **Conduct of Business**. Prior to the Closing, M&EC shall, and the Controlling Shareholders shall cause M&EC to, conduct its business in the ordinary and usual course as heretofore

conducted and to use its best efforts (i) to preserve its business and business organization intact; (ii) to keep available to M&EC the services of the present officers and employees of M&EC; (iii) to preserve the goodwill of customers and others having business relations with M&EC; (iv) to maintain its properties in customary repair, working order and condition (reasonable wear and tear excepted); (v) to comply with all Laws applicable to it and the conduct of its businesses; (vi) to keep in force at not less than their present limits all existing policies of insurance; (vii) to make no Material changes in the customary terms and conditions upon which it does business; (viii) to duly and timely file all reports, returns, and other documents required to be filed with

federal, state, local and other Governmental Authorities; and, (ix) unless it is contesting the same in good faith and has established reasonable reserves therefore, to pay, when required to be paid, all Taxes indicated by Returns so filed or otherwise lawfully levied or assessed upon it or any of its properties and to withhold or collect and pay to the proper Governmental Authorities or hold in separate bank accounts for such payment all taxes and other assessments which it believes in good faith to be required by Law to be so withheld or collected.

7.6 **Governmental Approvals**. Prior to Closing, each of M&EC and the Controlling Stockholders shall use its best efforts in good faith to take or cause to be taken as promptly as practicable all such steps as shall be necessary to obtain all required Governmental Approvals as promptly as practicable to consummate the transactions contemplated by this Agreement.

7.7 **IRS and ERISA Matters**. Prior to Closing, each of M&EC and the Controlling Stockholders shall use his, her, or its best efforts in good faith to finalize the IRS M&EC Settlement Agreement, the IRS PDC/MTI Settlement Agreement, the ERISA M&EC Resolution Agreement, and the ERISA PDC/MTI Resolution Agreement, all to the sole satisfaction of Perma-Fix.

7.8 **Encumber**. Neither M&EC, nor any of the Stockholders shall sell, pledge, encumber or otherwise hypothecate or transfer or grant an option, warrant or right to sell or dispose of any shares of capital stock of M&EC prior to the Closing other than pursuant to this Agreement.

7.9 **Public Announcements**. Perma-Fix and the Stockholders agree that they will consult with each other before issuing any press releases or otherwise making any public statements with respect to this Agreement or the transactions contemplated hereby and any press release or any public statement shall be subject to mutual agreement of the parties, except as may be required by the disclosure obligations of either party or their Affiliates under applicable securities law.

7.10 **Notification**. M&EC and the Stockholders shall give Perma-Fix prompt written notice of (i) the existence of any fact or the occurrence of any event which constitutes, or with the giving of notice or the passage of time or both would constitute a Material breach of any representation or warranty of M&EC or any of the Stockholders made herein or pursuant hereto and (ii) the taking of any action by M&EC or the Stockholders that would Materially breach or violate, or constitute a default under, any agreement or covenant of M&EC or the Stockholders made herein or pursuant hereto. Upon the giving of such notice, Perma-Fix may terminate this Agreement within ten (10) days of receipt of such notice if the development that is the subject of the notice has had, will have, or could have a Material adverse effect upon the financial condition, business operations, or prospects of M&EC.

7.11 **Filings**. The parties hereto shall, as promptly as practicable after the date hereof, submit applications, all documents, reports and notifications, and satisfy all requests for additional information, if any, pursuant to 40 Code of Federal Regulations ("CFR") Part 270 and all other requirements under any and all applicable Environmental Laws, with regard to the transfer of, or changes in the ownership or operational control of M&EC or the permits, licenses or approvals held or used by M&EC relating to the businesses of M&EC. Each of the parties hereto agree to reasonably cooperate with each other to obtain all authorizations required under any and all applicable laws, to consummate the transactions contemplated hereby.

7.12 **Supplemental Disclosure**. M&EC and the Stockholders agree that, with respect to their representations and warranties made in this Agreement, they will have a continuing obligation to supplement or amend the Schedules hereto with respect to any matter hereafter arising or discovered which, if existing or known at the date of this Agreement, would have been required to be set forth or described in the Schedules hereto. Upon the supplementing or amending of any Schedules by M&EC or the Stockholders or the discovery of any matters by Perma-Fix in the course of its investigations, Perma-Fix may, at its option, within ten (10) days of such amendment or discovery terminate this Agreement if the amendment or discovery has had, will have, or could have a Material effect upon the financial condition, business operations, or prospects of M&EC without any liability or obligation on the part of Perma-Fix.

7.13 **SEC Filings**. Perma-Fix shall provide the Stockholders with all reports and other filings it makes with the SEC under the Securities Act or under the Exchange Act from the date of this Agreement to the Closing.

7.14 **Information for SEC Filings**. The parties hereto will each furnish to the other such data and information relating to it as the other may reasonably request for the purpose of including such data and information in documents to be filed with the SEC by Perma-Fix.

7.15 **Financial Statements**. M&EC shall have prepare, audit and deliver to Perma-Fix true, correct and complete copies of the Financial Statements, all of which shall have been examined by an independent certified public accountants, and be in accordance with Regulation S-X (17 C.F.R. Part 210) and GAAP, consistently applied.

7.16 **Series A Preferred Stock Conversion and Elimination**. Prior to the Closing Date, all of the issued and outstanding shares of the Series A Preferred Stock shall have been converted into Common Stock pursuant to the terms of the Series A Preferred Stock and there shall be no shares of Series A Preferred Stock remaining outstanding. M&EC shall have filed the Series A Certificate of Elimination with the Tennessee Secretary of State, which Series A Certificate of Elimination shall be satisfactory to Perma-Fix in its sole discretion and which shall be in effect in its entirety, without alteration or amendment, as of the Closing.

7.17 **Outstanding Obligations.** At the Closing, all of the Outstanding Obligations of M&EC shall not exceed $8,365,000 (excluding the indebtedness to Perma-Fix), and M&EC shall be released from all such Outstanding Obligations, except for the Excluded Obligations, in excess of $8,365,000 (excluding the indebtedness of M&EC to Perma-Fix) on terms satisfactory to Perma-Fix in its sole discretion.

7.18 **Ray Bell.** At Closing, Ray Bell shall have agreed in writing to exchange the obligations due by M&EC to Ray Bell, which is approximately $350,000, for Perma-Fix Common Stock, with the number of Perma-Fix Common Stock shares determined by dividing the lesser of $350,000 or the amount of the obligations due by M&EC to Ray Bell at Closing by $1.50, and M&EC shall be released from all such obligations held by Ray Bell on terms satisfactory to Perma-Fix. In addition, at the Closing, Ray Bell shall have executed and delivered to Perma-Fix an Investor Questionnaire containing terms similar to the Investor Questionnaire executed or to be executed by the Stockholders and terms set forth in Article 5 of the Agreement.

7.19 **Holders of M&EC Promissory Notes.** On or prior to the Closing, agreements restructuring M&EC obligations represented by promissory notes (other than Related Party Debt) shall have been entered into by M&EC with all of holders of such promissory notes, with the terms of such agreement satisfactory to Perma-Fix. As of the date hereof, holders of such M&EC promissory notes are listed by name and amounts on Exhibit F attached hereto.

7.20 **Related Party Debt.** On or prior to the Closing, each of the Stockholders that holds Related Party Debt shall have entered into a full and complete release releasing M&EC from all of such Related Party Debt or terms satisfactory to Perma-Fix in consideration of the issurance by Perma-Fix of Perma-Fix Common Stock as part of the purchase price, plus payment of accrued interest on the Related Party Debt as of the closing as follows: 25% at Closing and 75% payable in 12 equal monthly payments, with each monthly payment equal to 6.25% of the accrued interest on the Related Party Debt, with the first installment beginning 30 days after the Closing.

7.21 **Promissory Notes; Security Agreement; Financing Statement.** Prior to or at the Closing, (i) M&EC shall execute the M&EC Promissory Notes, in the aggregate principal amount of the total of the Prior Loans, the Additional Loans, and all interest accrued from the date each loan was made until the date of execution of the applicable M&EC Promissory Note, (ii) M&EC shall execute the M&EC Security Agreement granting to Perma-Fix a security interest in its assets as security for meeting its obligations under the M&EC Promissory Notes, including but not limited to, the obligation of repayment in full of the aggregate principal amount under the M&EC Promissory Notes, and (iii) M&EC shall execute and file the Financing Statement in all applicable jurisdictions which will perfect the interests granted to Perma-Fix under the M&EC Security Agreement. All of such items shall be performed on terms satisfactory to Perma-Fix in its sole discretion.

7.22 **Amended Charter**. Prior to the Closing Date, M&EC shall have filed the Amended Charter with the Tennessee Secretary of State, the form and content of which shall be satisfactory to Perma-Fix in its sole discretion, and which shall be in effect in its entirety, without alteration or amendment, as of the Closing.

7.23 **Release of Price Judgment**. Prior to, or at Closing, the Prices shall enter into a full and complete settlement and release regarding the judgement held by Price or the Prices against M&EC, which release which shall be satisfactory to Perma-Fix in its sole discretion.

7.24 **Release of Abraham Claim**. Prior to, or at Closing, the Abraham's shall enter into a full and complete settlement and release regarding M&EC which shall settle all obligations due and owing by M&EC to or regarding the Abraham's or claimed by the Abraham's or their Affiliates, known or unknown, contingent or absolute, which shall be satisfactory to Perma-Fix in its sole discretion.

7.25 **Plan Participants**. Prior to or at Closing, all of the participants in the Plans shall enter into a full and complete release of M&EC, Perma-Fix and plan fiduciaries from any ERISA M&EC Liability and/or ERISA PDC/MTI Liability to the satisfaction of Perma-Fix in its sole discretion.

ARTICLE 8

CONDITIONS OF TRANSACTIONS CONTEMPLATED BY AGREEMENT; ABANDONMENT OF AGREEMENT

8.1 **Closing Conditions of Perma-Fix**. The obligations of Perma-Fix to consummate this Agreement or to effect the transactions contemplated by this Agreement shall be subject to the following conditions:

8.1.1 Resolutions of Board of Directors and Stockholders of M&EC. M&EC shall have furnished to Perma-Fix, in form and substance satisfactory to Perma-Fix:

8.1.1.1 certified copies of resolutions of the shareholder and Board of Directors of M&EC, duly adopted by the Board of Directors and shareholder of M&EC, authorizing, the execution, delivery and performance of this Agreement by M&EC and its shareholder;

8.1.1.2 Incumbency certificate for the officers of M&EC.

8.1.2 Delivery of Organizational Documents. The organizational documents creating the Stockholders, other than individuals, shall have been delivered to Perma-Fix evidencing, in form and content satisfactory to Perma-Fix that each of the Stockholders has the full, valid and legal capacity and authority to execute, deliver and perform all of its agreements, obligations, terms and conditions of this Agreement.

8.1.3 Financing; Approval by Lender. Perma-Fix's lender shall have approved the transactions contemplated by this Agreement, and Perma-Fix shall have obtained financing on terms satisfactory to Perma-Fix in its sole discretion to enable Perma-Fix to consummate the transactions contemplated in this Agreement, including, but not limited to, the ability to finance the construction of the M&EC facility and which shall include the arrangement for M&EC of a working capital line of credit from and after consummation of the Acquisition.

8.1.4 Amended Charter. Prior to the Closing Date, M&EC shall have filed the Amended Charter with the Tennessee Secretary of State, the form and content of which shall be satisfactory to Perma-Fix in its sole discretion, and which shall be in effect in its entirety, without alteration or amendment, as of the Closing.

8.1.5 Outstanding Obligations. At the Closing, all of the Outstanding Obligations, shall not exceed $8,365,000 (excluding the obligations of M&EC due to Perma-Fix) and M&EC shall be released from all such Outstanding Obligations in excess of $8,365,000 on terms satisfactory to Perma-Fix in its sole discretion.

8.1.6 Representations and Warranties of the Stockholders to be True and Correct and Compliance With Covenants. Except to the extent waived in writing by Perma-Fix hereunder, (i) the representations and warranties of the Stockholders herein contained, shall be true and

correct in all Material respects on the Closing Date with the same effect as though made at such time; and (ii) the Stockholders shall have performed all of their obligations and complied with all covenants, obligations, and agreements required by this Agreement to be performed or complied with by the Stockholders on or prior to the Closing Date. The Stockholders shall also have delivered to Perma-Fix a certificate, dated the Closing Date and signed by each of the Stockholders, to both of the aforementioned effects. The Certificates are to be in form and substance satisfactory to Perma-Fix.

8.1.7 Representations and Warranties of M&EC to be True and Compliance With Covenants. Except to the extent waived in writing by Perma-Fix hereunder, (i) the representations and warranties of M&EC herein contained, shall be true in all material respects on the Closing Date with the same effect as though made at such time; and (ii) M&EC shall have performed all obligations and complied with all covenants, obligations, and agreements required by this Agreement to be performed or complied with by M&EC on or prior to the Closing Date. M&EC shall also have delivered to Perma-Fix a certificate of

M&EC (in form and substance satisfactory to Perma-Fix), dated the Closing Date and signed by the chief executive officer of M&EC and each of the Controlling Shareholders, to both of the aforementioned effects.

8.1.8 Third Party Consents. M&EC and the Stockholders shall have obtained consents to the transactions contemplated by this Agreement from the parties to all contracts, permits, agreements, debt instruments and other documents referred to in the Schedules delivered by M&EC and Stockholders to Perma-Fix in accordance with this Agreement or otherwise, which require such consents and consents from, or notification to, all Governmental Authorities which require such consents or notifications.

8.1.9 No Material Adverse Change. There shall not have occurred (i) since December 31, 1999, any Material event, or (ii) any loss or damage to any of the properties or assets (whether or not covered by insurance) of M&EC which will materially affect or impair the ability of M&EC to conduct, after consummation of the transactions contemplated hereby, the business of M&EC as now being conducted by M&EC.

8.1.10 Statutory Requirements; Litigation. In a manner satisfactory to Perma-Fix, (i) all statutory requirements for the valid consummation by M&EC and the Stockholders of the transactions contemplated by this Agreement shall have been fulfilled; all authorizations, consents and approvals of all Governmental Authorities required to be obtained in order to permit consummation by M&EC and the Stockholders of the transactions contemplated by this Agreement and to permit the business presently conducted by M&EC to continue unimpaired immediately following the Closing shall have been obtained; and, (ii) all applications for permits shall have been approved by the appropriate Governmental Authorities and all authorizations and approvals relating to all permits and licenses held by M&EC shall have been obtained from the appropriate Governmental Authorities under any and all of the Environmental Laws as a result of the change in ownership of M&EC, pursuant to the terms of this Agreement, with such permits, approvals and authorizations to be in form and substance satisfactory to Perma-Fix, so that M&EC is permitted to continue unimpaired immediately following the Closing Date the same business operations that M&EC carried on as of the date of this Agreement and the Closing Date. Between the date of this Agreement and the Closing, no Governmental Authority, whether federal, state or local, shall have instituted (or threatened to institute either orally or in a writing

directed to any of M&EC and/or the Stockholders or any of their subsidiaries) an investigation which is pending on the Closing relating to this Agreement and the transactions contemplated hereby, and between the date of this Agreement and the Closing no action or proceeding shall have been instituted or, to the knowledge of Perma-Fix, shall have been threatened before a court or other governmental body or by any

public authority to restrain or prohibit the transactions contemplated by this Agreement or to obtain damages in respect thereof.

8.1.11 Opinion of Counsel of M&EC. Perma-Fix shall have received from William E. Mason, counsel to M&EC, or such other counsel acceptable to Perma-Fix and its counsel, an opinion or opinions, dated the Closing Date, with the form and contents thereof reasonably satisfactory to Perma-Fix and its counsel.

8.1.12 Due Diligence. Perma-Fix shall have completed its financial due diligence of M&EC, with the results thereof satisfactory to Perma-Fix.

8.1.13 Environmental Audit. Perma-Fix shall have conducted and completed an environmental review of M&EC, with results satisfactory to PESI.

8.1.14 Stock Certificates. On the Closing, the Stockholders shall execute, endorse in blank and deliver to Perma-Fix, with signatures guaranteed by a bank or investment banking firm and in form acceptable to Perma-Fix, the stock certificates representing all of the Shares, duly and validly endorsed for transfer, free and clear of any and all Liens, all as terms satisfactory to Perma-Fix.

8.1.15 Permits. All permits (including, but not limited to, all permits issued or issuable under all Environmental Laws) which Perma-Fix deems necessary to conduct M&EC's business after the Closing Date as currently conducted by M&EC shall have been (i) duly and validly transferred, or approved for transfer of control by Perma-Fix effective upon the Closing, in a manner satisfactory to Perma-Fix by all appropriate Governmental Authorities, or (ii) duly and validly issued to Perma-Fix by all appropriate Governmental Authorities, all in form and content satisfactory to Perma-Fix.

8.1.16 No Liens on Assets. All assets of M&EC (real and personal) shall be free and clear of any and all Liens other than Liens filed by Perma-Fix, except as set forth on Schedule 22 hereof.

8.1.17 Minute Books and Stock Ledgers. The Stockholders shall have delivered to Perma-Fix a current copy of the minute books and stock ledgers for M&EC.

8.1.18 Financial Statements. Perma-Fix shall have received Audited Financial Statements ("M&EC Audited Financial Statement") of M&EC for all years required to be included in the Form 8-K to be filed by Perma-Fix as a result of consummation of this Agreement and as required by Regulation S-X (17 CFR Part 210), with such audited financial statements to be prepared in accordance with Regulation S-X (17 CFR Part 210) and GAAP, consistently applied throughout the periods.

8.1.19 Good Standing Certificates. Good standing and tax certificates (or analogous documents), dated as close as practicable to the Closing, from the appropriate authorities in each jurisdiction of incorporation of M&EC and in each jurisdiction in which M&EC is qualified to do business, showing M&EC to be in good standing and to have paid all taxes due in the applicable jurisdiction.

8.1.20 Resignation of Directors. All of the directors of M&EC shall have resigned as members of the Board of Directors of M&EC, effective as of the Closing Date.

8.1.21 IRS Claims. M&EC and the applicable Governmental Authorities shall have entered into the IRS Settlement Agreement, the form and content of which is satisfactory to Perma-Fix in its sole discretion, which shall, subject to Closing, settle the IRS M&EC Claims on terms and conditions satisfactory to Perma-Fix in its sole discretion. PDC, MTI, and the applicable Governmental Authorities shall have entered into the IRS PDC/MTI Settlement Agreement, the form and content of which is satisfactory to Perma-Fix in its sole discretion, which shall settle the IRS PDC/MTI Claims, pursuant to Section 1.22, hereof, release M&EC from the IRS PDC/MTI Claims and be in form and content satisfactory to Perma-Fix, M&EC and PDC.

8.1.22 ERISA Liability. M&EC and the applicable Governmental Authorities shall have entered into the ERISA M&EC Resolution Agreement, the form and content of which is satisfactory to Perma-Fix in its sole discretion, which shall, subject to Closing, settle the ERISA M&EC Liability (including interest, penalties and excise taxes related thereto). PDC, MTI, and the applicable Governmental Authorities shall have entered into the ERISA PDC/MTI Resolution Agreement, the form and content of which is satisfactory to Perma-Fix in its sole discretion, which shall settle the ERISA PDC/MTI Liability, as described in Section 1.11 hereof, and release M&EC from the ERISA PDC/MTI Liability.

8.1.23 Promissory Notes; Security Agreement; Financing Statement. Prior to or at the Closing, (i) M&EC shall execute the M&EC Promissory Notes, in the aggregate principal amount of the total of the Prior Loans, the Additional Loans, and all interest accrued from the date each loan was made until the date of execution of the applicable M&EC Promissory Note, (ii) M&EC shall execute the M&EC Security Agreement granting to Perma-Fix a security interest in its assets as security for meeting its obligations under the M&EC Promissory Notes, including but not limited to, the obligation of repayment in full of the aggregate principal amount under the M&EC Promissory Notes, and (iii) M&EC shall execute and file the Financing Statement in all applicable jurisdictions which will perfect the interests granted to Perma-Fix under the M&EC Security Agreement. All of such items shall be performed on terms satisfactory to Perma-Fix in its sole discretion.

8.1.24 Stockholder Approval. The Stockholders of M&EC shall have unanimously approved the Acquisition pursuant to the laws of the state of incorporation of M&EC and no Stockholders of M&EC.

8.1.25 Officer and Director Waiver. Each officer and director of M&EC shall have executed and delivered to Perma-Fix an agreement, in form and substance satisfactory to Perma-Fix pursuant to which each such officer and director shall waive any and all rights to indemnification which any such officer and director may have from M&EC pursuant to M&EC's Certificate of

Incorporation, Bylaws, any indemnification agreements, or otherwise.

8.1.26 Bechtel Jacobs Contracts. As of Closing, M&EC shall have obtained a certification, in form and substance satisfactory to Perma-Fix in its sole discretion stating that none of the contracts between M&EC and Bechtel-Jacobs Company including, but not limited to those listed on Schedule ____, attached hereto, are in default.

8.1.27 Intentionally left blank.

8.1.28 Indebtedness of Stockholders, etc. As of Closing, none of the Stockholders, officers, directors or employees of M&EC or any of their Affiliates shall be indebted to M&EC. At the closing, each of the Stockholders shall have executed and delivered to Perma-Fix releases releasing M&EC from any and all outstanding obligations due by M&EC to the Stockholders.

8.1.29 Amended Charter. Prior to the Closing Date, M&EC shall have filed the Amended Charter with the Tennessee Secretary of State, the form and content of which shall be satisfactory to Perma-Fix in its sole discretion, and which shall be in effect in its entirety, without alteration or amendment, as of the Closing.

8.1.30 Release of Price Judgment and Claims. Prior to, or at Closing, the Prices shall enter into a full and complete settlement and release regarding M&EC which shall settle all obligations due and owing by M&EC to or regarding the Prices or their Affiliates or claimed by the Prices or their Affiliates, known or unknown, contingent or absolute, as of the Closing Date which shall be satisfactory to Perma-Fix in its sole discretion.

8.1.31 Release of Abraham Claims. Prior to, or at Closing, the Abraham's shall enter into a full and complete settlement and release regarding M&EC which shall settle all obligations due and owing by M&EC to or regarding the Abraham's or their Affiliates or claimed by the Abraham's or their Affiliates, known or unknown, contingent or absolute, as of the Closing Date which shall be satisfactory to Perma-Fix in its sole discretion.

8.1.32 No Outstanding Shares. As of Closing, there shall be no issued and outstanding securities, warrants, options, agreements or understandings convertible or exercisable into voting capital stock of M&EC other than those acquired by Perma-Fix hereunder.

8.1.33 Termination of Plan. Prior to Closing, M&EC 401(k) Plan shall be terminated in a manner satisfactory to Perma-Fix.

8.1.34 Medical Insurance. Perma-Fix shall have received evidence satisfactory to it in its sole discretion showing that none of the M&EC provided medical insurance covering the employees of M&EC has lapsed prior to Closing.

8.1.35 Plan Participants. Prior to or at Closing, all of the participants in the Plans shall have entered into a full and complete release of M&EC, Perma-Fix and plan fiduciaries from any ERISA M&EC Liability and/or ERISA PDC/MTI Liability to the satisfaction of Perma-Fix in its sole discretion.

8.1.36 Consulting Agreement with Bill Hillis. On or prior to the Closing, the Company and Bill Hillis shall have entered into a six (6) year consulting agreement, for $150,000 per year, the terms of which shall be satisfactory to Perma-Fix and Bill Hillis.

8.2 **Conditions to Obligations of M&EC and The Stockholders** The obligation of M&EC and the Stockholders to consummate this Agreement or to effect the transactions contemplated by this Agreement shall be subject to the following conditions:

8.2.1 Resolutions of Perma-Fix Board of Directors and Shareholders. Perma-Fix shall have furnished the Stockholders with:

8.2.1.1 certified copies of resolutions duly adopted by the Board of Directors of Perma-Fix approving and authorizing execution, delivery and performance of the transactions contemplated by this Agreement;

8.2.1.2 Incumbency Certificates for the officers of Perma-Fix.

8.2.2 Representations and Warranties of Perma-Fix to be True. Except to the extent waived hereunder, (i) the representations and warranties of Perma-Fix herein contained shall be true in all material respects at the Closing with the same effect as though made at such time, except for such which do not have a material effect on Perma-Fix and its subsidiaries, taken as a whole; and (ii) Perma-Fix shall have performed all material obligations and complied with all material covenants required by this Agreement to be performed

or complied with by it prior to the Closing. Perma-Fix shall also have delivered to the Stockholders a certificate of Perma-Fix, dated the Closing and signed by its President or a Vice President to both of the aforementioned effects.

8.2.3 No Material Adverse Change. Except as otherwise disclosed in this Agreement or as publicly disclosed to the shareholders of Perma-Fix or contained in the Perma-Fix SEC Filings, there shall not have occurred (i) any material adverse change since December 31, 1999, in the consolidated financial condition of Perma-Fix (it being understood that anything disclosed in any of the financial data furnished by Perma-Fix to the Stockholders pursuant to this Agreement, or in an annual, interim or other report filed by Perma-Fix with the SEC or press releases issued by Perma-Fix (copies of which shall have been furnished to the Stockholders) since December 31, 1999, and prior to the date of this Agreement (copies of which shall have been furnished to M&EC and the Stockholders), shall not constitute such a material adverse change or (ii) any loss or damage to any of the material properties or assets of Perma-Fix which would have a material Adverse Effect on Perma-Fix and its subsidiaries considered as a whole.

8.2.4 Opinion of Counsel of Perma-Fix. The Stockholders shall have received from Conner & Winters, a Professional Corporation, counsel to Perma-Fix, or such other counsel reasonably acceptable to the Stockholders and their counsel, an opinion, dated the Closing Date, with the form and content thereof reasonably satisfactory to M&EC and its counsel.

8.3 **Joint Closing Conditions of Perma-Fix and the Stockholders**.

8.3.1 Series A Preferred Stock Conversion and Elimination. Prior to the Closing Date, all of the issued and outstanding shares of the Series A Preferred Stock shall have been converted

into Common Stock pursuant to the terms of the Series A Preferred Stock and or in a manner satisfactory to Perma-Fix and there shall be no shares of Series A Preferred Stock remaining outstanding at the Closing. M&EC shall have filed the Series A Certificate of Elimination with the Tennessee Secretary of State, which Certificate of Elimination shall be satisfactory to Perma-Fix in its sole discretion and which shall be in effect in its entirety, without alteration or amendment, as of the Closing.

8.3.2 Litigation. Between the date of this Agreement and the Closing, no Governmental Authority, whether federal, state or local, shall have instituted (or threatened to institute, either orally or in writing, directed to the any of the Stockholders, Perma-Fix, M&EC, or any of their subsidiaries or Affiliates) an investigation which is pending on the Closing Date relating to the transactions contemplated by this Agreement and between the date of this Agreement and the Closing Date, no action or proceeding shall have been instituted or, to the knowledge of the Stockholders, Perma-Fix or M&EC, shall have been threatened

before a court or other governmental body or by any public authority to restrain or prohibit the transactions contemplated by this Agreement or to obtain damages in respect thereof.

8.4 **Termination of Agreement and Abandonment of Acquisition**. Except as otherwise provided in Section 9 hereof, this Agreement and the transactions contemplated hereby may be terminated at any time before the Closing, as follows and in no other manner:

8.4.1 Conditions of the Stockholders or M&EC Not Met. By Perma-Fix if, by June 30, 2001, the conditions set forth in Section 8.1 or Section 8.3 of this Article 8 shall not have been met (or waived as provided in Article 9 of this Agreement).

8.4.2 Conditions of Perma-Fix Not Met. By the Stockholders if, by June 30, 2001, the conditions set forth in Section 8.2 or Section 8.3 of this Article 8 shall not have been met (or waived as provided in Article 9 of this Agreement).

8.4.3 Mutual Consent. By the mutual written consent of both Perma-Fix and M&EC

8.5 **Expenses.** Each party shall bear its own out-of-pocket expenses incurred in connection with the transactions contemplated by this Agreement, including, without limitation, all legal, accounting, consulting, brokers, advisory, travel, communications and other similar fees and expenses; provided, however, that any and all such expenses incurred by M&EC or the Stockholders in connection with this Agreement and consummation of the transactions contemplated by this Agreement shall be considered as incurred by the Stockholders and shall be paid by the Stockholders, except Perma-Fix agrees to pay M&EC's counsel an amount not to exceed $15,000 for services rendered in connection with this transaction.

ARTICLE 9

TERMINATION OF OBLIGATIONS AND WAIVER OF CONDITIONS

9.1 **Termination**. In the event that this Agreement shall be terminated pursuant to Section 8.4 hereof, all further obligations of the parties hereto under this Agreement shall terminate without further liability of any party to another and each party hereto will pay its own costs and expenses incident to its negotiation and preparation of this Agreement and to its performance and

compliance with all agreements and conditions contained herein on its part to be performed or complied with, including the fees, expenses and disbursements of its counsel.

9.2 **Waiver**. If any of the conditions specified in Section 8.1 or Section 8.3 of Article 8 hereof has not been satisfied, Perma-Fix may nevertheless at the election of Perma-Fix proceed with the transactions contemplated hereby; and, if any of the conditions specified in Section 8.2 or Section 8.3 of Article 8 hereof has not been satisfied, the Stockholders may nevertheless at the Stockholders' election proceed with the transactions contemplated hereby. Any such election to proceed shall be evidenced by a certificate executed

on behalf of the electing party. Any such waiver shall not be considered as a waiver of any of the other terms and provisions of this Agreement by the electing party.

ARTICLE 10

INDEMNIFICATION AND SURVIVAL OF REPRESENTATIONS AND WARRANTIES

10.1 **Indemnification by the Controlling Stockholders**. The Controlling Stockholders shall, jointly and severally, defend, indemnify and hold harmless each of Perma-Fix, M&EC, and each of their officers, directors, employees, agents, representatives and Affiliates from and against any and all claims, judgments, demands, damages, penalties, fines, losses, orders (judicial or administrative), decrees, liabilities, obligations, costs, claims and expenses (including, without limitation, reasonable attorneys' fees and accountant fees) which any of Perma-Fix, and/or each of their officers, directors, employees, agents, representatives and Affiliates incurs or suffers or may incur or suffer at any time as a result of or in connection with or arising out of (i) any representation or warranty made by any of M&EC and/or such controlling Stockholder in this Agreement or any certificate or other document delivered to Perma-Fix pursuant to this Agreement that is false or misleading; (ii) any breach of or failure to perform any agreements, covenants, promises or obligations of M&EC and/or such controlling Stockholder contained in this Agreement; (iii) any liabilities, obligations or claims arising in any way from any and all federal or state income tax liability or ERISA liability which M&EC may incur or be liable to pay for any reason whatsoever for any and all periods prior to the Closing Date, including, but not limited to, the IRS M&EC Claims, the IRS PDC/MTI Liability, the ERISA M&EC Claims, and the ERISA PDC/MTI Liability, except to such extent PESI has agreed to pay such claims on liabilities in this Agreement; (iv) any and all other liabilities, obligations or claims incurred by M&EC prior to the Closing Date or arising in any way in connection with the business or operations of M&EC prior to the Closing Date and which have not been disclosed to Perma-Fix in writing on or prior to the Closing Date; or (v) any liabilities, obligations or claims brought under CERCLA or RCRA or any analogous state statute for the release or threatened release of any hazardous substances (as defined in CERCLA) or hazardous waste (as defined in RCRA) in which any of the Stockholders or M&EC knew was pending or threatened against M&EC as of the date hereof or at the Closing Date but failed for any reason to disclose such in this Agreement or was, directly or indirectly, caused by or resulted from the knowing or willful violation by the Controlling Stockholders or M&EC on or prior to the Closing Date of CERCLA, RCRA or any analogous state statute.

10.2 **Indemnification by the Stockholders**. The Stockholders shall severally defend, indemnify and hold harmless each of Perma-Fix, M&EC, and each of their officers, directors,

employees, agents, representatives and Affiliates from and against any and all claims, judgments, demands, damages, penalties, fines, losses, orders (judicial or administrative), decrees, liabilities, obligations, costs, claims and expenses (including, without limitation, reasonable attorneys' fees and accountant fees) which any of Perma-Fix, and/or

each of their officers, directors, employees, agents, representatives and Affiliates incurs or suffers or may incur or suffer at any time as a result of or in connection with or arising out of (i) any representation or warranty made by any of such Stockholders in this Agreement or any certificate or other document delivered to Perma-Fix pursuant to this Agreement that is false or misleading; (ii) any breach of or failure to perform any agreements, covenants, promises or obligations of the Stockholders contained in this Agreement.

10.3 **Notice of Claim**. Perma-Fix shall give the Controlling Stockholders or Stockholder, as applicable, a written notice (the "Notice of Claim") within sixty (60) days of the discovery of any matter in respect of which the right to indemnification contained in Article 10 can be claimed. Notwithstanding the foregoing, failure to give such notice will not terminate any obligation of the Controlling Stockholders and/or Stockholders hereunder.

10.4 **Survival of Representations and Remedies**. All representations and warranties contained in this Agreement shall survive the Closing, regardless of the investigation made by either party hereto. This Agreement and all covenants and agreements contained in this Agreement shall survive the Closing.

ARTICLE 11

MISCELLANEOUS

11.1 **Entire Agreement and Amendment**. This Agreement, including the Exhibits and Schedules hereto and thereto, sets forth the entire agreement and understanding between the parties and merges and supersedes all prior discussions, agreements and understandings of every kind and nature among them as to the subject matter hereof, and no party shall be bound by any condition, definition, warranty or representation other than as expressly provided for in this Agreement or as may be on a date on or subsequent to the date hereof duly set forth in writing signed by each party which is to be bound thereby. Unless otherwise expressly defined, terms defined in the Agreement shall have the same meanings when used in any Exhibit or Schedule and terms defined in any Exhibit or Schedule shall have the same meanings when used in the Agreement or in any other Exhibit or Schedule. This Agreement (including the Exhibits and Schedules hereto) shall not be changed, modified or amended except by a writing signed by each party to be charged and this Agreement may not be discharged except by performance in accordance with its terms or by a writing signed by each party to be charged.

11.2 **Taxes**. Any Taxes in the nature of a sales or transfer tax (including any realty transfer tax or realty gains transfer tax), and any stock transfer tax, payable on the consummation of any other transaction contemplated hereby shall be paid by the Stockholders.

11.3 **Governing Law**. This agreement shall be construed in accordance with and governed by the Laws of Tennessee (except that laws of Delaware shall apply as the issuance of Perma-Fix Common Stock), without regard to the principles of conflicts of laws thereof.

11.4 **Benefit of Parties; Assignment**. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and permitted assigns. The Agreement may not be assigned by any of the parties hereto except with the prior written consent of the other parties hereto. Nothing herein contained shall confer or is intended to confer on any third party or entity which is not a party to this Agreement any rights under this Agreement.

11.5 **Pronouns**. Whenever the context requires, the use in this Agreement of a pronoun of any gender shall be deemed to refer also to any other gender, and the use of the singular shall be deemed to refer also to the plural.

11.6 **Headings**. The headings in the sections, paragraphs, Schedules and Exhibits of this Agreement are inserted for convenience of reference only and shall not constitute a part hereof. The words "herein", "hereof", "hereto" and "hereunder", and other words of similar import refer to this Agreement as a whole and not to any particular provision of this Agreement.

11.7 **Notices**. Any notices or other communications required or permitted hereunder shall be sufficiently given if sent by registered mail or certified mail, postage prepaid, addressed:

If to Perma-Fix:
Perma-Fix Environmental Services, Inc.
1940 Northwest 67th Place
Gainesville, Florida 32653
Attention: President

With a copy to:
Irwin H. Steinhorn, Esquire
Conner & Winters
One Leadership Square
211 North Robinson, Suite 1700
Oklahoma City, Oklahoma 73102

If to M&EC (before Closing)
or the Stockholders:
Mr. Joe W. Anderson
East Tennessee Materials and Energy Corporation
109 Jefferson Avenue
Oak Ridge, Tennessee 37830

With a copy to:
William E. Mason, Esquire
William E. Mason, PC
P. O. Box 11181
Knoxville, Tennessee 37939

G. Mark Mamantov, Esquire
Bass, Berry & Sims, PLC
900 South Gay Street
Suite 1700
Knoxville, Tennessee 37902

H. Warren Sanger, Esquire
Bass, Berry & Sims, PLC
900 South Gay Street
Suite 1700
Knoxville, Tennessee 37902

or to such other address as shall be furnished in writing by either party. Any such notice or communication shall be deemed to have been given as of three (3) days after posting, one (1) day after next day delivery service or upon personal delivery.

11.8 **Time**. Time is of the essence of this Agreement.

11.9 **Severability**. Each provision of this Agreement shall be interpreted in such a manner as to be effective and valid under applicable law; but, if any provision of this Agreement is held to be invalid under applicable law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

11.10 **Counterparts**. This 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 hereto and delivered to each of the other parties hereto.

(Balance of page intentionally left blank.)

IN WITNESS WHEREOF, the parties hereto execute this Agreement on the 18th of January, 2001.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/ Louis Centofanti
Name: Dr. Louis F. Centofanti
Title: President

EAST TENNESSEE MATERIALS AND
ENERGY CORPORATION

By: /s/ Joe W. Anderson

Name: Joe W. Anderson
Title: Chairman and Chief Executive Officer

PERFORMANCE DEVELOPMENT CORPORATION

By: /s/ John F. Cox
Name: John F. Cox
Title: President

/s/ Joe W. Anderson
Joe W. Anderson, individually

/s/ Joe W. Anderson (power of attorney)
M. Joy Anderson, individually

/s/ Russell R. Anderson / /s/ Cindy E. Anderson
Russell R. and Cindy E. Anderson, individually

CHARITABLE REMAINDER UNITRUST
OF WILLIAM PAUL COWELL

By: /s/ Kevin Cowell
Name: Kevin Cowell
Title: Trustee

/s/ Joe B. Fincher / /s/ Angela H. Fincher
Joe B. and Angela H. Fincher, individually

KEN-TEN PARTNERS

By: /s/ James C. Powers
Name: James C. Powers
Title: General Partner

/s/ Michael W. Light
Michael W. Light, individually

MANAGEMENT TECHNOLOGIES, INCORPORATED

By: /s/ Joe W. Anderson

Name: Joe W. Anderson
Title: President

M&EC 401(K) PLAN AND TRUST

By : /s/ Ron W. Anderson
Name: Ron W. Anderson
Title: Member M&EC 401K

By : /s/ James C. Powers
Name: James C. Powers
Title: Manager of Business Operations

By : /s/ G. Michael Elliott
Name: G. Michael Elliott
Title: Member

PDC 401(K) PLAN AND TRUST

By: /s/ John Cox
Name: John Cox
Title: Member

By: /s/ James S. Berry
Name: James S. Berry
Title: Member

By: /s/ Jane Longendorfer
Name: Jane Longendorfer
Title: Member

By: /s/ Peter L. Bigarel
Name: Peter L. Bigarel
Title: _____

By: /s/ Jerome J. Figenbach, Jr.
Name: Jerome J. Figenbach, Jr.
Title: Member

By: /s/ Richard L. Parker
Name: Richard L. Parker
Title: Vice President - PDC

By: /s/ Richard W. Schenk
Name: Richard W. Schenk
Title: _____

/s/ Robert N. Parker
Robert N. Parker, individually

/s/ James C. Powers

James C. Powers, individually

RICHARD WILLIAM SCHENK, TRUSTEE
OF THE RICHARD SCHENK TRUST DATED
NOVEMBER 5, 1998,

By: /s/ Richard William Schenk
Name: Richard William Schenk
Title: Trustee

TALAHI PARTNERS

By: /s/ Janet H. Mason, GP
Name: Janet H. Mason
Title: General Partner

HILLIS ENTERPRISES, INC.

By: /s/ Bill J. Hillis
Name: Bill J. Hillis
Title: President

/s/ J. Tom Price
Tom Price, individually

/s/ Virginia Price
Virginia Price, individually

/s/ Thomas John Abraham, Jr.
Thomas John Abraham, Jr., individually

/s/ Donna Ferguson Abraham
Donna Ferguson Abraham, Jr., individually

/s/ Bill J. Hillis
Bill J. Hillis, individually

LOAN AND SECURITY AGREEMENT

between

PERMA-FIX ENVIRONMENTAL SERVICES, INC.,

as Borrower,

and

BHC INTERIM FUNDING, L.P.,

as Lender.

Dated as of January 31, 2001

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EXHIBITS

SCHEDULES

Execution Copy

LOAN and SECURITY AGREEMENT

This LOAN AND SECURITY AGREEMENT is dated as of January 31, 2001, and entered into by and between PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (hereinafter

the "Borrower"), with its principal place of business at 1940 N.W. 67th Place, Gainesville, FL 32653, and BHC INTERIM FUNDING, L.P., a Delaware limited partnership (hereinafter "Lender"), with offices at 444 Madison Avenue, New York, New York 10022.

RECITALS

WHEREAS, Borrower seeks additional working capital; and

WHEREAS, Borrower has requested Lender to assist Borrower by loaning a sum of money for the purpose of increasing Borrower's working capital; and

WHEREAS, Borrower desires to secure its obligations under the Loan Documents (as defined in Section 1 hereof) inter alia by granting to Lender a security interest in and lien upon Borrower's property; and

WHEREAS, Borrower has agreed to sell to Lender warrants to purchase common stock of the Borrower (the "Warrants");

NOW, THEREFORE, in consideration of the premises and the agreements, provisions and covenants herein contained, Borrower and Lender agree as follows:

SECTION 1 DEFINITIONS

1.1 Certain Defined Terms. The following terms used in this Agreement shall have the following meanings:

"Accounts" means all accounts (as defined in the UCC), contract rights, instruments (including those evidencing indebtedness owed to Borrower by its Affiliates), documents, chattel paper, general intangibles relating to accounts, drafts and acceptances, and all other forms of obligations owing to Borrower arising out of or in connection with the sale or lease of Inventory or the rendition of services pursuant to term contracts or otherwise, all guarantees and other security therefor, whether secured or unsecured, now existing or hereafter created, and whether or not specifically sold or assigned to Lender hereunder, and the cash or non-cash proceeds (as defined in the UCC) of any and all of the foregoing.

"Affiliate" means any Person (other than Lender): (a) directly or indirectly controlling, controlled by, or under common control with any Loan Party; (b) directly or indirectly owning or holding fifteen percent (15%) or more of any equity interest in Borrower; or (c) fifteen percent (15%) or more of whose voting stock or other equity interest having ordinary voting power for the election of directors or the power to direct or cause the direction of management, is directly or indirectly owned or held by Borrower; or (d) which has a senior executive officer or director of such Person who is also a senior executive officer of Borrower. For purposes of this definition, "control" (including with correlative meanings, the terms "controlling", "controlled by" and "under common control with") means the possession directly or indirectly of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities or other equity interest, or by contract or otherwise.

"Agreement" means this Loan and Security Agreement as it may be amended, restated supplemented or otherwise modified from time to time.

"Asset Disposition" means the disposition, whether by sale, lease, transfer, loss, damage, destruction, condemnation or otherwise, of any or all of the assets of Borrower or any of its Subsidiaries other than sales of Inventory in the ordinary course of business or dispositions of obsolete equipment in the ordinary course of business.

"Borrower" has the meaning assigned to that term in the preamble to this Agreement.

"Business Day" means any day excluding Saturday, Sunday and any day which is a legal holiday under the laws of the State of New York, or is a day on which banking institutions located in such state are closed.

"Cash Equivalents" means: (a) marketable direct obligations issued or unconditionally guaranteed by the United States Government or issued by any agency thereof and backed by the full faith and credit of the United States, in each case maturing within six (6) months from the date of acquisition thereof; (b) commercial paper maturing no more than six (6) months from the date issued and, at the time of acquisition, having a rating of at least A-1 from Standard & Poor's Corporation or at least P-1 from Moody's Investors Service, Inc.; and (c) certificates of deposit or bankers' acceptances maturing within six (6) months from the date of issuance thereof issued by, or overnight reverse repurchase agreements from, any commercial bank organized under the laws of the United States of America or any state thereof or the District of Columbia having combined capital and surplus of not less than Two Hundred Fifty Million Dollars ($250,000,000) and not subject to setoff rights in favor of such bank.

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. Sections 9601, et seq., as amended from time to time.

"Closing Date" means as of January 31, 2001.

"Collateral" has the meaning assigned to that term in subsection 2.5.

"Consents" shall mean all filings and all licenses, permits, consents, approvals authorizations, qualifications and orders of governmental authorities and other third parties, domestic or foreign, necessary to carry on Borrower's business, including, without limitation, any Consents required under all applicable federal, state or other applicable law.

"Default" means a condition, act or event that, after notice or lapse of time or both, would constitute an Event of Default if that condition or event were not cured or removed within any applicable grace or cure period.

"Default Rate" has the meaning assigned to that term in subsection 2.2(A)(ii).

"EBITDA" means earnings before interest, taxes, depreciation and amortization calculated in accordance with GAAP.

"Employee Benefit Plan" means any employee benefit plan within the meaning of Section 3(3) of ERISA which (a) is maintained for employees of Borrower or any ERISA Affiliate or (b) has at any time within the preceding six (6) years been maintained for the employees of Borrower or any current or former ERISA Affiliate.

"Environmental Claims" means claims, liabilities, investigations, litigation, administrative proceedings, judgments or orders relating to Hazardous Substances.

"Environmental Complaint" has the meaning assigned to that term in subsection 5.17(D).

"Environmental Laws" means (a) all federal, state and local environmental, zoning, health, chemical use, safety and sanitation laws, statutes, ordinances and codes relating to the protection of the environment, health and safety and/or governing the use, storage, treatment, generation, transportation, processing, handling, production or disposal of Hazardous Substances, (b) the rules, regulations, policies, guidelines, interpretations, decisions, orders and directives of federal, state and local governmental agencies and authorities with respect thereto and (c) any common law or equitable doctrine that may impose liability or obligations for injuries or damages due to, or threatened as a result of, the presence of or exposure to any Hazardous Substances.

"Equipment" means all equipment (as defined in the UCC), including, without limitation, all furniture, furnishings, fixtures, machinery, motor vehicles, trucks, trailers, vessels, aircraft and rolling stock and all parts thereof and all additions and accessions thereto and replacements therefor.

"ERISA" means the Employee Retirement Income Security Act of 1974, as amended from time to time, and any successor statute and all rules and regulations promulgated thereunder.

"ERISA Affiliate", as applied to Borrower, means any Person who is a member of a group which is under common control with Borrower, who together with Borrower is treated as a single employer within the meaning of Section 414(b) and (c) of the IRC.

"Event of Default" means each of the events set forth in subsection 7.1.

"Excess Interest" has the meaning assigned to that term in subsection 2.2(C).

"Fiscal Year" means each twelve month period ending on the last day of December in each year.

"Fixed Charge Coverage Ratio" shall have the meaning assigned to it in the PNC Loan Agreement.

"GAAP" means generally accepted accounting principles set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board that are applicable to the circumstances as of the date of determination.

"Hazardous Discharge" has the meaning assigned to that term in subsection 5.17(D).

"Hazardous Substance" means, without limitation, any flammable explosives, radon, radioactive materials, asbestos, urea formaldehyde foam insulation, polychlorinated biphenyls, petroleum and petroleum products, methane, hazardous materials, Hazardous Wastes, hazardous or Toxic Substances or hazardous

substances as defined in CERCLA, the Hazardous Materials Transportation Act, as amended (49 U.S.C. Sections 1801, et seq.), RCRA, the Clean Water Act, as amended (33 U.S.C. Sections 1251 et seq.), and in the regulations adopted pursuant thereto or any other applicable Environmental Law.

"Hazardous Wastes" means all waste materials subject to regulation under CERCLA, RCRA, and any other applicable Federal and state laws now in force or hereafter enacted relating to hazardous or radioactive waste handling, transportation, recycling, treatment, storage and/or disposal.

"Indebtedness", as applied to any Person, means without duplication: (a) all indebtedness for borrowed money; (b) obligations under leases which in accordance with GAAP constitute capital leases; (c) notes payable and drafts accepted representing extensions of credit whether or not representing obligations for borrowed money; (d) any obligation owed for all or any part of the deferred purchase price of property or services if the purchase price is due more than twelve months from the date the obligation is incurred or is evidenced by a note or similar written instrument; and (e) all indebtedness secured by any Lien on any property or asset owned or held by that Person regardless of whether the indebtedness secured thereby shall have been assumed by that Person or is non recourse to the credit of that Person.

"Intangible Assets" means all intangible assets (determined in conformity with GAAP) including, without limitation, goodwill, Intellectual Property, licenses, organizational costs, deferred amounts, covenants not to compete, unearned income and restricted funds.

"Intellectual Property" means all present and future designs, patents, patent rights and applications therefor, trademarks and registrations or applications therefor, trade names, inventions, copyrights and all applications and registrations therefor, software or computer programs, license rights, trade secrets, methods, processes, know-how, drawings, specifications, descriptions, and all memoranda, notes and records with respect to any research and development, whether now owned or hereafter acquired, all goodwill associated with any of the foregoing, and proceeds of all of the foregoing, including, without limitation, proceeds of insurance policies thereon.

"Intercreditor Agreement" means the Intercreditor agreement between Lender and Senior Creditor dated as of January 31, 2001.

"Interest Expenses" means, without duplication, for any period, the following, for Borrower and its Subsidiaries each calculated for such period: interest expenses deducted in the determination of net income (excluding: (i) the amortization of fees and costs with respect to the transactions contemplated by this Agreement which have been capitalized as transaction costs in accordance with the provisions of subsection 1.2; and (ii) interest paid in kind).

"Inventory" means all inventory (as defined in the UCC) including, without limitation, finished goods, raw materials, work in process and other materials and supplies used or consumed in a Person's business, and goods which are returned or repossessed.

"IRC" means the Internal Revenue Code of 1986, as amended from time to time, and any successor statute and all rules and regulations promulgated thereunder.

"Lender" means BHC Interim Funding, L.P. together with its successors and permitted assigns pursuant to subsection 9.1.

"Liabilities" shall have the meaning given that term in accordance with GAAP and shall include Indebtedness.

"Lien" means any lien, mortgage, pledge, security interest, charge or encumbrance of any kind, whether voluntary or involuntary, (including any conditional sale or other title retention agreement, any lease in the nature thereof, and any agreement to give any security interest).

"Loan Documents" means this Agreement, the Term Note, the Intercreditor Agreement and all other instruments, documents and agreements executed by or on behalf of Borrower and delivered concurrently herewith or at any time hereafter to or for Lender in connection with the Term Loan, and the other transactions contemplated by this Agreement, all as amended, restated, supplemented or modified from time to time.

"Loan Party" means Borrower, each of Borrower's Subsidiaries, and any other Person (other than Lender) which is or becomes a party to any Loan Document.

"Material Adverse Effect" means a material adverse effect upon (a) the business, operations, projections, properties, assets or condition (financial or otherwise) of Borrower and its Subsidiaries taken as a whole or (b) the ability of the Loan Parties on a consolidated basis to perform their material obligations under any Loan Document to which any of them is a party or (c) Lender's ability to enforce or collect any of the Obligations.

"Maturity Date" means March 31, 2002.

"Maximum Rate" has the meaning assigned to that term in subsection 2.2(C).

"Obligations" means all obligations, liabilities and indebtedness of every nature of each Loan Party from time to time owed to Lender under the Loan Documents including the principal amount of the Term Loan, all debts, claims and indebtedness (whether incurred before or after the Termination Date), accrued and unpaid interest and all fees, costs and expenses, whether primary, secondary, direct, contingent, fixed or otherwise, heretofore, now and/or from time to time hereafter owing, due or payable including, without limitation, all interest, fees, costs and expenses accrued or incurred after the filing of any petition under any bankruptcy or insolvency law.

"Permitted Encumbrances" means (a) Liens in favor of Lender; (b) Liens for taxes, assessments or other governmental charges not delinquent or being contested in good faith and by appropriate proceedings and with respect to which proper reserves have been taken by the Borrower; provided that, the Lien shall have no effect on the priority of the Liens in favor of Lender and provided that such Lien does not have a Material Adverse Effect; (c) Liens disclosed in Schedule 1.1(B); (d) deposits or pledges to secure obligations under Worker's Compensation, Social Security or similar laws, or under unemployment insurance; (e) deposits or pledges to secure bids, tenders, contracts (other than contracts for the payment of money), leases, statutory obligations, surety and appeal bonds and other obligations of like nature arising in the ordinary course of the Borrower's business; (f) judgment Liens that have been stayed or bonded and mechanics', workers', materialmen's or other like Liens arising in the ordinary course of the Borrower's business with respect to obligations that are not overdue more than 30 days or that are being contested in good faith by the Borrower; (g) Liens placed upon fixed assets hereafter acquired to secure a portion of the purchase price thereof; provided that (x) any such Lien shall not encumber any other property of the Borrower and (y) the aggregate amount of Indebtedness

secured by such Liens incurred as a result of such purchases during any fiscal year shall not exceed the amount provided for in Section 7.6 of the PNC Loan Agreement; (h) other Liens incidental to the conduct of Borrower's business or the ownership of its property that were not incurred in connection with the borrowing of money or the obtaining of advances or credit, and that do not in the aggregate materially detract from Lender's rights in and to the Collateral or the value of Borrower's property or that do not materially impair the use thereof in the operation of Borrower's business; (i) existing Liens of a person merged into or with Borrower; (j) Liens arising from precautionary filings regarding operating leases

entered into by Borrower in the ordinary course of business; (k) purchase money security interests (including capital leases); (l) Liens to the Senior Creditor; (i) Liens to the Thomas P. Sullivan Living Trust, dated September 6, 1978 or the Ann L. Sullivan Living Trust, dated September 6, 1978; (m) Liens for any Leases that in accordance with GAAP should be capitalized on the balance sheet of the lessee thereunder; (n) Liens disclosed in the financial statements referred to in Schedule 1.1(A); and (o) Liens placed upon fixed assets hereafter acquired to secure a portion of the purchase price thereof which do not encumber any other property of the Borrower.

"Person" means and includes natural persons, corporations, limited partnerships, general partnerships, limited liability companies, joint stock companies, joint ventures, associations, companies, trusts, banks, trust companies, land trusts, business trusts or other organizations, whether or not legal entities, and governments and agencies and political subdivisions thereof.

"PNC" means PNC Bank, National Association, as Lender, Issuing Bank and Agent under, and as defined in the Revolving Credit, Term Loan and Security Agreement, between PNC and Borrower, dated December 22, 2000.

"PNC Loan Agreement" means the Revolving Credit, Term Loan and Security Agreement, between PNC and Borrower, dated December 22, 2000, as in effect on the date hereof.

"Pro Forma" means the unaudited consolidated and consolidating balance sheet of Borrower as of the Closing Date after giving effect to the transactions contemplated by this Agreement. The Pro Forma and the consolidated and consolidating balance sheet of Borrower as of the Closing Date are annexed hereto as Schedule 1.1(B).

"Proposed Transferee" means a person or group of persons, as defined in Section 13(d)(3) of the Securities Exchange Act of 1934, as amended to whom Common Stock is proposed to be transferred.

"RBB" means RBB Aktiengesellschaft, an Austrian bank.

"RBB Notes" means (i) the note (as amended) issued and delivered by Borrower to RBB in the principal amount of $3,000,000 on August 29, 2000 and (ii) the note (as amended) issued and delivered by Chem-Met Services, Inc., a Michigan corporation, to RBB in the principal amount of $750,000, on July 14, 2000.

"RCRA" means the Resource Conservation and Recovery Act, 42 USC Section 6901 et

seq., as the same may be amended from time to time.

"Real Property" shall mean all of the Borrower's and it's Subsidiaries' owned, operated or leased property identified on Schedule 1.1(C).

"Release" has the meaning assigned to that term in subsection 4.15(C).

"Restricted Junior Payment" means: (a) any dividend or other distribution, direct or indirect, on account of any shares of any class of stock of Borrower or any of its Subsidiaries now or hereafter outstanding, except a dividend payable solely with shares of the class of stock on which such dividend is declared, or a dividend paid to Borrower by a wholly-owned Subsidiary of Borrower; (b) any payment or prepayment of principal of, premium, if any, or interest on, or any redemption, conversion, exchange, retirement, defeasance, sinking fund or similar payment, purchase or other acquisition for value, direct or indirect, of any Subordinated Debt or any shares of any class of stock of Borrower or any of its Subsidiaries now or hereafter outstanding, or the issuance of a notice of an intention to do any of the foregoing; (c) any payment made to retire, or to obtain the surrender of, any outstanding warrants, options or other rights to acquire shares of any class of stock of Borrower or any of its Subsidiaries now or hereafter outstanding; and (d) any payment by Borrower or any of its Subsidiaries of any management, consulting or similar fees to any Affiliate, whether pursuant to a management agreement or otherwise, except for bona fide and reasonable compensation for services actually rendered.

"Senior Creditor" means PNC.

"Subordinated Debt" means any Indebtedness of Borrower or any of its Subsidiaries, with respect to which the right of the holder of such Indebtedness to receive any payments thereon is subordinated to the prior right of the holder to receive payment in full of all Obligations as required pursuant to a subordination agreement between the Lender and such holder.

"Subsidiary" means, with respect to any Person, any corporation, association or other business entity of which more than fifty percent (50%) of the total voting power of shares of stock (or equivalent ownership or controlling interest) entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof is at the time owned or controlled, directly or indirectly, by that Person or one or more of the other subsidiaries of that Person or a combination thereof.

"Term Loan" means the unpaid balance of the term loan made pursuant to subsection 2.1.

"Term Note" means the Subordinated Secured Term Note of Borrower in a form reasonably acceptable to Lender, issued pursuant to subsection 2.1.

"Toxic Substance"means and includes any material that has been shown to have significant adverse effect on human health or that is subject to regulation under the Toxic Substances Control Act (TSCA), 15 U.S.C. Sections 2601 et seq., applicable state law, or any other applicable Federal or state laws now in force or hereafter enacted relating to toxic substances. "Toxic Substance" includes but is not limited to asbestos, polychlorinated biphenyls (PCBs) and lead-based paints.

"UCC" means the Uniform Commercial Code as in effect on the date hereof in the State of New York, as amended from time to time, and any successor statute.

"Warrants" means the warrants to be issued and delivered by Borrower to Lender in the form of Exhibit A hereto.

1.2 Accounting Terms. For purposes of this Agreement, all accounting terms not otherwise defined herein shall have the meanings assigned to such terms in conformity with GAAP. Financial statements and other information furnished to Lender pursuant to subsection 5.1 shall be prepared in accordance with GAAP (as in effect at the time of such preparation) on a consistent basis.

1.3 Other Definitional Provisions. References to "Sections", "subsections", "Exhibits" and "Schedules" shall be to Sections, subsections, Exhibits and Schedules, respectively, of this Agreement unless otherwise specifically provided. Any of the terms defined in subsection 1.1 may, unless the context otherwise requires, be used in the singular or the plural depending on the reference. In this Agreement, words importing any gender include the other genders; the words "including," "includes" and "include" shall be deemed to be followed by the words "without limitation"; references to agreements and other contractual instruments shall be deemed to include subsequent amendments, assignments, and other modifications thereto, but only to the extent such amendments, assignments and other modifications are not prohibited by the terms of this Agreement or any other Loan Document; references to Persons include their respective permitted successors and assigns or, in the case of governmental Persons, Persons succeeding to the relevant functions of such Persons; and all references to statutes and related regulations shall include any amendments of same and any successor statutes and regulations.

SECTION 2 TERM LOAN AND COLLATERAL

2.1 Term Loan. Subject to the terms and conditions of this Agreement and in reliance upon the representations and warranties of Borrower set forth herein and in the other Loan Documents, Lender agrees to lend to Borrower, on the Closing Date, a Term Loan in the original principal amount of Six Million Dollars ($6,000,000). The Term Loan shall be funded as follows:

(A) $3,500,000 (Three Million Five Hundred Thousand Dollars) on the Closing Date, and

(B) $2,500,000 (Two Million Five Hundred Thousand Dollars) if, as, and when, Lender in its sole and absolute discretion, agrees to advance such sum, or part thereof, nothing herein contained obligating Lender to make such advance(s).

Amounts borrowed under this subsection 2.1 and repaid, may not be reborrowed without Lender's written consent. The Term Loan shall be repaid on March 31, 2002 (the "Maturity Date"). On the Closing Date, Borrower shall execute and deliver to Lender, with appropriate insertions, a Term Note to evidence the Term Loan.

2.2 Interest.

(A) Rate of Interest.

(i) The Term Loan and all other Obligations shall bear interest from the Closing Date to, and including the Maturity Date, at the rate of thirteen and three-quarter percent (13.75%) per annum.

(ii) After the occurrence and during the continuance of an Event of Default, at Lender's option, the Term Loan and all other Obligations shall bear interest at a rate per annum equal to eighteen percent (18%) (the "Default Rate").

(B) Computation and Payment of Interest. Interest on the Term Loan and all other Obligations shall be computed on the daily principal balance on the basis of a 360 day year for the actual number of days elapsed in the period during which it accrues. In computing interest on any Loan, the date of funding of the Loan shall be included and the date of payment of such Loan shall be excluded. Interest on the Term Loan and all other Obligations shall be payable to Lender monthly in arrears on the first day of each month by automatic wire transfer to Lender's bank account, and on the date of any prepayment of Loans, and at maturity, whether by acceleration or otherwise. As of the Closing Date, the amount of each monthly installment of interest shall equal Forty Thousand One Hundred Four and 17/100 ($40,104.17), which amount is subject to change (i) in the event of any prepayment of principal of the Term Loan or the addition to the unpaid principal balance of the Term Loan of any other Obligations, (ii) in the event Lender makes the advance(s) contemplated by Section 2.1(B), and (iii) under the circumstances set forth in Section 2.2(A)(ii) hereof.

(C) Interest Laws. Notwithstanding any provision to the contrary contained in this Agreement or any other Loan Document, Borrower shall not be required to pay, and Lender shall not be permitted to collect, any amount of interest in excess of the maximum amount of interest permitted by applicable law ("Excess Interest"). If any Excess Interest is provided for or determined by a court of competent jurisdiction to have been provided for in this Agreement or in any other Loan Document, then in such event: (1) the provisions of this subsection shall govern and control; (2) neither Borrower nor any other Loan Party shall be obligated to pay any Excess Interest; (3) any Excess Interest that Lender may have received hereunder shall be, at Lender's option, (a) applied as a credit against the outstanding principal balance of the Obligations or accrued and unpaid interest (not to exceed the maximum amount permitted by law), (b) refunded to the payer thereof, or (c) any combination of the foregoing; (4) the interest rate(s) provided for herein shall be automatically reduced to the maximum lawful rate allowed from time to time under applicable law (the "Maximum Rate"), and this Agreement and the other Loan Documents shall be deemed to have been and shall be, reformed and modified to reflect such reduction; and (5) neither Borrower nor any Loan Party shall have any action against Lender for any damages arising out of the payment or collection of any Excess Interest. Notwithstanding the foregoing, if for any period of time interest on any Obligations is calculated at the Maximum Rate rather than the applicable rate under this Agreement,

and thereafter such applicable rate becomes less than the Maximum Rate, the rate of interest payable on such Obligations shall remain at the Maximum Rate until Lender shall have received the amount of interest which Lender would have received during such period on such Obligations had the rate of interest not been limited to the Maximum Rate during such period.

2.3 Fees.

(A) Transaction Fee. Subject to subsection 2.3(D), Borrower shall pay to Lender on the Closing Date a transaction fee in the amount of Two Hundred Twenty-Five Thousand Dollars ($225,000) less the sum of Thirty-Five Thousand Dollars ($35,000) previously paid to Lender.

(B) Non Payment Fee. Subject and in addition to the payment required in subsection 2.3(C), Borrower shall pay to Lender, on demand, a fee of Three Hundred Thousand Dollars ($300,000) if the Obligations have not been repaid in full on or before the Maturity Date.

(C) Termination Fee. Subject and in addition to the payment required by subsection 2.3(B), if applicable, if the Obligations are indefeasibly paid in full and satisfied by the dates set forth below, Borrower shall, together with the payment of the Obligations, pay Lender a non-cumulative fee as follows:

Date of Repayment of Obligations	**Fee**
By July 31, 2001	$ 85,714
By August 31, 2001	$ 104,672
By September 30, 2001	$ 123,810
By October 31, 2001	$ 142,857
By November 30, 2001	$ 190,476
By December 31, 2001	$ 238,095
By January 31, 2001	$ 285,714
By February 28, 2002	$ 333,486
By March 31, 2002 and thereafter	$ 381,257

(D) Pro Rata Decrease. Notwithstanding the provisions of subsections 2.3(A), 2.3(B) and 2.3(C), the amounts payable by Borrower pursuant to such subsections shall be decreased pro rata if the amount of the Term Loan advanced by Lender to Borrower is below $6,000,000 (Six Million Dollars). By

way of example, if the amount of the Term Loan advanced aggregates $3,000,000, then the amounts payable pursuant to subsections 2.3(A), 2.3(B) and 2.3(C) shall each be reduced by $3,000,000/$6,000,000, i.e. by 50%.

(E) Right of First Refusal. Borrower shall be obliged, as long as the Term Loan is outstanding and $2,500,000 thereof has not yet been advanced by Lender, to apply to Lender for any loan facility it needs up to $2,500,000 and Lender shall be entitled, but not obliged to make such loan to Borrower on the terms and conditions set forth in this Loan Agreement against such security as Borrower may require; provided, that if Lender has not funded such loan within fifteen (15) days after Borrower's request,

Borrower will be entitled to obtain such loan from another financial institution.

(F) Other Fees and Expenses. Borrower shall pay to Lender, for its own account, all charges for returned items and all other bank charges incurred by Lender, as well as wire transfer charges incurred by Lender for each wire transfer made under this Agreement.

2.4 Payments and Prepayments.

(A) Manner and Time of Payment. All payments made by Borrower with respect to the Obligations shall be made without deduction, defense, setoff or counterclaim.

(B) Payments on Business Days. Whenever any payment to be made hereunder shall be stated to be due on a day that is not a Business Day, the payment may be made on the next succeeding Business Day and such extension of time shall be included in the computation of the amount of interest or fees due hereunder.

(C) Voluntary Prepayment. Subject to Section 2.3(C), Borrower shall have the right to prepay, without premium or penalty, at any time or times after the date hereof, all or any portion of the outstanding Term Loan, with interest to date of payment.

(D) Mandatory Repayment. Subject to the terms and conditions of the Intercreditor Agreement and the PNC Loan Agreement, in the event Borrower (i) or any of its Subsidiaries procures any financing from any source, whether in the form of debt or equity, or (ii) sells any of its assets, or the assets of any of its Subsidiaries are sold, out of the ordinary course of business, or (iii) sells any of its capital stock or that of any of its Subsidiaries, the proceeds in excess of One Million Dollars ($1,000,000) shall be paid by Borrower or any of its Subsidiaries to Lender to repay or reduce the Term Loan, in whole or in part. All payments shall first be applied to accrued interest and then to the outstanding principal balance of the Obligations.

2.5 Grant of Security Interest. To secure the payment and performance of the Obligations, including all renewals, extensions, restructurings and refinancings of any or all of the Obligations, Borrower hereby grants to Lender a continuing Lien in and to all right, title and interest of Borrower in the following property of Borrower, whether now owned or existing or hereafter acquired or arising and regardless of where located, provided, however, only with respect to the property of Borrower which is subject to the Permitted

Encumbrances and the security interests and liens of Senior Creditor, Borrower grants to Lender under thisparagraph a subordinate security interest in the following (all being collectively referred to as the "Collateral"), subject to Permitted Encumbrances: (A) Accounts, and all guaranties and security therefor, and all goods and rights represented thereby or arising therefrom including the rights of stoppage in transit, replevin and reclamation; (B) Inventory; (C) general intangibles (as defined in the UCC); (D) documents (as defined in the UCC) or other receipts covering, evidencing or representing goods; (E) instruments (as defined in the UCC); (F) chattel paper (as defined in the UCC); (G) Equipment (other than leased equipment); (H) Intellectual Property; (I) all deposit accounts of Borrower maintained with any bank or financial institution; (J) all cash and other monies and property of Borrower in the possession or under the control of Lender; (K) all books, records, ledger cards, files, correspondence, computer programs, tapes, disks and related data processing software that at any time evidence or contain information relating to any of the property described above or are otherwise necessary or helpful in the collection thereof or

realization thereon; and (L) proceeds of all or any of the property described above, including, without limitation, the proceeds of any insurance policies covering any of the above described property.

2.6 Preservation of Collateral and Perfection of Security Interests Therein. Borrower shall, at Lender's reasonable request, at any time and from time to time, execute and deliver to Lender such financing statements, documents and other agreements and instruments (and pay the cost of filing or recording the same in all public offices deemed reasonably necessary or desirable by Lender) and do such other acts and things as Lender may deem necessary or desirable in order to establish and maintain a valid, attached and perfected security interest in the Collateral in favor of Lender (free and clear of all other liens, claims and rights of third parties whatsoever, whether voluntarily or involuntarily created, except Permitted Encumbrances) to secure payment of the Obligations, and in order to facilitate the collection of the Collateral. Borrower irrevocably hereby makes, constitutes and appoints Lender (and all Persons designated by Lender for that purpose) as Borrower's true and lawful attorney and agent-in-fact to execute such financing statements, documents and other agreements and instruments and do such other acts and things as may be reasonably necessary to preserve and perfect Lender's security interest in the Collateral. Borrower further agrees that a carbon, photographic, photostatic or other reproduction of this Agreement or of a financing statement shall be sufficient as a financing statement.

2.7 Possession of Collateral and Related Matters. Until an Event of Default has occurred and is continuing, Borrower shall have the right, except as otherwise provided in this Agreement, in the ordinary course of Borrower' business, to sell, lease or furnish under contracts of service any of Borrower's Inventory normally held by Borrower for any such purpose, provided, however, that a sale in the ordinary course of business shall not include any transfer or sale in satisfaction, partial or complete, of a debt owed by Borrower.

2.8 Release of Security Interests. Upon payment of the Obligations, Lender shall release all liens and security interests granted by Borrower and its Subsidiaries by execution and delivery of appropriate documentation including, but not limited to, UCC-3 terminations.

SECTION 3 CONDITIONS TO TERM LOAN

3.1 Conditions to Term Loan. The obligation of Lender to make the Term Loan on the Closing Date is subject to satisfaction of all of the conditions set forth below.

(A) Closing Deliveries. Lender shall have received, in form and substance satisfactory to Lender, all documents, instruments and information identified on Schedule 3.1(A) and all other agreements, notes, certificates, orders, authorizations, financing statements, mortgages and other documents which Lender may at any time reasonably request.

(B) Security Interests. Lender shall have received satisfactory evidence that all security interests and liens granted to Lender pursuant to this Agreement or the other Loan Documents have been duly perfected and constitute liens on the Collateral, subject only to Permitted Encumbrances.

(C) Representations and Warranties. The representations and warranties contained

herein and in the Loan Documents shall be true, correct and complete in all material respects on and as of the Closing Date to the same extent as though made on and as of that date, except for any representation or warranty limited by its terms to a specific date.

(D) Fees. Borrower shall have paid the fee payable on the Closing Date referred to in subsection 2.3(A), subject to the provisions of subsection 2.3(D).

(E) No Default. No event shall have occurred and be continuing or would result from the consummation of the requested borrowing that would constitute an Event of Default or a Default.

(F) Performance of Agreements. Each Loan Party shall have performed in all material respects all agreements and satisfied all conditions which any Loan Document provides shall be performed by it on or before the Closing Date.

(G) No Prohibition. No order, judgment or decree of any court, arbitrator or governmental authority shall purport to enjoin or restrain Lender from making the Term Loan.

(H) No Litigation. There shall not be pending or, to the knowledge of Borrower, threatened, any action, charge, claim, demand, suit, proceeding, petition, governmental investigation or arbitration by, against or affecting Borrower or any of its Subsidiaries or any property of Borrower or any of its Subsidiaries that has not been disclosed by Borrower in writing, and there shall have occurred no development in any such action, charge, claim, demand, suit, proceeding, petition, governmental investigation or arbitration that, in the opinion of Lender, would have a Material Adverse Effect.

(I) Warrants. Lender shall have issued and delivered to the Lender the certificate with respect to the Warrants in the form of Exhibit A.

(J) Intercreditor Agreement. Lender, Borrower and Senior Creditor shall have entered into a written agreement on terms and conditions acceptable to Lender.

SECTION 4 BORROWER'S REPRESENTATIONS AND WARRANTIES

To induce Lender to enter into this Agreement, and to make the Term Loan, Borrower represents and warrants to Lender as of the date of this Agreement and as of the Closing Date, that the following statements are true, correct and complete. Such representations and warranties, and all other representations and warranties made by the Borrower, shall survive the execution and delivery of this Agreement and the closing contemplated hereby.

4.1 Organization, Powers, Capitalization.

(A) Organization and Powers. Borrower and each of its Subsidiaries is a corporation duly organized, validly existing, and in good standing under the laws of its jurisdiction of incorporation and qualified to do business in all states where such qualification is required, except where failure to be so

qualified could not be reasonably expected to have a Material Adverse Effect. Borrower and each of its Subsidiaries have all requisite corporate power and authority to own and operate its properties, to carry on its business as now conducted and proposed to be conducted and to enter into each Loan Document.

(B) Capitalization. The authorized capital stock of Borrower and each of its Subsidiaries is as set forth on Schedule 4.1(B). All issued and outstanding shares of capital stock of Borrower and each of its Subsidiaries are duly authorized and validly issued, fully paid, nonassessable, free and clear of all Liens other than those in favor of Lender and Senior Creditor, and to its knowledge, such shares were issued in compliance with all applicable state and federal laws concerning the issuance of securities. No shares of the capital stock of Borrower and each of its Subsidiaries, other than those described above, are issued and outstanding. There are no preemptive or other outstanding rights, options, warrants, conversion rights or similar agreements or understandings for the purchase or acquisition from Borrower and each of its Subsidiaries, of any shares of capital stock or other securities of any such entity except as set forth on Schedule 4.1(B).

4.2 Authorization of Borrowing, No Conflict. Borrower has the corporate power and authority to incur the Obligations and to grant security interests in the Collateral. On the Closing Date, the execution, delivery and performance of the Loan Documents by Borrower and each of its Subsidiaries signatory thereto will have been duly authorized by all necessary corporate and shareholder action. The execution, delivery and performance by Borrower and each of its Subsidiaries of each Loan Document to which it is a party and the consummation of the transactions contemplated by this Agreement and the other Loan Documents by

Borrower and each of its Subsidiaries do not contravene and will not be in contravention of any applicable law which would have a Material Adverse Effect, the corporate charter or bylaws of Borrower and each of its Subsidiaries or any agreement or order by which they or any of their property is bound, the effect of which would have a Material Adverse Effect. This Agreement is, and the other Loan Documents, including the Term Note, when executed and delivered, will be the legally valid and binding obligations of Borrower and its Subsidiaries (to the extent a party thereto), each enforceable against the Borrower and its Subsidiaries (to the extent a party thereto), as applicable, in accordance with its respective terms, except as such enforceability may be limited by any applicable bankruptcy, insolvency, moratorium, fraudulent transfer or conveyance or similar laws affecting creditor's rights generally and limits imposed by equitable principles.

4.3 Financial Condition. All financial statements concerning Borrower which have been or will hereafter be furnished by Borrower to Lender pursuant to this Agreement have been or will be prepared in accordance with GAAP consistently applied throughout the periods involved (except as disclosed therein); do or will present fairly the financial condition of the corporations covered thereby as at the dates thereof and the results of their operations for the periods then ended, and do and will accurately reflect the financial condition of Borrower, and there has been no event or development which has had, or is reasonably likely to have a Material Adverse Effect.

4.4 Indebtedness and Liabilities. As of the Closing Date, neither Borrower nor any of its Subsidiaries has (a) any Indebtedness except as reflected on the Pro Forma and the most recent financial statements delivered to Lender and the notes thereto; or (b) any Liabilities other than as reflected on the Pro Forma, the most recent financial statements delivered to Lender, and the notes thereto, as incurred in the ordinary course of business following the date of the most recent financial statements delivered to Lender, or as set forth in Schedule 4.4 hereto or as disclosed in or excepted from subsection 6.1.

4.5 Account Warranties. Borrower represents, warrants and covenants as to each Account arising from the sale of Inventory or from services rendered, that, at the time of its creation, the Account is a valid, bona fide account; there are no setoffs, offsets or counterclaims, genuine or otherwise, against the Account (other than customary prompt payment discounts and Borrower' standard warranty policies); the Account does not represent a sale to an Affiliate or a consignment, sale or return or a bill and hold transaction; no

agreement exists permitting any deduction or discount (other than the discount stated on the invoice); Borrower or its Subsidiaries are the lawful owners of the Account and have the right to assign the same to Lender, subject to the Lien granted to the Senior Creditor and the terms and conditions of the Intercreditor Agreement; the Account is free of all security interests, liens and encumbrances other than those in favor of Lender, and Senior Creditor; and the Account is due and payable in accordance with its terms.

4.6 Names. Schedule 4.6 sets forth all names, trade names, fictitious names and business names under which Borrower currently conducts business or has at any time during the past five years conducted business.

4.7 Locations; FEIN. Schedule 4.7 sets forth the location of Borrower' principal place of business, the location of Borrower' books and records, the location of all other offices of Borrower and all Collateral locations, and such locations are Borrower' sole locations for its business and the Collateral. Borrower' federal employer identification numbers are set forth on the signature page hereof.

4.8 Title to Properties; Liens. Borrower and each of its Subsidiaries have good, sufficient and legal title, subject to Permitted Encumbrances, to all their respective material properties and assets. Except for Permitted Encumbrances, all such properties and assets are free and clear of Liens. There are no actual, threatened or alleged defaults with respect to any leases of real property under which Borrower or any of its Subsidiaries are lessee or lessor which would have a Material Adverse Effect. The Liens granted to Lender under Section 2.5 are perfected security interests subject to no senior security interest except for that property and amounts which are subject to the security interests and liens of Senior Creditor and the Permitted Encumbrances.

4.9 Litigation; Adverse Facts. Except as disclosed on Schedule 4.9, there are no judgments outstanding against any Loan Party or affecting any property of any Loan Party that would have a Material Adverse Effect nor is there any action, charge, claim, demand, suit, proceeding, petition, governmental investigation or arbitration now pending or, to the knowledge of Borrower, threatened against or affecting any Loan Party or any property of any Loan Party which would reasonably be expected to result in any Material Adverse Effect.

4.10 Payment of Taxes. Except as disclosed in Schedule 4.10, all material tax returns and reports of Borrower and each of its Subsidiaries required to be filed by any of them have been timely filed (other than taxes for the year ended December 31, 2000), and all taxes, assessments, fees and other governmental charges upon such Persons and upon its respective properties, assets, income and franchises which are shown on such returns as due and payable have been paid when due and payable or are being contested in good faith. As of the Closing Date, none of the United States income tax returns of Borrower or any of its Subsidiaries are under audit. No tax liens have been filed or are being asserted with respect to any such taxes. The charges, accruals and reserves on the books of Borrower and each of its Subsidiaries in respect of any taxes or other governmental charges are in accordance with GAAP.

4.11 Performance of Agreements. Except as disclosed in Schedule 4.11, none of the Loan Parties is in default in the performance, observance or fulfillment of any of the obligations, covenants or conditions contained in any contractual obligation of any such Loan Party, and no condition exists that, with the giving of notice or the lapse of time or both, would constitute such a default, which in any case would have a Material Adverse Effect.

4.12 Employee Benefit Plans. Except as disclosed in Schedule 4.12, Borrower, each of its Subsidiaries and each ERISA Affiliate is in compliance in all material respects with all applicable provisions of ERISA, the IRC and all other applicable laws and the regulations and interpretations thereof with respect to all Employee Benefit Plans which would have Material Adverse Effect. Except as disclosed in Schedule 4.12, no material liability has been incurred by Borrower, any of its Subsidiaries or any ERISA Affiliate

which remains unsatisfied for any funding obligation, taxes or penalties with respect to any Employee Benefit Plan.

4.13 Intellectual Property. Borrower and each of its Subsidiaries owns, is licensed to use or otherwise has the right to use, all Intellectual Property used in or necessary for the conduct of its business as currently conducted, and all such Intellectual Property is identified on Schedule 4.13.

4.14 Broker's Fees. Except for fees paid or to be paid to Larkspur Capital Corporation and Ryan, Beck & Co., no broker's or finder's fee or commission will be payable by reason of any action of Borrower with respect to any of the transactions contemplated hereby.

4.15 OSHA and Environmental Compliance.

(A) Except as disclosed in Schedule 4.9(A), Borrower and each of its Subsidiaries has duly complied with, and their operations, facilities, business, property, leaseholds and equipment are in compliance in all material respects with, the provisions of the Federal Occupational Safety and Health Act , all Environmental Laws, and all Consents, judgments, decrees and other enforcement orders and directives relating thereto, the failure of which could have a Material Adverse Effect; there have been and are no outstanding or threatened citations, investigations, notices, other attestations or orders of non-compliance issued to Borrower or any of its Subsidiaries relating to such Person's business, property, leaseholds or equipment under any such laws, rules or regulations that could have a Material Adverse Effect.

(B) Each of Borrower and its Subsidiaries has been issued for the conduct of its business and activities, and is in compliance with, all required federal, state and local Consents, licenses, certificates or permits relating to all applicable Environmental Laws, each of which is in effect, a list of which is contained in Schedule 4.9(B), except in those instances where the failure would not have a Material Adverse Effect.

(C) Except as disclosed on Schedule 4.9(A), there are no facts which suggest, and no visible signs of releases, spills, discharges, leaks or disposal (collectively referred to as "Releases") of Hazardous Substances at, upon, under, within, any Real Property that could have a Material Adverse Effect.

4.16 Solvency. After giving effect to the transactions contemplated by the Loan Documents, and as of, from, and after the date of this Agreement, Borrower, on a consolidated basis: (a) owns and will own assets, the fair salable value of which are (i) greater than the total amount of its liabilities (including contingent liabilities) and (ii) greater than the amount that will be required to pay the probable liabilities of Borrower as they mature; (b) has capital that is not unreasonably small in relation to its business as presently conducted or any contemplated or undertaken transaction; and (c) does not intend to incur and does not believe that it will

incur debts beyond its ability to pay such debts as they become due. To its knowledge, there is no material fact known to Borrower that has or could have a Material Adverse Effect and that has not been fully disclosed herein or in such other documents, certificates and statements furnished to Lender for use in connection with the transactions contemplated hereby.

4.17 Disclosure. No representation or warranty of Borrower or any of its Subsidiaries contained in this Agreement, the financial statements, the other Loan Documents, or any other document, certificate or written statement furnished to Lender by or on behalf of any such Person for use in connection with the Loan Documents contains any untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements

contained herein or therein not misleading in light of the circumstances in which the same were made that could have a Material Adverse Effect. The Projections and pro forma financial information contained in such materials are based upon good faith estimates and assumptions believed by the Person who prepared the Projections to be reasonable at the time made, it being recognized by Lender that such Projections as to future events are not to be viewed as facts and that actual results during the period or periods covered by any such Projections may differ from the projected results. There is no material fact known to Borrower that has had or will have a Material Adverse Effect and that has not been disclosed herein or in such other documents, certificates and statements furnished to Lender for use in connection with the transactions contemplated hereby.

4.18 Insurance. Borrower and each of its Subsidiaries maintains insurance policies for public liability, property damage for its business and properties, product liability, and business interruption, of types and in amounts customarily maintained by comparable businesses; and no notice of cancellation has been received with respect to such policies and Borrower and each of its Subsidiaries is in compliance with all conditions contained in such policies.

4.19 Compliance with Laws. Except as set forth in Schedule 4.19, to Borrower's knowledge, neither Borrower nor any of its Subsidiaries is in violation of any law, ordinance, rule, regulation, order, policy, guideline or other requirement of any domestic or foreign government or any instrumentality or agency thereof, having jurisdiction over the conduct of its business or the ownership of its properties, which violation would subject Borrower or any of its Subsidiaries, or any of its respective officers to criminal liability or have a Material Adverse Effect and no notice of any such violation has been received. Borrower shall (and shall cause each of its Subsidiaries to) comply with all acts, rules, regulations and orders of any legislative, administrative or judicial body or official applicable to the Collateral or any part thereof or to the operation of Borrower's business the non-compliance with which could have a Material Adverse Effect. The Borrower and its Subsidiaries may, however, contest or dispute any acts, rules, regulations, orders and directions of those bodies or officials in any reasonable manner, provided that any related Lien is inchoate or stayed and sufficient reserves are established to the reasonable satisfaction of Lender to protect Lender's Lien on or security interest in the Collateral. The Collateral, at all times, shall be maintained in accordance with the requirements of all insurance carriers that provide insurance with respect to the Collateral so that such insurance shall remain in full force and effect.

4.20 Bank Accounts. Schedule 4.20 sets forth the account numbers and locations of all bank accounts of Borrower and its Subsidiaries.

4.21 Subsidiaries. Borrower has no Subsidiaries other than as set forth on Schedule 4.21.

4.22 Employee Matters. Except as set forth on Schedule 4.22, (a) neither Borrower, any of its Subsidiaries nor any of such Loan Party's employees is subject to any collective bargaining agreement, (b) no petition for certification or union election is pending with respect to the employees of Borrower or any of its Subsidiaries and no union or collective bargaining unit has sought such certification or recognition with respect to the employees of any Loan Party and (c) there are no strikes, slowdowns, work stoppages or controversies pending or, to the knowledge of Borrower, threatened between Borrower or any of its Subsidiaries and its respective employees, other than employee grievances arising in the ordinary course of business which could reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect. Except as set forth on Schedule 4.22, neither Borrower nor any of its Subsidiaries is subject to an employment contract.

4.23 Governmental Regulation. Neither Borrower nor any of its Subsidiaries is, or, after giving effect to any loan, will be, subject to regulation under the Public Utility Holding Company Act of 1935, the

Federal Power Act or the Investment Company Act of 1940 or to any federal or state statute or regulation limiting its ability to incur indebtedness for borrowed money.

SECTION 5 AFFIRMATIVE COVENANTS

Borrower covenants and agrees that, so long as any of the Obligations hereunder shall be in effect and until payment in full of all Obligations, unless Lender shall otherwise give its prior written consent, Borrower shall perform, and shall cause each of its Subsidiaries to perform, all covenants in this Section 5 applicable to such Person.

5.1 Financial Statements and Other Reports. Borrower will maintain, and cause each of its Subsidiaries to maintain, a system of accounting established and administered in accordance with sound business practices to permit preparation of financial statements in conformity with GAAP. Borrower will deliver to Lender the financial statements and other reports described below.

(A) Monthly Financials. As soon as available and in any event within twenty (20) days after the end of each month, Borrower will deliver (1) the unaudited consolidated and consolidating balance sheet of Borrower and its Subsidiaries as at the end of such month and the related consolidated and consolidating statements of income, stockholders' equity and cash flow for such month and for the period from the beginning of the then current Fiscal Year to the end of such month, and (2) a schedule of the outstanding Indebtedness for borrowed money of Borrower and its Subsidiaries describing in reasonable detail each such

debt issue or loan outstanding and the principal amount and amount of accrued and unpaid interest with respect to each such debt issue or loan.

(B) Quarterly Financials. As soon as available and in any event within fifty (50) days after the end of each quarter of each Fiscal Year, Borrower will deliver the consolidated and consolidating unaudited balance sheet of Borrower and its Subsidiaries as at the end of such period and the related consolidated and consolidating statements of income, stockholders' equity and cash flow for such quarter of such Fiscal Year and for the period from the beginning of the then current Fiscal Year to the end of such quarter of such Fiscal Year.

(C) Year-End Financials. As soon as available and in any event within one hundred fifty (150) days after the end of each Fiscal Year, Borrower will deliver: (1) the consolidated balance sheet of Borrower and its Subsidiaries as at the end of such year and the related consolidated statements of income, stockholders' equity and cash flow for such Fiscal Year; (2) a schedule of the outstanding Indebtedness of Borrower and its Subsidiaries describing in reasonable detail each such debt issue or loan outstanding and the principal amount and amount of accrued and unpaid interest with respect to each such debt issue or loan; and (3) a report with respect to the financial statements from a firm of independent certified public accountants selected by Borrower, and reasonably acceptable to Lender, which report shall be unqualified as to going concern and scope of audit of Borrower and its Subsidiaries and shall state that (a) such consolidated financial statements present fairly the consolidated financial position of Borrower and its Subsidiaries as at the dates indicated and the results of their operations and cash flow for the periods indicated in conformity with GAAP applied on a basis consistent with prior years and (b) that the examination by such accountants in connection with such consolidated financial statements has been made in accordance with generally accepted auditing standards; and (4) copies of the consolidating financial statements of Borrower and its Subsidiaries, including (a) consolidating balance sheets of Borrower and its Subsidiaries as at the end of such Fiscal Year showing intercompany eliminations and (b) related consolidating statements of earnings of Borrower and its Subsidiaries showing intercompany eliminations.

(D) Accountants' Certification and Reports. Promptly upon receipt thereof, Borrower will deliver copies of all significant reports submitted to Borrower by independent public accountants in connection with each annual, interim or special audit of the financial statements of Borrower made by such accountants, including the comment letter submitted by such accountants to management in connection with its annual audit.

(E) Management Report. Together with each delivery of financial statements of Borrower and its Subsidiaries pursuant to this Section 5.1, Borrower will deliver a management report: (1) describing the operations and financial condition of Borrower and its Subsidiaries and Parent and its Subsidiaries for the month then ended and the portion of the current Fiscal Year then elapsed (or for the Fiscal Year then ended in the case of year-end financials); (2) setting forth in comparative form the corresponding figures for the corresponding periods of the previous Fiscal Year; and (3) discussing the reasons for any significant

variations. The information above shall be presented in reasonable detail and shall be certified on behalf of Borrower and Parent by the chief financial officer or Chief Executive Officer of Borrower and Parent to the effect that such information fairly presents the results of operations and financial condition of Borrower and its Subsidiaries and Parent and its Subsidiaries as at the dates and for the periods indicated.

(F) Government Notices. Borrower will deliver to Lender promptly after receipt copies of all notices, requests, subpoenas, inquiries or other writings received from any governmental agency concerning any Employee Benefit Plan, the violation or alleged violation of any Environmental Laws, the storage, use or disposal of any Hazardous Substance, the violation or alleged violation of the Fair Labor Standards Act or Borrower's payment or non-payment of any taxes including any tax audit, the effect of which would have a Material Adverse Effect.

(G) Events of Default, *etc.* Promptly upon any officer of Borrower obtaining knowledge of any of the following events or conditions, Borrower shall deliver a certificate signed by Borrower's Chief Executive Officer specifying the nature and period of existence of such condition or event and what action Borrower has taken, is taking and proposes to take with respect thereto: (1) any condition or event that constitutes an Event of Default or Default; (2) any notice of material default that any Person has given to Borrower or any of its Subsidiaries or any other action taken with respect to a claimed material default that would result in a Material Adverse Effect; or (3) any Material Adverse Effect.

(H) Trade Names. Borrower and each of its Subsidiaries will give Lender at least thirty (30) days' advance written notice of any change of name or of any new trade name or fictitious business name. Borrower's use of any trade name or fictitious business name will be in compliance with all laws regarding the use of such names.

(I) Locations. Borrower will give Lender at least thirty (30) days advance written notice of any change in Borrower's principal place of business or any change in the location of its books and records or the Collateral or of any new location for its books and records or the Collateral.

(J) Bank Accounts. Borrower will give Lender prompt notice of any new bank accounts Borrower or any of its Subsidiaries intends to establish prior to its opening same.

(K) Litigation. Promptly upon any officer of Borrower or its subsidiaries obtaining knowledge of (1) the institution of any action, suit, proceeding, governmental investigation or arbitration against or affecting any Loan Party or any property of Borrower or any Subsidiary not previously disclosed by Borrower to Lender, the effect of which would have a Material Adverse Effect, or (2) any material development in any action, suit, proceeding, governmental investigation or arbitration at any time pending against or affecting Borrower or any Subsidiary or any property of Borrower or any Subsidiary which would have a Material Adverse Effect, Borrower will promptly give notice thereof to Lender and provide such other information as may be reasonably available to them to enable Lender and its counsel to evaluate such matter.

(L) Other Information. With reasonable promptness, Borrower will deliver such other information and data as may be available to and disclosable by Borrower with respect to any Loan Party, any Subsidiary of any Loan Party or the Collateral as Lender may reasonably request from time to time.

5.2 Access to Accountants. Borrower authorizes Lender to discuss the financial condition and financial statements of Borrower and its Subsidiaries with Borrower's independent public accountants upon reasonable notice to Borrower of its intention to do so, and authorizes such accountants to respond to all of Lender's inquiries.

5.3 Inspection. Borrower shall permit Lender and any authorized representatives designated by Lender to visit and inspect any of the properties of Borrower or any of its Subsidiaries, including its financial and accounting records, and in conjunction with such inspection, to make copies and take extracts therefrom, and to discuss its affairs, finances and business with its officers and independent public accountants, at such reasonable times during normal business hours and as often as may be reasonably requested.

5.4 Collateral Records. Borrower shall keep full and accurate books and records relating to the Collateral and shall mark such books and records to indicate Lender's security interests in the Collateral.

5.5 Account Covenants; Verification. Borrower shall, at its own expense use its best efforts to assure prompt payment of all amounts due or to become due under the Accounts. Lender shall have the right, at any time or times hereafter, to verify the validity, amount or any other matter relating to an Account, by mail, telephone or in person. After the occurrence of a Default or an Event of Default, Borrower shall not, without the prior consent of Lender, adjust, settle or compromise the amount or payment of any Account, or release wholly or partly any customer or obligor thereof, or allow any credit or discount thereon.

5.6 Endorsement. Subject to the Senior Creditor's rights and powers, Borrower hereby constitutes and appoints Lender and all Persons designated by Lender for that purpose as Borrower's true and lawful attorney-in-fact, with power to endorse Borrower's name to any check or other instrument and all proceeds of Collateral that come into Lender's possession or under Lender's control. Both the appointment of Lender as Borrower's attorney and Lender's rights and powers are coupled with an interest and are irrevocable until payment in full and complete performance of all of the Obligations.

5.7 Corporate Existence. Borrower will, and will cause each of its Subsidiaries to, at all times preserve and keep in full force and effect its corporate existence and all rights and

franchises material to its business. Borrower will promptly notify Lender of any change in its or its Subsidiaries' ownership or corporate structure.

5.8 Payment of Taxes. Borrower will, and will cause each of its Subsidiaries to, pay all taxes, assessments and other governmental charges imposed upon it or any of its properties or assets or with respect to any of its franchises, business, income or property before any penalty accrues thereon provided that no such tax need be paid if Borrower or one of its Subsidiaries is contesting same in good faith by appropriate proceedings promptly instituted and diligently conducted and if Borrower or such Subsidiary has established appropriate reserves as shall be required in conformity with GAAP.

5.9 Maintenance of Properties; Insurance. Subject to the prior rights of Senior Creditor, Borrower will maintain or cause to be maintained in good repair, working order and condition all material properties used in the business of Borrower and its Subsidiaries and will make or cause to be made all appropriate repairs, renewals and replacements thereof. Borrower shall bear the full risk of any loss of any nature whatsoever with respect to the Collateral. At its own cost and expense in amounts and with carriers acceptable to Lender, the Borrower shall (a) keep all its insurable properties and properties in which Borrower has an interest (including leased premises) insured against the hazards of fire, flood, sprinkler leakage, those hazards covered by extended coverage insurance and such other hazards, and for such amounts, as is customary in the case of companies engaged in similar businesses including, without limitation, environmental impairment and business interruption insurance; (b) maintain a bond or insurance policy in such amounts as is customary in the case of companies engaged in similar businesses insuring against larceny, embezzlement or other criminal misappropriation of insured's officers and employees who may either singly or jointly with others at any time have access to the assets or funds of Borrower or any of its Subsidiaries either directly or through authority to draw upon such funds or to direct generally the disposition of such assets; (c) maintain public and product liability insurance against claims for personal injury, death or property damage suffered by others; (d) maintain all such worker's compensation or similar insurance as may be required under the laws of any state or jurisdiction in which Borrower or any of its Subsidiaries is engaged in business; (e) furnish Lender with (i) copies of all policies or certificates of insurance by the renewal thereof at least thirty (30) days before any expiration date, and (ii) subject to the rights and obligations of Senior Creditor, appropriate loss payable endorsements in form and substance satisfactory to Lender, naming Lender as a co-insured and loss payee and additional insured as its interests may appear with respect to all insurance coverage referred to in clauses (a) and (c) above, and providing (A) that all proceeds thereunder shall be payable to Lender, subject to the prior rights of the Senior Creditor, (B) no such insurance shall be affected by any act or neglect of the insured or owner of the property described in such policy, and (C) that such policy and loss payable clauses may not be canceled, amended or terminated unless at least twenty (20) days' prior written notice is given to Lender. Without limiting the foregoing, Borrower shall, and shall cause each of its Subsidiaries, to maintain insurance of such types and in such amounts as may be required by applicable law or regulation. In the event of any loss thereunder, the carriers named therein are hereby directed by Lender and Borrower to make payment for such loss to Lender and not to Borrower and Lender jointly, subject to the prior rights of the Senior Creditor. If any insurance losses are paid by check, draft or other instrument payable to Borrower and Lender jointly, Lender may endorse Borrower's name thereon and do such other things as Lender may deem advisable to reduce the same to cash, subject to the

prior rights of the Senior Creditor. Lender is hereby authorized to adjust and compromise claims under insurance coverage referred to in clauses (a) and (b) above, subject to the prior rights of the Senior Creditor, provided, however, the Borrower shall have six (6) months from the date of the loss to adjust and compromise such claims prior to such authorization for any such claim. All loss recoveries received by Lender upon any such insurance may be applied to the Obligations, in such order as Lender in its reasonable discretion shall determine. Any surplus shall be paid by Lender to Borrower or applied as may be otherwise required by law. Any deficiency thereon shall be paid by Borrower to Lender on demand. Anything hereinabove to the contrary notwithstanding, and subject to the fulfillment of the conditions set forth below, Lender shall remit to Borrower insurance proceeds received by Lender during any calendar year under insurance policies procured and maintained by Borrower that insure the Borrower's insurable properties to the extent such insurance proceeds do not exceed $250,000 in the aggregate. In the event that the amount of insurance proceeds received by Lender for any occurrence exceeds $250,000, Lender shall not be obligated to remit the insurance proceeds to Borrower unless Borrower shall provide Lender with evidence reasonably satisfactory to Lender that such insurance proceeds will be used by the Borrower to repair, replace or restore the insured property that was the subject of the insurable loss. In the event that the Borrower has previously received (or, after giving effect to any proposed remittance by Lender to Borrower would receive) insurance proceeds that equal or exceed $250,000 in the aggregate, Lender may, in its reasonable discretion, either remit the insurance proceeds to Borrower upon Borrower providing Lender with evidence reasonably satisfactory to Lender that such insurance proceeds will be used by the Borrower to repair, replace or restore the insured property that was the subject of the insurable loss, or apply the proceeds to the Obligations, as aforesaid. The agreement of Lender to remit insurance proceeds in the manner above provided shall be subject, in each instance, to satisfaction of each of the following conditions: (x) no Event of Default or Default shall then have occurred, and (y) the Borrower shall use such insurance proceeds to repair, replace or restore the insurable property that was the subject of the insurable loss and for no other purpose.

5.10 Compliance with Laws. Borrower will, and will cause each of its Subsidiaries to, comply with the requirements of all applicable laws, rules, regulations and orders of any governmental authority as now in effect and which may be imposed in the future in all jurisdictions in which Borrower or any of its Subsidiaries is now doing business or may hereafter be doing business, other than those laws the noncompliance with which would not have a Material Adverse Effect or disclosed in Schedules attached hereto.

5.11 Further Assurances. Borrower shall, and shall cause each of its Subsidiaries to, from time to time, execute such financing or continuation statements, documents, security agreements, reports and other documents or deliver to Lender such instruments, certificates of title or other documents as Lender at any time may reasonably request to evidence, perfect or otherwise implement the security for repayment of the Obligations provided for in the Loan Documents, provided that Borrower shall not be required to execute any document or take any action which would create an event of default with respect to Borrower's Obligations to Senior Creditor. At Lender's request, Borrower shall cause any wholly-owned or substantially

wholly-owned Subsidiaries of Borrower promptly to guaranty the Obligations and to grant to Lender security interests in the real, personal and mixed property of such Subsidiary to secure the Obligations.

5.12 Collateral Locations. Borrower will keep the Collateral at the locations specified on

Schedule 4.7. With respect to any new location (which in any event shall be within the continental United States), Borrower will execute such documents and take such actions as Lender deems necessary to perfect and protect the security interests of the Lender in the Collateral prior to the transfer or removal of any Collateral to such new location.

5.13 Bailees. If any Collateral is at any time in the possession or control of any warehouseman, bailee or any of Borrower's agents or processors, Borrower shall, upon the request of Lender, notify such warehouseman, bailee, agent or processor of the security interests in favor of Lender created hereby and shall instruct such Person to hold all such Collateral for Lender's account subject to Lender's instructions.

5.14 Use of Proceeds and Margin Security. Borrower shall use the proceeds of all Loans for proper business purposes (as described in the recitals to this Agreement) consistent with all applicable laws, statutes, rules and regulations. No portion of the proceeds of any Loan shall be used by Borrower or any of its Subsidiaries for the purpose of purchasing or carrying of margin stock within the meaning of Regulation U, or in any manner that might cause the borrowing or the application of such proceeds to violate Regulation T or Regulation X or any other regulation of the Board of Governors of the Federal Reserve System, or to violate the Exchange Act.

5.15 Observer Rights. Lender shall have the right (i) to appoint one representative as an observer who shall have the right to receive notice of, and attend any meetings of, the Board of Directors and Executive Committee of the Borrower at Borrower's reasonable cost and expense, including, but not limited to travel, board and lodging costs, and (ii) to receive on a timely basis, copies of all written information provided to the Board of Directors or Executive Committee of Borrower.

5.16 Financial Covenants. Borrower shall maintain and keep in full force and effect, on a consolidated basis with its Subsidiaries, each of the financial covenants set forth below. The calculation and determination of each such financial covenant, and all accounting terms contained therein, shall be so calculated and construed in accordance with GAAP, applied on a basis consistent with the financial statements of Borrower delivered on or before the Closing Date:

(A) Net Worth. Borrower shall maintain a net worth at all times during and at the end of each fiscal quarter, commencing with the fiscal quarter ending in March, 2001, of not less than Seven Million Dollars ($7,000,000).

(B) Fixed Charged Coverage Ratio. Maintain at all times a Fixed Charge Coverage Ratio of not less than: 0.7 : 1.0 for the fiscal quarter ending March 31, 2001, 1.0 : 1.0 for the fiscal quarter ending June 30, 2001, 1.1 : 1.0 for the fiscal quarter ending September 30, 2001, 1.2 : 1.0 for the fiscal quarter

ending December 31, 2001 and 1.25 : 1 for all fiscal quarters thereafter, provided that such ratio shall at all times be calculated on a trailing four quarters basis.

5.17 Environmental Matters.

(A) Except as reflected on Schedule 4.9(A), Borrower shall, and shall cause each of its Subsidiaries, to ensure that the Real Property owned or leased by them or any of them, remains in compliance with all Environmental Laws and they shall not place or permit to be placed any Hazardous Substances on or in any Real Property except as permitted by applicable law or appropriate governmental

authorities or other than where such failure to comply could not have a Material Adverse Effect.

(B) Borrower shall, and shall cause each of its Subsidiaries to, establish and maintain a system to assure and monitor continued compliance with all applicable Environmental Laws, which system shall include periodic reviews of such compliance.

(C) Borrower shall, and shall cause each of its Subsidiaries to, (i) employ in connection with the use of Real Property and its operations reasonable technology necessary to maintain compliance with any applicable Environmental Laws and (ii) treat, store and/or dispose of any and all Hazardous Waste or Hazardous Substance generated, handled or received at the Real Property only at facilities and with carriers that maintain valid permits under RCRA or any other applicable Environmental Laws, the failure of which could have a Material Adverse Effect. Borrower and its Subsidiaries shall use best efforts to obtain and retain all applicable records regarding the treatment, transport, storage or disposal of any Hazardous Substance or Hazardous Waste generated, handled or received at the Real Property.

(D) In the event that Borrower or any of its Subsidiaries obtains, gives or receives notice of any Release or threat of Release of a reportable quantity of any Hazardous Substances at the Real Property (any such event being hereinafter referred to as a "Hazardous Discharge") or receives any notice of violation, request for information or notification that it is potentially responsible for investigation or cleanup of environmental conditions to the Real Property or operations, demand letter or complaint, order, citation, or other written notice with regard to any Hazardous Discharge or violation of Environmental Laws affecting the Real Property or any interest therein (any of the foregoing is referred to herein as an "Environmental Complaint") from any Person, including any private party or state or local agency responsible in whole or in part for environmental matters in the state in which the Real Property is located or the United States Environmental Protection Agency (any such person or entity hereinafter the "Authority"), which could have a Material Adverse Effect, and other than as disclosed in Schedule 4.9(A), Borrower shall within five (5) Business Days, give written notice of same to Lender detailing facts and circumstances of which Borrower or any of its Subsidiaries is aware giving rise to the Hazardous Discharge or Environmental Complaint. Such information is to be provided to allow Lender to protect its security interest in the Collateral and is not intended to create nor shall it create any obligation upon Lender with respect thereto.

(E) Borrower shall promptly forward to Lender copies of any request for information, notification of potential liability, or demand letter relating to potential responsibility, that could have a Material Adverse Effect, with respect to the investigation or cleanup of Hazardous Substances at any site owned, operated or used by Borrower or any of its Subsidiaries to handle, treat, store or dispose of Hazardous Substances and shall continue to forward copies of correspondence between Borrower or any of its Subsidiaries and the relevant authority regarding such claims to Lender until the claim is resolved. Borrower shall promptly forward to Lender copies of all documents and reports concerning a Hazardous Discharge at the Real Property that Borrower or any of its Subsidiaries is required to file under any Environmental Laws. Such information is to be provided solely to allow Lender to protect Lender's security interest in the Collateral.

(F) Borrower shall respond promptly to any Hazardous Discharge or Environmental Complaint, that could have a Material Adverse Effect, and take all necessary action in order to safeguard the health and safety of any Person, and to avoid subjecting the Collateral or real property to any Lien. If Borrower or its Subsidiaries shall fail to respond promptly to any Hazardous Discharge or Environmental Complaint or Borrower or its Subsidiaries shall fail to comply with any of the requirements of any Environmental Laws, the failure of which could have a Material Adverse Effect, Lender may, but without the obligation to do so, for the sole purpose of protecting Lender's interest in the Collateral: (A) give such notices or (B) enter onto the Real Property (or authorize third parties to enter onto the real property) and take such actions as Lender (or such third parties as directed by Lender) deem reasonably necessary or advisable, to clean up, remove, mitigate or otherwise deal with any such Hazardous Discharge or Environmental

Complaint. All reasonable costs and expenses incurred by Lender (or such third parties) in the exercise of any such rights, including any sums paid in connection with any judicial or administrative investigation or proceedings, fines and penalties, together with interest thereon from the date expended at the Default Rate shall be paid upon demand by Borrower, and until paid shall be added to and become a part of the Obligations secured by the Lien created by the terms of the Loan Documents or any other agreement between Lender and Borrower.

(G) Promptly upon the written request of Lender from time to time, Borrower shall provide Lender, at Borrower's expense, with an environmental site assessment or environmental audit report prepared by an environmental engineering firm acceptable in the reasonable opinion of Lender upon the occurrence of a Material Adverse Effect, to assess with a reasonable degree of certainty the existence of such Hazardous Discharge and the potential costs in connection with investigation, abatement, cleanup and removal of any Hazardous Substances found on, under, at or within the Real Property. If such estimates, individually or in the aggregate, exceed $100,000, Lender shall have the right to require Borrower or any of its Subsidiaries, as applicable, to post a bond, letter of credit or other security reasonably satisfactory to Lender to secure payment of these costs and expenses.

(H) Borrower shall defend and indemnify Lender and hold Lender and its respective employees, agents, directors and officers harmless from and against all loss, liability, damage and expenses, claims, costs, fines and penalties, property damage or personal injury, including attorney's fees, suffered or incurred by

Lender under or on account of any Environmental Laws, including, without limitation, the assertion of any Lien thereunder, with respect to any Hazardous Discharge or the presence of any Hazardous Substances affecting the Real Property, whether or not the same originates or emerges from the Real Property or any contiguous real estate, including any loss of value of the Real Property as a result of the foregoing except to the extent such loss, liability, damage and expense is attributable to any Hazardous Discharge resulting from actions on the part of Lender. Borrower's obligations under this Section 5.17 shall arise upon the discovery of the presence of any Hazardous Substances at the Real Property, whether or not any federal, state, or local environmental agency has taken or threatened any action in connection with the presence of any Hazardous Substances. Borrower's obligation and the indemnifications hereunder shall survive the termination of this Agreement.

(I) Borrower and each of its Subsidiaries shall comply in all material respects with applicable Environmental Laws where the failure to comply could have a Material Adverse Effect and shall take all appropriate and necessary measures to timely investigate and clean up any Releases at any property where the failure to do so could have a Material Adverse Effect.

(J) Borrower and each of its Subsidiaries shall furnish Lender, concurrently with the delivery of the financial statements referred to in subsections 5.1(B) and (C), with a certificate signed by the President of Borrower, or its Chief Financial Officer, stating, to the best of his knowledge, that Borrower and each of its Subsidiaries is in compliance in all material respects with all Environmental Laws applicable to Borrower and each of its Subsidiaries. To the extent that Borrower and each of its Subsidiaries is not in compliance with the foregoing laws, the certificate shall briefly set forth with specificity all areas of non-compliance and the proposed action Borrower and each of its Subsidiaries will implement in order to achieve full compliance to the best of such entity's knowledge after due inquiry.

5.18 Violations. Borrower shall promptly notify Lender in writing of any violation or notice thereof of any law, statute, regulation or ordinance of any governmental body, or of any agency thereof, applicable to Borrower or any of its Subsidiaries that could have a Material Adverse Effect.

5.19 Additional Information. Borrower and each of its Subsidiaries shall furnish Lender with such additional information as Lender shall reasonably request in order to enable Lender to determine whether the terms, covenants, provisions and conditions of this Agreement and the other Loan Documents have been complied with by Borrower and its Subsidiaries including, without limitation, and without the necessity of any request by Lender: (a) copies of all environmental audits and reviews; (b) at least thirty (30) days prior thereto, notice by Borrower or any of its Subsidiaries of its opening of any new office or place of business or any closing by Borrower or any of its Subsidiaries of any existing office or place of business; and (c) promptly upon Borrower's learning thereof, notice of any labor dispute to which Borrower or any of its Subsidiaries may become a party, any strikes or walkouts relating to any of its plants or other facilities, and the expiration of any labor contract to which Borrower or any of its Subsidiaries is a party or by which it is bound.

SECTION 6 NEGATIVE COVENANTS

Borrower covenants and agrees that until payment in full of all Obligations unless Borrower has received the prior written consent of Lender, Borrower shall not and will not permit any of its Subsidiaries to:

6.1 Indebtedness. Directly or indirectly create, incur, assume, guaranty, or otherwise become or remain directly or indirectly liable, on a fixed or contingent basis, with respect to any Indebtedness in excess of Forty-Five Million Dollars ($45,000,000) except: (a) the Obligations; (b) purchase money financing; (c) trade payables and normal accruals in the ordinary course of business not yet due and payable or with respect to which Borrower or any of its Subsidiaries is contesting in good faith the amount or validity thereof by appropriate proceedings and then only to the extent that Borrower or any of its Subsidiaries has established adequate reserves therefor, if appropriate under GAAP; (d) Indebtedness listed on Schedules 1.1(B) and 6.1 hereto; (e) refinancing of any existing Indebtedness; (f) Indebtedness between Borrower and any of its Subsidiaries; and (g) Indebtedness resulting from a judgment having been rendered against Borrower or any of its Subsidiaries for which reserves have been established.

6.2 Guaranties. Except as set forth in Schedule 6.2 hereto, for endorsements of instruments or items of payment for collection in the ordinary course of business, guaranty, endorse, or otherwise in any way become or be responsible for any obligations of any other Person (other than a wholly-owned Subsidiary of Borrower), whether directly or indirectly by agreement to purchase the indebtedness of any other Person or through the purchase of goods, supplies or services, or maintenance of working capital or other balance sheet covenants or conditions, or by way of stock purchase, capital contribution, advance or loan for the purpose of paying or discharging any indebtedness or obligation of such other Person or otherwise.

6.3 Transfers, Liens and Related Matters.

(A) Transfers. Sell, assign (by operation of law or otherwise) or otherwise dispose of, or grant any option with respect to any of the Collateral except that Borrower and its Subsidiaries may (i) sell Inventory, render services, and dispose of obsolete Equipment in the ordinary course of business; and (ii) make Asset Dispositions if all of the following conditions are met: (1) the aggregate market value of assets sold or otherwise disposed of in any Fiscal Year does not exceed $300,000; (2) the consideration received is at least equal to the fair market value of such assets; (3) the sole consideration received is cash; and (4) no Default or Event of Default shall then exist or result from such sale or other disposition.

(B) Liens. Except for Permitted Encumbrances, directly or indirectly create, incur, assume or

permit to exist any Lien on or with respect to any of the Collateral or any proceeds, income or profits therefrom.

(C) No Negative Pledges. Enter into or assume any agreement (other than the Loan Documents) prohibiting the creation or assumption of any Lien (other than a Permitted Encumbrance) upon its properties or assets, whether now owned or hereafter acquired.

6.4 Restricted Junior Payments. Directly or indirectly declare, order, pay, make or set apart any sum for any Restricted Junior Payment, except that Subsidiaries of Borrower may make Restricted Junior Payments with respect to its common stock to the extent necessary to permit Borrower to pay the Obligations, and to permit Borrower to pay expenses incurred in the ordinary course of business.

6.5 Restriction on Fundamental Changes. (a) Enter into any transaction of merger or consolidation; (b) liquidate, wind-up or dissolve itself (or suffer any liquidation or dissolution); (c) convey, sell, lease, sublease, transfer or otherwise dispose of, in one transaction or a series of transactions, all or any substantial part of its business or assets, or the capital stock of any of its Subsidiaries, whether now owned or hereafter acquired; or (d) acquire by purchase or otherwise all or any substantial part of the business or assets of, or stock or other evidence of beneficial ownership of, any Person, except with the prior written consent of Lender, provided, however, (x) Borrower's Subsidiaries may liquidate, wind-up or dissolve into the Borrower or any other Subsidiary; and (y) notwithstanding any other limitation in this section, Borrower may undertake any transactions described in (a), (b) or (c) above having an aggregate value not to exceed $100,000 per year.

6.6 Transactions with Affiliates. From and after the date hereof, directly or indirectly, enter into or permit to exist any transaction (including, without limitation , the purchase, sale or exchange of property or the rendering of any service or the making of a loan or advance) with any Affiliate or with any officer, director or employee of any Loan Party, except for transactions in the ordinary course of and pursuant to the reasonable requirements of Borrower's business and upon fair and reasonable terms which are fully disclosed to Lender and which are no less favorable to Borrower than it would obtain in a comparable arm's length transaction with an unaffiliated Person. Notwithstanding the foregoing, nothing contained herein shall limit transactions of any kind between Borrower and any of its Subsidiaries.

6.7 Environmental Liabilities. Except as described in Schedule 6.7, (a) Violate in any material respect any applicable Environmental Law that would have a Material Adverse Effect; (b) dispose of any Hazardous Substances (except in accordance with applicable law) into or onto or from, any real property owned, leased or operated by any Loan Party that would have a Material Adverse Effect; or (c) permit any Lien imposed pursuant to any Environmental Law to be imposed or to remain on any Real Property owned, leased or operated by Borrower or any of its Subsidiaries.

6.8 Conduct of Business. From and after the Closing Date, engage in any business other than businesses of the type engaged in by Borrower or any Subsidiary on the Closing Date.

6.9 Compliance with ERISA. Establish any new Employee Benefit Plan or amend any existing Employee Benefit Plan if the liability or increased liability resulting from such establishment or amendment is

material. Neither Borrower nor any Subsidiary shall fail to establish, maintain and operate each Employee Benefit Plan in compliance in all material respects with the provisions of ERISA, the IRC and all other applicable laws and the regulations and interpretations thereof.

6.10 Subsidiaries. Establish, create or acquire any new Subsidiaries.

6.11 Fiscal Year. Change its Fiscal Year.

6.12 Press Release; Public Offering Materials. Disclose the name of Lender in any press release or in any prospectus, proxy statement or other materials filed with any governmental entity relating to a public offering of the capital stock of any Loan Party except as may be required by law.

6.13 Bank Accounts. Establish any new bank accounts, or amend or terminate any blocked account or lockbox agreement without Lender's prior written consent.

6.14 Charter Documents. Make any material changes to any of Borrower's, or its Subsidiaries', charter documents, except as permitted by law and with the prior written consent of Borrower or its counsel.

6.15 RBB Payments. Pay RBB the principal, or any portion of the principal, owing to RBB under the RBB Notes unless the Obligations have prior thereto been paid in full. Nothing contained herein shall limit the Borrower or Subsidiaries from paying interest due on the RBB Notes or any penalties or issuance of stock required to be issued in connection with the RBB Notes.

SECTION 7 DEFAULT, RIGHTS AND REMEDIES

7.1 Event of Default. "Event of Default" shall mean the occurrence or existence of any one or more of the following:

(A) Payment. Failure to make payment of any of the Obligations when due and in the case of interest, such failure shall not be cured within five (5) days of the applicable due date, time being of the essence; or

(B) Default in Other Agreements. (1) Failure of Borrower or any of its Subsidiaries to pay when due (or within any applicable grace period) any principal or interest on any Indebtedness (other than the Obligations) that would have a Material Adverse Effect or (2) default by Borrower or any of its Subsidiaries under any agreement evidencing any Indebtedness (other than the Obligations), or pursuant to which such Indebtedness was issued or governed, and such default continues beyond any applicable grace or cure period and would have a Material Adverse Effect; or

(C) Breach of Certain Provisions. Failure of Borrower to perform or comply with any term or condition contained in subsections 5.1(A), 5.1(B), 5.1(C), 5.1(D), 5.1(E), 5.3, 5.5, 5.9 or contained in Section 6; or

(D) Breach of Warranty. Any representation, warranty, certification or other statement made by any Loan Party in any Loan Document or in any statement or certificate at any time given by such Person in writing pursuant or in connection with any Loan Document is false or misleading, in any material respect on the date made; or

(E) Other Defaults Under Loan Documents. Borrower or any other Loan Party defaults

in the performance of or compliance with any term contained in this Agreement or the other Loan Documents and such default is not remedied or waived within ten (10) days after receipt by Borrower of notice from Lender of such default (other than occurrences described in other provisions of this subsection 7.1 for which a different grace or cure period is specified or which constitute immediate Events of Default); or

(F) Involuntary Bankruptcy; Appointment of Receiver, *etc.* (1) A court enters a decree or order for relief with respect to Borrower or any of its material Subsidiaries in an involuntary case under the Bankruptcy Code or any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, which decree or order is not stayed or other similar relief is not granted under any applicable federal or state law; or (2) the continuance of any of the following events for ninety (90) days unless dismissed, bonded or discharged: (a) an involuntary case is commenced against Borrower or any of its Subsidiaries, under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect; or (b) a decree or order of a court for the appointment of a receiver, liquidator, sequestrator, trustee, custodian or other officer having similar powers over Borrower or any of its Subsidiaries, or over all or a substantial part of its respective property, is entered; or (c) an interim receiver, trustee or other custodian is appointed without the consent of Borrower or any of its Subsidiaries, for all or a substantial part of the property of Borrower or any such Subsidiary; or

(G) Voluntary Bankruptcy; Appointment of Receiver, *etc*. (1) An order for relief is entered with respect to Borrower or any of its Subsidiaries or Borrower or any of its Subsidiaries commences a voluntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or consents to the entry of an order for relief in an involuntary case or to the conversion of an involuntary case to a voluntary case under any such law or consents to the appointment of or taking possession by a receiver, trustee or other custodian for all or a substantial part of its property; or (2) Borrower or any of its Subsidiaries makes any assignment for the benefit of creditors; or (3) the board of directors of Borrower or any of its Subsidiaries adopts any resolution or otherwise authorizes action to approve any of the actions referred to in this subsection 7.1(G); or

(H) Liens. Any lien, levy or assessment is filed or recorded with respect to or otherwise imposed upon all or any part of the Collateral or the assets of Borrower or any of its Subsidiaries by the

United States or any department or instrumentality thereof or by any state, county, municipality or other governmental agency (other than Permitted Encumbrances) and such lien, levy or assessment is not bonded, stayed, vacated, paid or discharged within ten (10) days; or

(I) Judgment and Attachments. Any money judgment, writ or warrant of attachment, or similar process involving an amount in the aggregate at any time in excess of $250,000 (not adequately covered by insurance as to which the insurance company has acknowledged coverage or undertaken the defense thereof subject only to customary reservation of rights) is entered or filed against Borrower or any of its Subsidiaries or any of its respective assets and remains undischarged, unvacated, unbonded or unstayed for a period of thirty (30) days or in any event later than five (5) days prior to the date of any proposed sale thereunder; or

(J) Dissolution. Any order, judgment or decree is entered against Borrower or any of its Subsidiaries decreeing the dissolution or split up of Borrower or that Subsidiary and such order

remains undischarged or unstayed for a period in excess of thirty (30) days; or

(K) Solvency. Borrower admits in writing its present or prospective inability to pay its debts as they become due; or

(L) Injunction. Borrower or any of its Subsidiaries is enjoined, restrained or in any way prevented by the order of any court or any administrative or regulatory agency from conducting all or any material part of its business and such order continues for more than thirty (30) days and would have a Material Adverse Effect; or

(M) Invalidity of Loan Documents. Any of the Loan Documents for any reason, other than a partial or full release in accordance with the terms thereof, ceases to be in full force and effect or is declared to be null and void, or any Loan Party denies that it has any further liability under any Loan Documents to which it is party, or gives notice to such effect; or

(N) Failure of Security. Lender does not have or ceases to have a valid and perfected security interest in the Collateral (subject to Permitted Encumbrances), in each case, for any reason other than the failure of Lender to take any action within its control; or

(O) Licenses and Permits. The loss, suspension or revocation of, or failure to renew, any license or permit now held or hereafter acquired by Borrower or any of its Subsidiaries resulting in a Material Adverse Effect;

(P) Forfeiture. There is filed against Borrower any civil or criminal action, suit or proceeding under any federal or state racketeering statute (including, without limitation, the Racketeer Influenced and Corrupt Organization Act of 1970), which action, suit or proceeding (1) is not dismissed within one hundred twenty (120) days; and (2) could result in the confiscation or forfeiture of any material portion of the Collateral; or

(Q) Payment to RBB. Borrower or any of its Subsidiaries pays RBB the principal, or any portion of the principal, owing to RBB under the RBB Notes unless the Obligations have prior thereto been paid in full. Nothing contained herein shall limit the Borrower or Subsidiaries from paying interest due on the RBB Notes or any penalties or issuance of stock required to be issued in connection with the RBB Notes.

7.2 Acceleration. Upon the occurrence of any Event of Default that is continuing, described in the foregoing subsections 7.1(B) through 7.1(P), all Obligations shall automatically become immediately due and payable, without presentment, demand, protest or other requirements of any kind, all of which are hereby expressly waived by Borrower. Upon the occurrence of any other Event of Default, the Lender may declare all Obligations to be immediately due and payable, without presentment, demand, protest or other requirements of any kind, all of which are hereby expressly waived by Borrower.

7.3 Remedies. If any Event of Default shall have occurred and be continuing, in addition to and not in limitation of any rights or remedies available to Lender at law or in equity, subject to the terms and conditions of the Intercreditor Agreement, Lender may exercise in respect of the Collateral, in addition to all other rights and remedies provided for herein or otherwise available to it, all the rights and remedies of a secured party on default under the UCC (whether or not the UCC applies to the affected Collateral) and may also (a) notify any or all obligors on the

Accounts to make all payments directly to Lender; (b) require Borrower to, and Borrower hereby agrees that it will, at its expense and upon request of Lender forthwith, assemble all or part of the Collateral as directed by Lender and make it available to Lender at a place to be designated by Lender which is reasonably convenient to both parties; (c) without notice or demand or legal process, enter upon any premises of Borrower and take possession of the Collateral, if this can be done without breach of the peace; and (d) without notice, except as specified below, sell the Collateral or any part thereof in one or more parcels at public or private sale, at any of the Lender's offices or elsewhere, at such time or times, for cash, on credit or for future delivery, and at such price or prices and upon such other terms as Lender may deem commercially reasonable. Borrower agrees that, to the extent notice of sale shall be required by law, at least ten (10) days notice to Borrower of the time and place of any public sale or the time after which any private sale is to be made shall constitute reasonable notification. At any sale of the Collateral, if permitted by law, Lender may bid (which bid may be, in whole or in part, in the form of cancellation of indebtedness) for the purchase of the Collateral or any portion thereof for the account of Lender. Lender shall not be obligated to make any sale of Collateral regardless of notice of sale having been given. Borrower shall remain liable for any deficiency. Lender may adjourn any public or private sale from time to time by announcement at the time and place fixed therefor, and such sale may, without further notice, be made at the time and place to which it was so adjourned. To the extent permitted by law, Borrower hereby specifically waives all rights of redemption, stay or appraisal which it has or may have under any law now existing or hereafter enacted. Lender shall not be required to proceed against any Collateral, but may proceed against Borrower directly.

7.4 Appointment of Attorney-in-Fact. Subject to Borrower's rights and obligations with respect to the Senior Creditor, Borrower hereby constitutes and appoints Lender as Borrower's attorney-in-fact with full authority in the place and stead of Borrower and in the name of Borrower, Lender or otherwise, from time to time in Lender's discretion while an Event of Default is continuing to take any action and to execute any instrument that Lender may deem necessary or advisable to accomplish the purposes of this Agreement, including: (a) to ask, demand, collect, sue for, recover, compound, receive and give acquittance and receipts for moneys due and to become due under or in respect of any of the Collateral; (b) to adjust, settle or compromise the amount or payment of any Account, or release wholly or partly any customer or obligor thereunder or allow any credit or discount thereon; (c) to receive, endorse, and collect any drafts or other instruments, documents and chattel paper, in connection with clause (a) above; (d) to file any claims or take any action or institute any proceedings that Lender may deem necessary or desirable for the collection of any of the Collateral or otherwise to enforce the rights of Lender with respect to any of the Collateral; and (e) to sign and endorse any invoices, freight or express bills, bills of lading, storage or warehouse receipts, assignments, verifications and notices in connection with Accounts and other documents relating to the Collateral. The appointment of Lender as Borrower's attorney and Lender's rights and powers are coupled with an interest and are irrevocable until payment in full and complete performance of all of the Obligations.

7.5 Limitation on Duty of Lender with Respect to Collateral. Beyond the safe custody thereof, Lender shall have no duty with respect to any Collateral in its possession or control (or in the possession or control of any agent or bailee) or with respect to any income thereon or the preservation of rights against prior parties or any other rights pertaining thereto. Lender shall be deemed to have exercised reasonable care in the custody and preservation of the Collateral in its possession if the Collateral is accorded treatment substantially equal to that which Lender accords its own property. Lender shall not be liable or responsible for any loss or damage to any

of the Collateral, or for any diminution in the value thereof, by reason of the act or omission of any warehouseman, carrier, forwarding agency, consignee or other agent or bailee selected by Lender in good faith.

7.6 Application of Proceeds. Upon the occurrence and during the continuance of an Event of Default, (a) Borrower irrevocably waives the right to direct the application of any and all payments at any time or times thereafter received by Lender from or on behalf of Borrower, and Borrower irrevocably agrees that Lender shall have the continuing exclusive right to apply and to reapply any and all payments received at any time or times after the occurrence and during the continuance of an Event of Default against the Obligations in such manner as Lender may deem advisable notwithstanding any previous entry by Lender upon any books and records and (b) the proceeds of any sale of, or other realization upon, all or any part of the Collateral shall be applied: first, to all fees, costs and expenses incurred by Lender with respect to this Agreement, the other Loan Documents or the Collateral; second, to all fees due and owing to Lender; third, to accrued and unpaid interest on the Obligations; fourth, to the principal amounts of the Obligations outstanding; and fifth, to any other indebtedness or obligations of Borrower owing to Lender.

7.7 License of Intellectual Property. Subject to Borrower's rights and obligations with respect to the Senior Creditor and to the Senior Creditor's rights, Borrower hereby assigns, transfers and conveys to Lender, effective upon the occurrence, and during the continuance, of any Event of Default hereunder, the non-exclusive right and license to use all Intellectual Property owned or used by Borrower together with any goodwill associated therewith, all to the extent necessary to enable Lender to realize on the Collateral and any successor or assign to enjoy the benefits of the Collateral. This right and license shall inure to the benefit of all successors, assigns and transferees of Lender and its successors, assigns and transferees, whether by voluntary conveyance, operation of law, assignment, transfer, foreclosure, deed in lieu of foreclosure or otherwise. Such right and license is granted free of charge, without requirement that any monetary payment whatsoever be made to Borrower by Lender.

7.8 Waivers, Non-Exclusive Remedies. No failure on the part of Lender to exercise, and no delay in exercising and no course of dealing with respect to, any right under this Agreement or the other Loan Documents shall operate as a waiver thereof; nor shall any single or partial exercise by Lender of any right under this Agreement or any other Loan Document preclude any other or further exercise thereof or the exercise of any other right. The rights in this Agreement and the other Loan Documents are cumulative and are not exclusive of any other remedies provided by law.

SECTION 8

Deliberately Omitted

SECTION 9 MISCELLANEOUS

9.1 Assignments and Participations. Lender may assign its rights and delegate its obligations under this Agreement and further may assign, or sell participations in, all or any part of the Term Loan or any other interest herein to an Affiliate or to another Person. In the case of an assignment authorized under this subsection 9.1, the assignee shall have, to the extent of such

assignment, the same rights, benefits and obligations as it would if it were a Lender hereunder. Lender shall be relieved of its obligations hereunder with respect to the Commitments or assigned portion thereof. Borrower hereby acknowledges and agrees that any assignment will give rise to a direct obligation of Borrower to the assignee and that the assignee shall be considered to be a "Lender". Lender may furnish any information concerning Borrower and its Subsidiaries in its possession from time to time to assignees and participants (including prospective assignees and participants).

9.2 Set Off. In addition to any rights now or hereafter granted under applicable law and not by way of limitation of any such rights, upon the occurrence, and during the continuance, of any Event of Default, Lender, each assignee of Lender's interest, and each participant is hereby authorized by Borrower at any time or from time to time, without notice to Borrower or to any other Person, any such notice being hereby expressly waived, to set off and to appropriate and to apply any and all balances held by it at any of its offices for the account of Borrower or any of its Subsidiaries (regardless of whether such balances are then due to Borrower or its Subsidiaries) and any other property at any time held or owing by that Lender or assignee to or for the credit or for the account of Borrower against and on account of any of the Obligations then outstanding; provided, that no participant shall exercise such right without the prior written consent of Lender.

Borrower hereby agrees, to the fullest extent permitted by law, that any Lender, assignee or participant may exercise its right of setoff pursuant to the first paragraph of this Section 9.2 with respect to amounts in excess of its pro rata share of the Obligations (or, in the case of a participant, in excess of its pro rata participation interest in the Obligations) and that such Lender, assignee or participant, as the case may be, shall be deemed to have purchased for cash in the amount of such excess, participations in each other Lender's or holder's share of the Obligations.

9.3 Expenses and Attorneys' Fees. Whether or not the transactions contemplated hereby shall be consummated, Borrower agrees to promptly pay all reasonable fees, costs and expenses incurred by Lender in connection with any matters contemplated by or arising out of this Agreement or the other Loan Documents including the following, and all such fees, costs and expenses shall be part of the Obligations, payable on demand and secured by the Collateral: (a) fees, costs and expenses (including reasonable attorneys' fees and fees of environmental consultants, accountants and other professionals retained by Lender) incurred in connection with the examination, review, due diligence investigation, documentation and closing of the financing arrangements evidenced by the Loan Documents; (b) fees, costs and expenses (including reasonable attorneys' fees and fees of environmental consultants, accountants and other professionals retained by Lender) incurred in connection with the review, negotiation, preparation, documentation, execution and administration of the Loan Documents, the Term Loan, and any amendments, waivers, consents, forbearance and other modifications relating thereto or any subordination or intercreditor agreements; (c) fees, costs and expenses incurred in creating, perfecting and maintaining perfection of Liens in favor of Lender; (d) fees, costs and expenses incurred in connection with forwarding to Borrower the proceeds of Loans including Lender's standard wire transfer fee; (e) fees, costs, expenses and bank charges, including bank charges for returned checks, incurred by Lender in establishing, maintaining and handling lock box accounts, blocked accounts or other accounts for collection of the Collateral; (f) fees, costs, expenses (including reasonable attorneys' fees) and costs of settlement incurred in collecting upon or enforcing rights against the Collateral or incurred in any action to enforce this Agreement

or the other Loan Documents or to collect any payments due from Borrower or any other Loan Party under this Agreement or any other Loan Document or incurred in connection with any refinancing or restructuring of the credit arrangements provided under this Agreement, whether in the nature of a "workout" or in connection with any insolvency or bankruptcy proceedings or otherwise.

9.4 Indemnity. In addition to the payment of expenses pursuant to subsection 9.3, whether or not the transactions contemplated hereby shall be consummated, Borrower agrees to indemnify, pay and hold Lender and any holder of the Term Note and the officers, directors, employees, agents, consultants, auditors, persons engaged by Lender and any holder of the Term Note to evaluate or monitor the Collateral, affiliates and attorneys of Lender and such holders (collectively called the "Indemnitees") harmless from and against

any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, claims, costs, expenses and disbursements of any kind or nature whatsoever (including the reasonable fees and disbursements of counsel for such Indemnitees in connection with any investigative, administrative or judicial proceeding commenced or threatened, whether or not such Indemnitee shall be designated a party thereto) that may be imposed on, incurred by, or asserted against that Indemnitee, in any manner relating to or arising out of this Agreement or the other Loan Documents, the consummation of the transactions contemplated by this Agreement, the statements contained in the commitment letters, if any, delivered by Lender, Lender's agreement to make the Term Loan hereunder, the use or intended use of the proceeds of any of the Term Loan or the exercise of any right or remedy hereunder or under the other Loan Documents (the "Indemnified Liabilities"); provided that Borrower shall have no obligation to an Indemnitee hereunder with respect to Indemnified Liabilities arising from the gross negligence or willful misconduct of that Indemnitee as determined by a court of competent jurisdiction.

9.5 Amendments and Waivers. No amendment, modification, termination or waiver of any provision of this Agreement or of the other Loan Documents, or consent to any departure by Borrower therefrom, shall be effective unless the same shall be in writing and signed by Lender and Borrower. Each amendment, modification, termination or waiver shall be effective only in the specific instance and for the specific purpose for which it was given.

9.6 Notices. Unless otherwise specifically provided herein, all notices shall be in writing addressed to the respective party as set forth below and may be personally served, telecopied or sent by overnight courier service or United States mail and shall be deemed to have been given: (a) if delivered in person, when delivered; (b) if delivered by telecopy, on the date of transmission if transmitted on a Business Day before 4:00 p.m. Eastern standard time or, if not, on the next succeeding Business Day; (c) if delivered by overnight courier, two (2) days after delivery to such courier properly addressed; or (d) if by U.S. Mail, five (5) Business Days after depositing in the United States mail, with postage prepaid and properly addressed.

If to Borrower: PERMA-FIX ENVIRONMENTAL SERVICES, INC.
1940 N.W. 67th Place
Gainesville, FL 32653
Attention: Dr. Louis Centofanti, President
Facsimile: (404) 847-9977

With a copy to: Conner & Winters, A Professional Corporation

211 N. Robinson, Suite 1700
Oklahoma City, OK 73102
Attention: Irwin Steinhorn, Esq.
Facsimile: (405) 232-2695

If to Lender: BHC Interim Funding, L.P.
c/o Brooks, Houghton & Company, Inc.
444 Madison Avenue, 25th Floor
New York, NY 10022
Attention: Mr. Steven H. Brooks
Facsimile: (212) 753-7730

With a copy to: Wolf, Block, Schorr and Solis-Cohen LLP
250 Park Avenue, Suite 1000
New York, NY 10177
Attention: George N. Abrahams, Esq.
Facsimile: (212) 986-0604

or to such other address as the party addressed shall have previously designated by written notice to the serving party, given in accordance with this subsection 9.6.

9.7 Survival of Warranties and Certain Agreements. All agreements, representations and warranties made herein shall survive the execution and delivery of this Agreement and the making of the Term Loan hereunder. Notwithstanding anything in this Agreement or implied by law to the contrary, the agreements of Borrower set forth in subsections 9.3 and 9.4 shall survive the payment of the Term Loan and the termination of this Agreement.

9.8 Indulgence Not Waiver. No failure or delay on the part of Lender in the exercise of any power, right or privilege shall impair such power, right or privilege or be construed to be a waiver of any default or acquiescence therein, nor shall any single or partial exercise of any such power, right or privilege preclude other or further exercise thereof or of any other right, power or privilege.

9.9 Marshaling; Payments Set Aside. Lender shall not be under any obligation to marshal any assets in favor of any Loan Party or any other party or against or in payment of any or all of the Obligations. To the extent that any Loan Party makes a payment or payments to Lender or Lender enforces its security interests or exercise its rights of setoff, and such payment or payments or the proceeds of such enforcement or setoff or any part thereof are subsequently invalidated, declared to be fraudulent or preferential, set aside and/or required to be repaid to a trustee, receiver or any other party under any bankruptcy law, state or federal law, common law or equitable cause, then to the extent of such recovery, the Obligations or part thereof originally intended to be satisfied, and all Liens, rights and remedies therefor, shall be revived and continued in full force and effect as if such payment had not been made or such enforcement or setoff had not occurred.

9.10 Entire Agreement. This Agreement, the Term Note, and the other Loan Documents referred to herein embody the final, entire agreement among the parties hereto and supersede any and all prior commitments, agreements, representations, and understandings, whether written or oral, relating to the

subject matter hereof and may not be contradicted or varied by evidence of prior, contemporaneous, or subsequent oral agreements or discussions of the parties hereto. There are no oral agreements among the parties hereto.

9.11 Independence of Covenants. All covenants hereunder shall be given independent effect so that if a particular action or condition is not permitted by any of such covenants, the fact that it would be permitted by an exception to, or be otherwise within the limitations of, another covenant shall not avoid the occurrence of a Default or an Event of Default if such action is taken or condition exists.

9.12 Severability. The invalidity, illegality or unenforceability in any jurisdiction of any provision in or obligation under this Agreement or the other Loan Documents shall not affect or impair the validity, legality or enforceability of the remaining provisions or obligations under this Agreement, or the other Loan Documents or of such provision or obligation in any other jurisdiction.

9.13 Headings. Section and subsection headings in this Agreement are included herein for convenience of reference only and shall not constitute a part of this Agreement for any other purpose or be given any substantive effect.

9.14 APPLICABLE LAW. THIS AGREEMENT SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO CONFLICTS OF LAWS PRINCIPLES.

9.15 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties hereto and its respective successors and assigns except that Borrower may not assign its rights or obligations hereunder without the prior written consent of Lender.

9.16 No Fiduciary Relationship; Limitation of Liabilities.

(A) No provision in this Agreement or in any of the other Loan Documents and no course of dealing between the parties shall be deemed to create any fiduciary duty by Lender to Borrower.

(B) Neither Lender, nor any affiliate, officer, director, shareholder, employee, attorney, or agent of Lender shall have any liability with respect to, and Borrower hereby waives, releases, and agrees not to sue any of them upon, any claim for any special, indirect, incidental, or consequential damages suffered or incurred by Borrower in connection with, arising out of, or in any way related to, this Agreement or any of the other Loan Documents, or any of the transactions contemplated by this Agreement or any of the other Loan Documents. Borrower hereby waives, releases, and agrees not to sue Lender or any of Lender's affiliates, officers, directors, employees, attorneys, or agents for punitive damages in respect of any claim in connection with, arising out of, or in any way related to, this Agreement or any of the other Loan Documents, or any of the transactions contemplated by this Agreement or any of the transactions contemplated hereby.

9.17 CONSENT TO JURISDICTION. BORROWER HEREBY CONSENTS TO THE

JURISDICTION OF ANY STATE OR FEDERAL COURT LOCATED WITHIN THE COUNTY OF NEW YORK, STATE OF NEW YORK, AND IRREVOCABLY AGREES THAT, SUBJECT TO LENDER'S ELECTION, ALL ACTIONS OR PROCEEDINGS ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE TERM NOTE, OR THE OTHER LOAN DOCUMENTS, SHALL BE LITIGATED IN SUCH COURTS. BORROWER ACCEPTS FOR ITSELF AND IN CONNECTION WITH ITS PROPERTIES, GENERALLY AND UNCONDITIONALLY, THE NON-EXCLUSIVE JURISDICTION OF THE AFORESAID COURTS AND WAIVES ANY DEFENSE OF FORUM NON CONVENIENS, AND IRREVOCABLY AGREES TO BE BOUND BY ANY JUDGMENT RENDERED THEREBY IN CONNECTION WITH THIS AGREEMENT, THE TERM NOTE, THE OTHER LOAN DOCUMENTS OR THE OBLIGATIONS. IF BORROWER PRESENTLY IS, OR IN THE FUTURE BECOMES, A NONRESIDENT OF THE STATE OF NEW YORK, BORROWER HEREBY WAIVES PERSONAL SERVICE OF ANY AND ALL PROCESS AND AGREES THAT ALL SUCH SERVICE OF PROCESS MAY BE MADE UPON BORROWER BY CERTIFIED OR REGISTERED MAIL, RETURN RECEIPT REQUESTED, DIRECTED TO BORROWER, AT BORROWER'S ADDRESS APPEARING IN LENDER'S RECORDS AND SERVICE SO MADE SHALL BE COMPLETE (10) DAYS AFTER THE SAME HAS BEEN POSTED AS AFORESAID.

9.18 WAIVER OF JURY TRIAL. BORROWER AND LENDER HEREBY WAIVE THEIR RESPECTIVE RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, THE TERM NOTE OR THE OTHER LOAN DOCUMENTS. BORROWER AND LENDER ACKNOWLEDGE THAT THIS WAIVER IS A MATERIAL INDUCEMENT TO ENTER INTO A BUSINESS RELATIONSHIP, THAT EACH HAS ALREADY RELIED ON THE WAIVER IN ENTERING INTO THIS AGREEMENT, THE TERM NOTE AND THE OTHER LOAN DOCUMENTS AND THAT EACH WILL CONTINUE TO RELY ON THE WAIVER IN ITS RELATED FUTURE DEALINGS. BORROWER AND LENDER FURTHER WARRANT AND REPRESENT THAT EACH HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT EACH KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

9.19 Construction. Borrower and Lender each acknowledge that it has had the benefit of legal counsel of its own choice and has been afforded an opportunity to review this Agreement and the other Loan Documents with its legal counsel and that this Agreement and the other Loan Documents shall be construed as if jointly drafted by Borrower and Lender.

9.20 Counterparts; Effectiveness. This Agreement and any amendments, waivers, consents, or supplements may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed an original, but all of which counterparts together shall constitute but one and the same instrument. This Agreement shall become effective upon the execution of a counterpart hereof by each of the parties hereto. Delivery of an executed

counterpart of a signature page to this Agreement, any amendments, waivers, consents or supplements, or to any other Loan Document by Facsimile shall be as effective as delivery of a manually executed counterpart thereof.

9.21 No Duty. All attorneys, accountants, appraisers, and other professional Persons and consultants retained by Lender shall have the right to act exclusively in the interest of Lender and shall have no duty of disclosure, duty of loyalty, duty of care, or other duty or obligation of any

type or nature whatsoever to Borrower or any of Borrower's shareholders or any other Person.

Witness the due execution hereof by the respective duly authorized officers of the undersigned as of the date first written above.

Lender: BHC INTERIM FUNDING, L.P.
By BHCGP, L.L.C., its General Partner
By BHC Investors, L.L.C., its Managing Member

By: /s/ Steven H. Brooks
Steven H. Brooks, Manager

Borrower: PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(a Delaware corporation)

By: /s/ Richard T. Kelecy
Richard T. Kelecy, Vice President
(EIN: 58-1954497)

EXHIBIT M

FORM OF STAND-STILL AGREEMENT

This STAND-STILL AGREEMENT (this "Agreement"), dated as of December 22, 2000, is made and entered into by and among PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (together with its permitted successors and assigns, "Borrower"), CHEM-MET SERVICES, INC. A Michigan corporation ("Chem-Met"), the various financial institutions named as lenders (the "Lenders") in the Loan Agreement (as defined below), PNC BANK, NATIONAL ASSOCIATION, a national banking association, not in its individual capacity, but solely as arranging agent (in such capacity, the "Agent" and, together with the Lenders, and their respective successors, assigns and transferees, the "Senior Lenders") and RBB Aktiengesellschaft (collectively, together with their respective successors, assigns and transferees, the "Junior Investors").

W I T N E S S E T H:

Reference is hereby made to the Revolving Credit, Term Loan and Security Agreement, dated as of the date hereof, between Borrower and each of the Senior Lenders (as hereafter from time to time amended, modified or supplemented, the "Loan Agreement") and to the related documents and agreements, dated as of the date hereof, pursuant to which Borrower, on the date hereof, is incurring certain obligations (the "Obligations"), which Obligations are guaranteed by each of Borrower's Subsidiaries pursuant to that certain Secured Subsidiary Guaranty, of even date herewith, in favor of the Agent for the benefit of Senior Lenders. Any capitalized term used herein without having otherwise provided for its definition shall be accorded its definition in the Loan Agreement. Reference is also made to the $3,000,000 promissory note, dated August 29, 2000, payable to Junior Investor by the Borrower ("$3 million Note") and the $750,000 promissory note dated July 14, 2000, payable by Chem-Met the Junior Investor to (the "$750,000 Note") (as hereinafter from time to time amended, modified or supplemented in accordance with the provisions of Section 4, ("Junior Obligations").

To induce the Senior Lenders to enter into the Loan Agreement and to extend the credit facilities referred to therein, Borrower and the Junior Investors hereby agree with the Senior Lenders that, so long as any of the Senior Indebtedness (as defined below) is outstanding, Borrower and the Junior Investors each will comply with such of the following provisions as are applicable to it:

1. Acknowledgment of Stand-Still. Borrower and Chem-Met, on behalf of each Credit Party, and the Junior Investors hereby acknowledges and agrees that: neither Borrower nor Chem-Met shall make, and Junior Investors will not accept or receive any payment in cash, either in the form of payment of principal or interest, owing on any Junior Obligations until July 1, 2001. Prior to July 1, 2003, Junior Investors will not take any action or initiate any proceedings, judicial or otherwise, to enforce Junior Investors' rights or remedies with respect to any of the Junior Obligations or to obtain any judgment or prejudgment remedy against the Borrower or Chem-Met.

2. Amendments. This Agreement may only be amended or modified in a writing signed by each of the parties hereto.

3. Successors; Continuing Effect; etc. This Agreement is being entered into for the benefit of, and shall be binding upon, the holders of Senior Indebtedness and the holders of the Junior Obligations and their respective successors and assigns. This Agreement shall be binding upon Borrower, Chem-Met and each of the other Credit Parties and their successors and assigns. This Agreement shall be a continuing agreement and shall be irrevocable and shall remain in full force and effect as long as there is both Senior Indebtedness and Junior Obligations outstanding, but shall terminate upon the payment in full in cash of all outstanding Senior Indebtedness.

4. Venue. This Agreement shall be governed by and construed in accordance with the laws of the State of New York. The parties hereto agree that all actions or proceedings arising in connection with this Agreement shall be tried and litigated only in the State or Federal courts located in New York, New York or at the reasonable discretion of the Senior Lenders, in any other venue in which it shall initiate legal or equitable proceedings.

5. Counterparts. This may be executed in any number of counterparts, each of which shall be deemed an original instrument, but all of which taken together shall constitute one and the same document.

6. Headings. The headings in this Agreement are for convenience of reference only and shall not alter or otherwise affect the meaning of this Agreement.

[Remainder of page intentionally left blank; signature page follows.]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above

written.

HOLDINGS:

PERMA-FIX ENVIRONMENTAL SERVICES
a Delaware corporation
("Borrower")

By: /s/ Louis Centofanti ;
Print Name: Louis Centofanti
Title : President

CHEM-MET SERVICES, INC.
a Michigan corporation

By: /s/ Louis Centofanti
Print Name: Louis Centofanti
Title: President

SENIOR LENDERS:

PNC BANK a National Association
("Agent and Senior Lenders")

By: /s/ Ilan Yehros ;
Print Name: Ilan Yehros
Title: Vice President

JUNIOR INVESTORS:

RBB BANK AKTIENGESELLSCHAFT

By: /s/ Herbert Strauss
Print Name: Herbert Strauss
Title: Managing Director US equity

SUBORDINATION AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of January 2001, by and among PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (ABorrower@), the Thomas P. Sullivan Living Trust dated September 6, 1978 (A Creditor@), and BHC Interim Funding, L. P., a Delaware limited partnership (the A Lender@). Capitalized terms used herein and not otherwise defined herein shall have the meanings ascribed to them in the Agreement.

RECITALS

WHEREAS, Borrower is indebted to Creditor, and Borrower proposes to obtain credit or has obtained credit from Lenders pursuant to that certain Loan and Security Agreement, dated as of January 31, 2001, by and among Lender and Borrower (the ACredit Agreement@); and

WHEREAS, Lender, has indicated that it will extend credit to Borrower if certain conditions are met, including without limitation, the requirement that Creditor execute this Agreement.

NOW, THEREFORE, as an inducement to Lender to extend credit and for other valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Indebtedness Subordinated. Creditor subordinates all Indebtedness now or at any time hereafter owing from Borrower to Creditor (including without limitation, interest thereon that may accrue subsequent to Borrower becoming subject to any state or federal debtor-relief statute) (collectively, AJunior Debt@) to all Indebtedness now or at any time hereafter owing from Borrower to Lender (collectively, ASenior Debt@). Creditor irrevocably consents and directs that all Senior Debt shall be paid in full prior to Borrower making any payment on any Junior Debt, except as provided in Section 3. Creditor will, and Lender is authorized in the name of Creditor from time to time to, execute and file such financing statements and other documents as Lender may require in order to give notice to other persons and entities of the terms and provisions of this Agreement. As long as this Agreement is in effect, Creditor will not take any action or initiate any proceedings, judicial or otherwise, to enforce Creditor=s rights or remedies with respect to any Junior Debt, including without limitation, any action to enforce remedies with respect to any collateral securing any Junior Debt or to obtain any judgment or prejudgment remedy against Borrower or any such collateral, except as provided in Section 3.

2. Indebtedness Defined. The word AIndebtedness@ is used herein in its most comprehensive sense and includes any and all advances, debts, obligations and liabilities of Borrower heretofore, now or hereafter made, incurred or created, whether voluntary or involuntary and however arising, whether due or not due, absolute or contingent, liquidated or unliquidated, determined or undetermined, and whether Borrower may be liable individually or jointly with others, including without limitation, obligations and liabilities that: (i) arise from notes, letters of credit issued for the account of Borrower, repurchase agreements and trust receipts; (ii) are incurred for all or any part of the purchase price of property or other assets or for the cost of property or other assets constructed or of improvements thereto; and (iii) are secured by any pledge, mortgage, lien, security interest or similar security arrangement; provided that Indebtedness shall not include regular salary obligations consistent with historical levels.

3. Restriction of Payment of Junior Debt; Disposition of Payments Received by Creditor . Borrower will not make, and Creditor will not accept or receive, any payment or benefit in cash, securities (other than securities, the payment of which is subordinate, at least to the extent provided in this Agreement with respect to Junior Debt, to the payment of all Senior Debt at the time outstanding and all securities issued in exchange therefor to the holders of Senior Debt at the time outstanding) or other property, by setoff or otherwise, directly or indirectly, on account of principal, interest or any other amounts owing on any Junior Debt, except for the Michigan Real Estate (as defined below) and as otherwise provided in this Section 3. So long as no Event of Default shall have occurred and be continuing under the Credit Agreement, or in Lender=s reasonable determination, if the payment to the Creditor of amounts permitted below would result in an Event of Default (notice of any of the foregoing is referred to as a ADefault Notice@), Borrower may pay and, until Lender gives the undersigned written notice of the occurrence of an Event of Default, the Creditor may accept from the Borrower, the regularly scheduled payments of principal, together with accrued interest thereon, on the Junior Debt when, and in the amounts, set forth in the promissory note or other instrument evidencing the Junior Debt. Such payments shall exclude, without limitation, (a) prepayments (unless Lender has given its prior written consent in its sole discretion), (b) non-mandatory

payments, (c) any payments pursuant to acceleration or pursuant to claims of breach or (d) any payments by virtue of setoff against any obligation of Creditor, any of them, or their affiliates to indemnify or make payments to the Borrower or its affiliates, including, without limitation, obligations due the Borrower under those certain Stock Purchase Agreements among the Creditor, the Borrower, and Chem-Met Services, Inc., and Chemical Conservation of Georgia, Inc., and Chemical Conservation Corporation, respectively (the AStock Purchase Agreements@). From and after the giving of Default Notice to a Creditor, unless and until the Event of Default or other event giving rise to a Default Notice in question is cured or waived by Lender (without implying any obligation on the part of Lender to permit a cure of or to waive any such Event of Default or other event), no further payments of principal or interest shall be made to any Creditor unless and until all Senior Debt has been paid in full and all financing statements have been terminated, and unless Lender, in its reasonable discretion, gives its prior written consent, payments on the Junior Debt which accrued but were unpaid during any period commencing upon the giving of a Default Notice will not be permitted to be paid notwithstanding that a cure or waiver occurs (subject as aforesaid). Notwithstanding any rights or remedies available to any creditor under any of the Junior Debt, the Stock Purchase Agreements, applicable law or otherwise, unless and until the indefeasible satisfaction in full of all the Senior Debt, no Creditor shall, directly or indirectly, seek to collect from Borrower, or exercise rights or remedies upon an event of default under any payment in respect of Junior Debt, including, without limitation, filing an action to foreclose upon the Michigan Real Estate, filing a lis pendens against the Real Property, or any other judicial or non-judicial remedy, except that: (a) upon an event of default under any document evidencing the Junior Debt, Creditor may declare Borrower to be in default under such document evidencing the Junior Debt and accelerate the respective portion thereof (b) Creditor may defend the validity of its claims against the Borrower, and (c) Creditor may file a proof of claim with respect to its claims against the Borrower, in a manner consistent with the terms of this Agreement. If any such payment is made in violation of this Agreement, Creditor shall promptly deliver the same to Lender in the form received, with any endorsement or assignment necessary for the transfer of such payment or amounts set off from Creditor to Lender, to be either (in Lender=s sole discretion) held as cash collateral securing the Senior Debt or applied in reduction of the Senior Debt in such order as Lender shall determine, and until so delivered, Creditor shall hold such payment in trust for and on behalf of, and as the property of, Lender. As used in this Agreement, the Michigan Real Estate shall mean that certain real property described on Schedule 1 hereto (the AReal Property@), and the building and improvements, and real estate fixtures, permits and licenses to operate the building thereon (except for all tangible and intangible assets used in connection with the business of the Borrower and its affiliates, or any of them, including, without limitation, all permits and licenses to operate the business, and all trade fixtures of Borrower or its affiliates), and all vacated alleys and streets abutting said land, together with all rents and leases from third party tenants, if any, thereof (but not the accounts, chattel paper or other intangible property in which a security interest may be perfected under the Uniform Commercial Code in effect in the State of Michigan from time to time), and tenements, hereditaments, easements and appurtenances therein or thereto.

4. Disposition of Evidence of Indebtedness. If there is any existing promissory note or other evidence of any Junior Debt, or if any promissory note or other evidence of Indebtedness is executed at any time hereafter with respect thereto, then Borrower and Creditor will mark the same with a legend stating that it is subject to this Agreement, and if asked to do so, will deliver a copy of the same to Agent. Creditor shall not, without Lender=s prior written consent, assign, transfer, hypothecate or otherwise dispose of any claim it now has or may at any time hereafter have against Borrower at any time that any Senior Debt remains outstanding and/or Lender remain committed to extend any credit to Borrower.

5. Agreement to Be Continuing; Applies to Borrower=s Existing Indebtedness and any Indebtedness Hereafter Arising. This Agreement shall be a continuing agreement and shall apply to any and all Indebtedness of Borrower to Lender or Creditor now existing or hereafter arising, including any Indebtedness arising under successive transactions, related or unrelated, and notwithstanding that from time to time all Indebtedness theretofore existing may have been paid in full.

6. Representations and Warranties; Information. Borrower and Creditor represent and warrant to Lender that: (a) no interest in the Junior Debt has been assigned or otherwise transferred to any person or entity; and (b) Creditor has the requisite power and authority to enter into and perform its obligations under this Agreement. Creditor further represents and warrants to Lender that Creditor has established adequate, independent means of obtaining from Borrower on a continuing basis financial and other information pertaining to Borrower=s financial condition. Creditor agrees to keep adequately informed from such means of any facts, events or circumstances that might in any way affect Creditor=s risks hereunder, and Creditor agrees that Lender shall have no obligation to disclose to Creditor information or material about Borrower that is acquired by Lenders in any manner.

7. Transfer of Assets or Reorganization of Borrower. If any petition is filed or any proceeding is instituted by or against Borrower under any provisions of Title 11 of the United States Code, or any other or similar law relating to bankruptcy, insolvency, reorganization or other relief for debtors, or generally affecting creditors= rights, or seeking the appointment of a receiver, trustee, custodian or liquidator of or for Borrower or any of its assets, any payment or distribution of any of Borrower =s assets, whether in cash, securities or any other property, that would be payable or deliverable with respect to any Junior Debt, shall be paid or delivered to Lender until all Senior Debt is paid in full. Creditor grants to Lender the right to enforce, collect and receive any such payment or distribution and to give releases or acquittances therefor, and Creditor authorizes Lender as its attorney-in-fact to vote and prove the Junior Debt in any of the above-described proceedings or in any meeting of creditors of Borrower relating thereto.

8. Other Agreements; No Third Party Beneficiaries. Lender shall have no direct or indirect obligations to Creditor of any kind with respect to the manner or time in which Lender exercises (or refrains from exercising) any of its rights or remedies with respect to the Senior Debt, Borrower or any of Borrower=s assets. Creditor understands that there may be various agreements between Lender and Borrower evidencing and governing the Senior Debt, and Creditor acknowledges and agrees that such agreements are not intended to confer any benefits on Creditor.

9. Breach of Agreement by Borrower or Creditor. No delay, failure or discontinuance of Agent in exercising any right, privilege, power or remedy hereunder shall be deemed a waiver of such right, privilege, power or remedy; nor shall any single or partial exercise of any such right, privilege, power or remedy preclude, waive or otherwise affect the further exercise thereof or the exercise of any other right, privilege, power or remedy. Any waiver, permit, consent or approval of any kind by Agent with respect to this Agreement must be in writing and shall be effective only to the extent set forth in such writing.

10. Costs, Expenses and Attorneys= Fees. If any party hereto institutes any arbitration or judicial or administrative action or proceeding to enforce any provisions of this Agreement, or alleging any breach of any provision hereof or seeking damages or any remedy, the losing party or parties shall pay to the prevailing party or parties all costs and expenses, including reasonable attorneys= fees (to include outside counsel fees and all allocated costs of such prevailing party= s in-house counsel), expended or incurred by the prevailing party or parties in connection therewith, whether incurred at the trial or appellate level, in an arbitration proceeding or otherwise, and including any of the foregoing incurred in connection with any bankruptcy proceeding (including without limitation, any adversary proceeding, contested matter or motion brought by Lender or any other person) relating to Borrower, Creditor or any other person or entity.

11. Notices. All notices hereunder shall be in writing and shall be sufficiently given if personally delivered or mailed by first class registered or certified mail, return receipt requested, postage prepaid, and addressed, if to: (a) Creditor at 1021 Harvard, Grosse Pointe Park, Michigan 48230; (b) Borrower, to it at the address for notice to Borrower originally specified in the Agreement; (c) any holder of Senior Debt, to it at its address originally specified in the Agreement; or to such other address or addresses as the party to whom such notice is directed may have designated by like notice in writing to the other parties hereto. A notice shall be deemed to have been given when personally delivered or, if mailed, on the earlier of (i) three (3) days after the date on which it deposited in the mails, or (ii) the date on which it is received.

12. Successors; Assigns; Amendment. This Agreement shall be binding upon and inure to the benefit of the heirs, executors, administrators, legal representatives, successors and assigns of the parties. This Agreement may be amended or modified only in writing signed by all of the parties hereto; provided that the holders of sixty-six and two-thirds percent (66 2/3%) in principal amount of the Senior Debt is required to constitute the consent of Lenders.

13. Obligations Joint and Several; Construction. If this Agreement is executed by more than one Creditor, it shall bind them jointly and severally. All words used herein in the singular shall be deemed to have been used in the plural where the context so requires.

14. Severability of Provisions. If any provision of this Agreement shall be held to be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such waiver or other provision or any remaining provisions of this Agreement.

15. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York.

16. VENUE; WAIVER OF JURY TRIAL. THE PARTIES AGREE THAT ALL ACTIONS OR PROCEEDINGS ARISING IN CONNECTION WITH THIS AGREEMENT SHALL BE TRIED AND LITIGATED ONLY IN THE STATE AND

FEDERAL COURTS LOCATED IN THE COUNTY OF _____, NEW YORK OR, AT THE SOLE OPTION OF AGENT, IN ANY OTHER COURT IN WHICH AGENT SHALL INITIATE LEGAL OR EQUITABLE PROCEEDINGS AND WHICH HAS SUBJECT MATTER JURISDICTION OVER THE MATTER IN CONTROVERSY. EACH OF BORROWER, CREDITOR AND LENDERS WAIVES, TO THE EXTENT PERMITTED UNDER APPLICABLE LAW, ANY RIGHT THAT SUCH PARTY MAY HAVE TO ASSERT THE DOCTRINE OF FORUM NON CONVENIENS OR TO OBJECT TO VENUE TO THE EXTENT THAT ANY PROCEEDING IS BROUGHT IN ACCORDANCE WITH THIS SECTION 18. BORROWER, CREDITOR AND LENDERS HEREBY WAIVER THEIR RESPECTIVE RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF ANY OF THE LOAN DOCUMENTS OR ANY OF THE TRANSACTIONS CONTEMPLATED THEREIN, INCLUDING CONTRACT CLAIMS, TORT CLAIMS, BREACH OF DUTY CLAIMS AND ALL OTHER COMMON LAW OR STATUTORY CLAIMS. BORROWER, CREDITOR AND LENDERS REPRESENT THAT EACH HAS REVIEWED THIS WAIVER AND EACH KNOWINGLY AND VOLUNTARILY WAIVES ITS

JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL. IN THE EVENT OF LITIGATION, A COPY OF THIS AGREEMENT MAY BE FILED AS A WRITTEN CONSENT TO A TRIAL BY THE COURT.

17. Headings. The headings in this Agreement are for convenience of reference only and shall not alter or otherwise affect the meaning of this Agreement.

18. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original instrument, but all of which taken together shall constitute one and the same document.

[Remainder of page intentionally left blank; signatures follow.]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

BORROWER:
PERMA-FIX ENVIRONMENTAL SERIVCES, INC.
By: /s/ Richard T. Kelecy

Print Name: Richard T. Kelecy
Title: V. P.

LENDER:
BHC INTERIM FUNDING, L.P., a Delaware limited partnership
By: /s/ Steven H. Brooks

Print Name: Steven H. Brooks
Title: Manager

CREDITOR:
ANN L. SULLIVAN LIVING TRUST
DATED SEPTEMBER 6, 1978
By: /s/ Ann L. Sullivan

Print Name: Ann L. Sullivan
Title:

SUBORDINATION AGREEMENT

THIS SUBORDINATION AGREEMENT (this **"Agreement"**) is entered into as of the 31st day of January, 2001, by and among **PNC BANK, NATIONAL ASSOCIATION** (the **"Bank"**), as agent (in such capacity, **"Agent"**) for the financial institutions (collectively, **"Lenders"**) that are now or that hereafter become a party to the Credit Agreement (as defined below); **PERMA-FIX ENVIRONMENTAL SERVICES, INC.** (the **"Borrower"**); and **BHC INTERIM FUNDING, L.P.** (the **"Creditor"**).

RECITALS

The Bank has established or is establishing certain credit facilities with the Borrower (collectively, the **"Senior Credit Facility"**), as evidenced by that certain Revolving Credit, Term Loan and Security Agreement, dated as of December 22, 2000 (the **"Credit Agreement"**), by and amongst the Agent, the Lenders and Borrower, and various other documents, instruments and agreements all between the Bank and the Borrower (collectively, together with the Credit Agreement, the **"Loan Documents"**). Capitalized terms used herein and not otherwise defined herein shall have the meanings ascribed to them in the Credit Agreement.

The Creditor has extended or is extending to the Borrower certain loans, advances and extensions of credit, as evidenced by a loan and security agreement between the Creditor and the Borrower, and by a certain note or notes (collectively, the **"Creditor Documents"**) and wishes to obtain a second priority lien on the tangible and intangible assets of the Borrower, which lien shall be fully subordinated to the Obligations, in order to secure such loans, advances and extensions of credit under the Creditor Documents.

The Bank and the Creditor hereby desire to set forth the respective rights and obligations each has as against the other with respect to the Borrower.

NOW, THEREFORE, the parties hereto, intending to be legally bound, hereby agree as follows:

1. Definitions.

"Obligations" means all loans, advances, debts, liabilities, obligations, covenants and duties owing by the Borrower to the Bank or to any other direct or indirect subsidiary of PNC Bank Corp., up to an aggregate amount, inclusive of principal, interest, fees, costs and expenses, of $25,000,000, of any kind or nature, present or future (including any interest accruing thereon after maturity or after the filing of any petition in bankruptcy, or the commencement of any insolvency, reorganization or like proceeding relating to the Borrower, whether or not a claim for post-filing or post-petition interest is allowed in such proceeding), whether or not evidenced by any note, guaranty or other instrument, arising under the Loan Documents, or pursuant to any hedging risk or money management risk, whether or not for the payment of money, whether

direct or indirect (including those acquired by assignment or participation), absolute or contingent, joint or several, due or to become due, now existing or hereafter arising, and any amendments, extensions, renewals or, subject to the dollar limitation contained herein, increases

and all costs and expenses of the Bank incurred in the documentation, negotiation, modification, enforcement, collection or otherwise in connection with any of the foregoing, including reasonable attorneys' fees and expenses.

"Collateral" means any collateral now or in the future securing the Obligations, including but not limited to claims against any guarantors of the Obligations and any collateral securing such guarantees.

"Material Event of Default" means any of the events described in the following sections of the Credit Agreement, as in effect on the date hereof: Section 10.01, Section 10.05 (but only to the extent relating to a violation of Section 6.5 or Section 6.6 of the Credit Agreement, as in effect on the date hereof), Section 10.07 or Section 10.08.

"Subordinated Debt" means any loans, advances, debts, liabilities, obligations, covenants and duties owing by the Borrower to the Creditor of any kind or nature, present or future, whether or not evidenced by any note, guaranty or other instrument, arising under the Creditor Documents, whether or not for the payment of money, whether direct or indirect, absolute or contingent, joint or several, due or to become due, now existing or hereafter arising (including any such obligations purchased or otherwise acquired by Creditor), whether consisting of principal, interest (including, without limitation, interest thereon that may accrue subsequent to the Borrower becoming subject to any state or federal insolvency or debtor-relief statute), expense payments, management and consulting fees, liquidation costs, attorneys' fees and costs or otherwise.

2. Subordination.

(a) Subject to Section 3 hereof, the Creditor hereby irrevocably subordinates the right to receive payment of all the Subordinated Debt to the prior payment of the Obligations.

(b) The Creditor shall: (i) make notations on the books of the Creditor beside all accounts or on such other statements evidencing or recording any Subordinated Debt to the effect that such Subordinated Debt is subject to the provisions of this Agreement, (ii) furnish the Bank, upon Bank's request from time to time, a statement of the account between the Creditor and the Borrower representing the Subordinated Debt and copies of each of the Creditor Documents, and (iii) give the Bank, upon its request, full and free access to the Creditor's books pertaining only to such accounts with the right to make copies thereof. Each and every Creditor Document shall bear a legend as set forth in Section 13(c) hereof.

3. Payments to Creditor. Notwithstanding any other provision of this Agreement, the Borrower shall be entitled to pay and the Creditor shall be entitled to receive, so long as no Material Event of Default has

occurred under the Loan Documents or would result from such payment, all scheduled payments of principal and interest (at the applicable rate set forth in the Creditor Documents as in effect on the date hereof) on the Subordinated Debt, and only when due; provided that no such payment of principal under the Subordinated Debt shall made using proceeds of the Senior Credit Facility, unless the Bank has given its prior written consent thereto, which consent shall not be unreasonably withheld, or unless, at the time of such payment, there shall be no Revolving Credit Facility Advances outstanding under (and as such term is defined in) the Credit Agreement, as in

effect on the date hereof; and provided further, that proceeds of any capital infusion received directly or indirectly by the Borrower, whether in the form of equity or debt, may be used at any time, without the Bank's consent, to fund any payment, including prepayments, of principal on the Subordinated Debt. After the occurrence of a Material Event of Default under the Loan Documents and receipt by the Creditor of written notice thereof from the Bank to the Creditor, the Borrower shall not make, and the Creditor shall not receive, any direct or indirect payments of principal, interest, fees or expenses under the Subordinated Debt, until the earlier of the following events shall have occurred: a period of 180 consecutive days (a "Payment Blockage Period") shall have elapsed from the date of the Creditor's receipt of such notice (a "Payment Blockage Notice") or such Material Event of Default shall have been cured or waived in writing by the Bank, provided, however, that notwithstanding the foregoing, the Bank may provide the Creditor with a Payment Blockage Notice in which a Payment Blockage Period of less than 180 days is specified, so long as the aggregate duration of all Payment Blockage Periods that occur in any 360-day period does not exceed 180 days.

4. Security. The Borrower shall not grant and the Creditor shall not take any lien on or security interest in any of the Borrower's property, now owned or hereafter acquired or created, which lien or security interest has priority over the Bank's lien or security interest in such property, without the prior written consent of the Bank.

5. Standby Limitation. Notwithstanding any breach or default by the Borrower under the Creditor Documents, until the earliest to occur of the following events, the Creditor will not (a) take any action or initiate any proceeding against the Borrower, judicial or otherwise, to enforce the Creditor's rights or remedies with respect to any Subordinated Debt, including, without limitation, any action to enforce remedies with respect to, or realize on, any of the Borrower's collateral to the extent that such collateral secures the Subordinated Debt or to obtain any judgment or prejudgment remedy against the Borrower or any of the Borrower's collateral to the extent that such collateral secures the Subordinated Debt, or (b) contest, protest or object to any action taken by Bank under the Loan Documents or otherwise: (i) the payment and satisfaction in full of all Obligations, (ii) the acceleration by the Bank of the maturity of the Obligations, (iii) the occurrence of any of the events described in Section 10.7 or Section 10.8 of the Credit Agreement, as in effect on the date hereof, or (iv) the expiration of a single Payment Blockage Period of 180 days' duration, or, if applicable, the expiration of the last of a series of Payment Blockage Periods of 180 days' duration in the aggregate, but subject to the 360-day limitation contained in Section 3 hereof, provided, however, that

unless the Bank otherwise agrees in writing, any amounts recovered by the Creditor in any such proceeding, whether from the Borrower, its property, or otherwise, shall be turned over by the Creditor to the Bank, for application by the Bank against the Obligations, until paid in full.

6. Bankruptcy/Probate of Borrower. In the event a petition or action for relief shall be filed by or against the Borrower under any federal bankruptcy statute in effect from time to time, or under any other law relating to bankruptcy, insolvency, reorganization, receivership, general assignment for the benefit of creditors, moratorium, creditor composition, arrangement or other relief for debtors, the Bank's claim (secured or unsecured) against the assets or estate of the Borrower for repayment of the Obligations shall be indefeasibly paid in full before any payment is made to the Creditor on the Subordinated Debt, whether such payment is in cash, securities or any other form of property or rights, other than securities given in exchange for the Subordinated Debt, so long as such securities are subordinated at least to the same extent as provided for

herein. If the Creditor fails to do so, the Bank may, in its discretion, file a proof of claim for or collect the Creditor's claim first for the benefit of the Bank to the extent of the unpaid Obligations and then for the benefit of the Creditor (but without creating any duty or liability to the Creditor other than to remit to the Creditor distributions, if any, actually received in such proceedings after the Obligations have been paid and satisfied in full) directly from the receiver, trustee, custodian, liquidator or representative of the Borrower's estate in such proceeding. The Borrower and the Creditor shall furnish to the Bank copies of all documents reasonably requested by it to effectuate the foregoing.

7. Receipt of Payments by Creditor. Should the Creditor directly or indirectly receive any payment or distribution not permitted by the provisions of this Agreement or any Collateral or proceeds thereof, prior to the full and indefeasible payment and satisfaction of the Obligations and the termination of the Credit Agreement, the Creditor will deliver the same to the Bank in the form received (except for the endorsement or assignment of the Creditor where necessary), for application to the Obligations in such order and manner as the Bank may elect. Until so delivered, the Creditor shall hold the same, in trust, for the Bank as property of the Bank, and shall not commingle such property of the Bank with any other property held by the Creditor. In the event the Creditor fails to make any such endorsement or assignment, the Bank, or any of its officers or employees on behalf of the Bank, is hereby irrevocably authorized in its own name or in the name of the Creditor to make such endorsement or assignment and is hereby irrevocably appointed as the Creditor's attorney-in-fact for those purposes .

8. Bank's Rights.

(a) The Creditor hereby consents that at any time and from time to time, without further consent of or notice to the Creditor and without in any manner affecting, impairing, lessening or releasing any of the provisions of this Agreement, the Bank may, in its sole discretion: (i) renew, compromise, extend, expand (but not to an extent greater than the dollar limit contained in the definition of Obligations), postpone, waive, accelerate, terminate, change the payment terms of, or otherwise modify the Obligations or amend, renew,

replace or terminate the Loan Documents or any and all other agreements now or hereafter related to the Obligations; (ii) extend credit to the Borrower in whatever amount on a secured or unsecured basis or take other support for the Obligations and exchange, enforce, waive, sell, transfer, collect, adjust or release any such security or other support or any part thereof; (iii) apply any and all payments or proceeds of such security or other support and in any order or manner as the Bank, in its discretion, may determine; and (iv) release or substitute any party liable on the Obligations, any guarantor of the Obligations, or any other party providing support for the Obligations.

(b) This Agreement will not be affected, impaired or released by any delay or failure of the Bank to exercise any of its rights and remedies against the Borrower or any guarantor or under any of the Obligations or against any Collateral, by any failure of the Bank to take steps to perfect or maintain its lien on, or to preserve any rights to, any Collateral by any irregularity, unenforceability or invalidity of any of the Obligations or any part thereof or any security or guarantee therefor, or by any other event or circumstance which otherwise might constitute a defense available to, or a discharge of, the Borrower or a subordinated creditor. The Creditor hereby waives demand, presentment for performance, protest, notice of dishonor and of protest with respect to the Subordinated Debt and the Collateral, notice of acceptance of this Agreement,

notice of the making of any of the Obligations and notice of default under any of the Obligations.

(c) Nothing in this Agreement will obligate the Bank to grant credit to, or continue financing arrangements with, the Borrower.

9. Continuing Agreement. This is a continuing agreement and will remain in full force and effect until all of the Obligations and all of the Creditor's obligations and undertakings to the Bank have been fully performed and indefeasibly satisfied and until all the Loan Documents have been terminated. This Agreement will continue to be effective or will be automatically reinstated, as the case may be, if at any time payment of all or any part of the Obligations is rescinded or must otherwise be returned by the Bank upon insolvency, bankruptcy, or reorganization of the Borrower or otherwise, all as though such payment had not been made.

10. No Challenge to Liens. The Creditor agrees that it will not make any assertion, claim or argument in any action, suit or proceeding of any nature whatsoever in any way challenging the priority, validity or effectiveness of the liens and security interests granted to the Bank.

11. Disposition or Release of Collateral.

(a) If at any time or from time to time the Collateral, or any portion thereof, is in any manner sold or otherwise transferred in accordance with the terms of the Credit Agreement as in effect on the date hereof, the Creditor's consent to such disposition shall be automatically and irrevocably given if the Bank, in its sole discretion and for any reason, consents to such disposition, and such disposition occurs reasonably

promptly after the Bank shall have given such consent, and in any event the Creditor shall not be entitled to receive any proceeds (cash or non-cash) of such disposition unless and until the Obligations have been indefeasibly paid in full.

(b) If, at any time and for any reason, the Bank releases its lien on the Collateral, or any portion thereof, in connection with a sale or other disposition thereof made in accordance with the terms of the Credit Agreement as in effect on the date hereof, the Creditor shall likewise release its lien on the property so released from the Bank's lien, if the Creditor has obtained such a lien.

12. Order of Proceedings. Nothing in this Agreement is intended to compel the Bank or the Creditor at any time to declare the Borrower in default or compel the Bank to proceed against or refrain from proceeding against any Collateral in any order or manner. All rights and remedies of the Bank with respect to the Collateral, the Borrower, and any other obligors concerning the Obligations are cumulative and not alternative.

13. Replacement Financing; Assignment of Subordinated Debt.

(a) The provisions hereof shall inure to the benefit of any financial institution obtained by the Borrower or the Bank to provide replacement working capital or other financing for the Borrower in place of the Bank, regardless of whether any such replacement lender provides its own financing or succeeds to the Bank's financing by assignment. If requested by such replacement lender, the Creditor shall execute with such replacement lender a subordination agreement substantially similar to this Agreement.

(b) The Creditor also agrees that as a prior condition of any assignment of any of its interests under any of the Creditor Documents, the Creditor shall require the assignee to acknowledge this Agreement and agree, in writing, to be bound by the terms and conditions hereof.

(c) Each and every Creditor Document that constitutes a promissory note shall bear the following legend, or a similar legend acceptable to Bank, in boldface type:

> **This Note is subject to the terms of a Subordination Agreement in favor of PNC Bank, National Association. Notwithstanding any contrary statement contained in the within instrument, no payment on account of any obligation arising from or in connection with the within instrument or any related agreement (whether of principal, interest or otherwise) shall be made, paid, received or accepted except in accordance with the terms of said Subordination Agreement.**

14. Financing of Fiduciary. In the event that a bankruptcy, reorganization, other insolvency or court proceeding for the Borrower commences, the Bank shall have the option (in its sole and absolute discretion) to continue to provide financing (on terms acceptable to the Bank) of the trustee, other fiduciary,

or of the Borrower as a debtor-in-possession, if the Bank deems such financing to be in its best interests. The subordination and lien priority provisions of this Agreement shall continue to apply to all advances made during the pendency of such court proceedings, so that the Bank shall have a prior lien on all Collateral, created before or during such court proceeding, to secure all Obligations, whether created before or during such court proceeding. The Creditor hereby waives any right it may have to object to financing by the Bank during the pendency of such court proceeding and the Creditor's consent to such financing shall not be required regardless of whether the court supervising such proceeding approves, grants or allows adequate protection to the Creditor.

15. Investigation of Parties. The Creditor has entered into the Creditor Documents with the Borrower and the Bank has entered into the Loan Documents with the Borrower and the Creditor and the Bank have entered into this Agreement each upon its own independent investigation, and each makes no warranty or representation as to each other with respect to the financial condition of the Borrower, or its ability to repay its loans to the Creditor or the Bank in the future. Nothing in this Agreement shall be deemed to constitute this Agreement as a security or create a joint venture or partnership between the Creditor and the Bank for any purpose.

16. Improper Action by Creditor. If the Creditor, the Borrower or both, contrary to this Agreement, make, attempt to or threaten to allow the Creditor to exercise its remedies against the Borrower under the Creditor Documents, or make any payment or take any action, in any case, contrary to this Agreement, the Bank may restrain or enjoin the Creditor and the Borrower from so doing, it being expressly understood and agreed by the Creditor and the Borrower that: (i) the Bank's damages from their actions may at that time be difficult to ascertain and may be irreparable, and (ii) the Creditor and the Borrower waive any defense or claim that the Bank or the Borrower cannot demonstrate damages or can be made whole by the awarding of damages.

17. Indemnification of Bank. The Creditor agrees to indemnify and to hold the Bank, its officers, directors, agents and employees harmless for any and all losses, damages, liabilities, expenses and obligations, including attorneys' fees and expenses, as they arise, relating to actions of the Creditor taken contrary to this Agreement, to the extent such actions arise from the Creditor's gross negligence or willful misconduct.

18. Notices. All notices, demands, requests, consents, approvals and other communications required or permitted hereunder must be in writing and will be effective upon receipt. Such notices and other communications may be hand-delivered, sent by facsimile transmission with confirmation of delivery with a copy sent by first-class mail, or sent by nationally recognized overnight courier service, to a party's address set forth below or to such other address as any party may give to the other in writing for such purpose:

To the Bank:
PNC Bank, National Association
Two Tower Center Boulevard
East Brunswick, New Jersey 08816
Attention: Mr. Wing Louie
Facsimile No.: (732) 220-4393

To the Creditor:
BHC Interim Funding. L.P.
c/o Brooks, Houghton & Company, Inc.
444 Madison Avenue
New York, New York 10022
Attention: Mr. Steven H. Brooks
Facsimile No.: (212) 753-7730

To the Borrower:
Perma-Fix Environmental Services, Inc.
1940 N.W. 67th Place
Gainesville, Florida 32653
Attention: Dr. Louis Centofanti, President
Facsimile No.: (404) 847-9977

19. Preservation of Rights. No delay or omission on the Bank's part to exercise any right or power arising hereunder will impair any such right or power or be considered a waiver of any such right or power, nor will the Bank's action or inaction impair any such right or power. The Bank's rights and remedies hereunder are cumulative and not exclusive of any other rights or remedies that the Bank may have under other agreements, at law or in equity. Nothing in this Agreement is intended to modify, alter, reduce or impair any rights which the Bank or the Creditor may have against the Borrower under the Loan Documents or the Creditor Documents, respectively, or under any other agreement between them, or either of them, and the Borrower.

20. Illegality. In case any one or more of the provisions contained in this Agreement should be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

21. Changes in Writing. No modification, amendment or waiver of any provision of this Agreement nor consent to any departure therefrom by any party hereto will be effective unless made in a writing and signed by the party to be charged, and then such waiver or consent shall

be effective only in the specific instance and for the purpose for which given.

22. Entire Agreement. This Agreement (including the documents and instruments referred to herein) constitutes the entire agreement and supersedes all other prior agreements and understandings, both written and oral, among the parties with respect to the subject matter hereof.

23. Counterparts. This Agreement may be signed in any number of counterpart copies and by the parties hereto on separate counterparts, but all such copies shall constitute one and the same instrument.

Delivery of an executed counterpart of a signature page to this Agreement by facsimile transmission shall be effective as delivery of a manually executed counterpart. Any party so executing this Agreement by facsimile transmission shall promptly deliver a manually executed counterpart, provided that any failure to do so shall not affect the validity of the counterpart executed by facsimile transmission.

24. Successors and Assigns. This Agreement will be binding upon and inure to the benefit of the Borrower, the Creditor and the Bank and their respective heirs, executors, administrators, successors and assigns; provided, however, that neither the Borrower nor the Creditor may assign this Agreement in whole or in part without the Bank's prior written consent and the Bank at any time may assign this Agreement in whole or in part. No claims or rights are intended to be created hereunder for the benefit of the Borrower or any alleged third party beneficiary hereof.

25. Interpretation. In this Agreement, unless the parties otherwise agree in writing, the singular includes the plural and the plural the singular; words importing any gender include the other genders; the word "or" shall be deemed to include "and/or", the words "including", "includes" and "include" shall be deemed to be followed by the words "without limitation"; references to articles, sections (or subdivisions of sections) or exhibits are to those of this Agreement unless otherwise indicated; and references to agreements and other contractual instruments shall be deemed to include all subsequent amendments and other modifications to such instruments, but only to the extent such amendments and other modifications are not prohibited by the terms of this Agreement. Section headings in this Agreement are included for convenience of reference only and shall not constitute a part of this Agreement for any other purpose. If this Agreement is executed by more than one party as Borrower or by more than one party as Creditor, the obligations of such persons or entities hereunder will be joint and several.

26. Governing Law and Jurisdiction. This Agreement has been delivered to and accepted by the Bank and will be deemed to be made in the State of New York**. This Agreement will be interpreted and the rights and liabilities of the parties hereto determined in accordance with the laws of the State of New York, excluding its conflict of laws rules.** Each party hereto hereby irrevocably consents to the exclusive jurisdiction of any state or federal court located in the Borough of Manhattan, City and State of New York, provided that nothing contained in this Agreement will prevent the Bank from bringing any action, enforcing any award or judgment or exercising any rights against the Borrower or the Creditor individually, against any security or against any property of the Borrower within any other county, state or other foreign or domestic jurisdiction. The parties hereto agree that the venue provided above is the most convenient forum for each of the parties. Each of the Borrower and the Creditor waives any

objection to venue and any objection based on a more convenient forum in any action instituted under this Agreement.

27. WAIVER OF JURY TRIAL. EACH OF THE BORROWER, THE CREDITOR AND THE BANK IRREVOCABLY WAIVES ANY AND ALL RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR CLAIM OF ANY NATURE RELATING TO THIS AGREEMENT, ANY DOCUMENTS EXECUTED IN CONNECTION WITH THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED IN ANY OF SUCH DOCUMENTS. THE BORROWER, THE CREDITOR AND THE BANK ACKNOWLEDGE THAT THE FOREGOING WAIVER IS KNOWING AND VOLUNTARY.

[Remainder of page intentionally left blank, signature page follows.]

WITNESS the due execution hereof as a document under seal, as of the date first written above.

BORROWER:

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

WITNESS / ATTEST:

_____
(Corporation, Partnership or other Entity)

/s/ Scott B. Zimmerman

By: /s/ Richard T. Kelecy

(SEAL)

Print Name: Scott B. Zimmerman

Print Name: /s/ Richard T. Kelecy

Title: _____

Title: V. P.

(Include title only if an officer of entity signing to the right)

CREDITOR:

BHC INTERIM FUNDING, L.P.
By BHCGP, L.L.C., its General Partner
By BHC Investors, L.L.C., its Managing Member

WITNESS / ATTEST:

_____
(Corporation, Partnership or other Entity)

(SEAL)

_____
Brooks

By: /s/ Steven H.

Print Name: _____
Brooks

Print Name: Steven H.

Title: _____

Title: Manager

(Include title only if an officer of entity signing to the right)

LENDERS:

PNC BANK, NATIONAL ASSOCIATION,
As Agent

By: /s/ Wing Louie

Print Name: Wing

Louie

Title: Vice President

Execution Copy

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUABLE UPON THE EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE SOLD OR OFFERED FOR SALE UNLESS REGISTERED OR QUALIFIED UNDER SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS OR UNLESS THE COMPANY RECEIVES AN OPINION IN REASONABLY ACCEPTABLE FORM AND SCOPE TO THE COMPANY OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT REGISTRATION, QUALIFICATION OR OTHER SUCH ACTIONS ARE NOT REQUIRED UNDER ANY SUCH LAWS OR THAT AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE. THE OFFERING OF THIS WARRANT HAS NOT BEEN REVIEWED OR APPROVED BY THE UNITED STATES SECURITIES AND EXCHANGE COMMISSION, OR BY ANY STATE'S SECURITIES ADMINISTRATOR. THIS WARRANT IS ALSO SUBJECT TO CERTAIN ADDITIONAL TRANSFER RESTRICTIONS PROVIDED FOR HEREIN.

Warrant No. _____ Dated: January 31, 2001

WARRANT

THIS IS TO CERTIFY THAT, for value received, BHC INTERIM FUNDING L.P. or registered assigns ("Holder") is entitled to purchase from PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (the "Company"), at any time prior to 5:00 p.m., New York City time, on January 31, 2006 (the "Expiration Date"), at the exercise price set forth below per share (the "Exercise Price"), such number of shares of common stock, $.001 par value, of the Company (the "Common Stock") as shall equal, upon issuance, the Vested Shares (as hereinafter defined). The Exercise Price and the Vested Shares purchasable hereunder are subject to adjustment as provided in Article IV of this Warrant. This Warrant is subject to the terms and conditions hereinafter provided, and the Holder is entitled also to exercise the other appurtenant rights, powers and privileges hereinafter described.

This Warrant is being issued by the Company in connection with its entering into a Loan and Security Agreement of even date herewith between the Company and the Holder (the "Loan Agreement").

Certain terms used in this Warrant are defined in Article VI. All capitalized terms not expressly defined herein have the definitions ascribed to them in the Loan Agreement.

For purposes of this Warrant, each of the parties acknowledges and agrees that the Warrant shall automatically be deemed to be for the amount of the Vested Shares as the same may be computed in accordance herewith based on the circumstances that occur after the date of this Warrant, subject to

adjustment as provided herein. The "Vested Shares" shall be determined as follows, subject to adjustment as provided herein:

(i) Vested Shares on the date hereof and at all times hereafter if the Loan is repaid in full on or prior to July 31, 2001, shall mean 817,142 shares of Common Stock, and in such event the Exercise Price shall be the Closing Price.

(ii) If the Loan is not paid in full prior to July 31, 2001, then from and after such date until August 31, 2001, the Vested Shares shall be increased by 209,485 to 1,026,627 shares of Common Stock, and in such event the Exercise Price shall be the lower of the Closing Price or Fair Market Value as of July 31, 2001.

(iii) If the Loan is not paid in full prior to August 31, 2001, then from and after such date until September 30, 2001, the Vested Shares shall be increased by 209,485 to 1,236,112 shares of Common Stock, and in such event the Exercise Price shall be the lower of the Closing Price or Fair Market Value as of August 31, 2001.

(iv) If the Loan is not paid in full prior to September 30, 2001, then from and after such date until October 31, 2001, the Vested Shares shall be increased by 209,485 to 1,445,597 shares of Common Stock, and in such event the Exercise Price shall be the lower of the Closing Price or Fair Market Value as of September 30, 2001.

(v) If the Loan is not paid in full prior to October 31, 2001, then from and after such date until November 30, 2001, the Vested Shares shall be increased by 209,485 to 1,655,082 shares of Common Stock, and in such event the Exercise Price shall be the lower of the Closing Price or Fair Market Value as of October 31, 2001.

(vi) If the Loan is not paid in full prior to November 30, 2001, then from and after such date until December 31, 2001, the Vested Shares shall be increased by 209,485 to 1,864,567 shares of Common Stock, and in such event the Exercise Price shall be the lower of the Closing Price or Fair Market Value as of November 30, 2001.

(vii) If the Loan is not paid in full prior to December 31, 2001, then from and after such date until January 31, 2002, the Vested Shares shall be increased by 209,485 to 2,074,052 shares of Common Stock, and in such event the Exercise Price shall be the lower of the Closing Price or Fair Market Value as of December 31, 2001.

(viii) If the Loan is not paid in full prior to January 31, 2002, then from and after such date the Vested Shares shall be increased by 209,485 to 2,283,537 shares of Common Stock, and in such event the Exercise Price shall be the lower of the Closing Price or Fair Market Value as of January 31, 2002.

(ix) If the Loan is not paid in full on or prior to the Maturity Date, then effective on the Maturity Date the Vested Shares shall increase by 1,500,000 to 3,783,537 shares of Common Stock, and the Vested Shares shall thereafter increase at a rate of 300,000 shares of Common Stock per 30-day period for each 30-day period following the Maturity Date that the Loan is not paid in full until the Loan is paid in full. The Exercise Price shall be the lower of the Closing Price or the Fair Market Value as of the Maturity Date.

Notwithstanding anything contained herein, the total number of shares of Common Stock

of the Company issued pursuant to the terms of this Warrant will not exceed 4,465,910, or such other number as determined to be 19.9% of the total issued and outstanding shares of Common Stock of the Company as of the day before the date of this Warrant.

The number of Vested Shares shall be as provided in (i) through (ix) above assuming total advances of $6,000,000 under the Loan Agreement, and assuming the Term Loan in the aggregate amount of $6,000,000 is outstanding in its entirety by the above-referenced measuring dates.

Notwithstanding the number of Vested Shares set forth above, the number of Vested Shares shall be decreased pro rata if the amount of the Term Loan advanced by the Holder to the Company (or its designee) is below $6,000,000 by the above-referenced measuring dates. In addition, to the extent the Loan is prepaid in part at any time prior to the Maturity Date, the incremental amount by which the Vested Shares increases shall be adjusted pro rata for any partial payment of principal made after Closing, subject to a $400,000 minimum prepayment. By way of example, if the amount of the Term Loan outstanding, by virtue of advances and prepayments, aggregates $3,000,000 on July 31, 2001 (a measuring date), then the number of Vested Shares on July 31, 2001, would be 513,313 (because the Vested Shares as of the Closing Date would be 408,571 and the incremental 209,485 increase in the number of Vested Shares would be reduced by 50% to 104,742). If an additional advance of $1,000,000 is made by August 31, 2001 (a measuring date), then the number of Vested Shares on such date shall be 789,159 (i.e. increased by 136,190 or 1/6 of 817,142 plus 139,656 or 4/6 of 209,485). If the total $6,000,000 loan has been advanced by Holder to the Company prior to August 31, 2001, and is not prepaid prior to the Maturity Date, the number of Vested Shares shall be as set forth in paragraphs (iii) - (ix) above.

ARTICLE I - EXERCISE OF WARRANT

1.1. Method of Exercise. To exercise this Warrant in whole or in part, the Holder shall deliver on any Business Day to the Company at its principal place of business (a) this Warrant, (b) a written notice in substantially the form of the Subscription Notice attached hereto, of the Holder's election to exercise this Warrant, which notice shall specify the number of Vested Shares to be purchased (which shall be a whole number of shares if for less than all the shares then issuable hereunder), and (c) payment of the Exercise Price with respect to such shares. Such payment may be made, at the option of the Holder, either (a) by cash,

certified or bank cashier's check or wire transfer in an amount equal to the product of (i) the Exercise Price times (ii) the number of Warrant Shares as to which this Warrant is being exercised or (b) by a "cashless exercise" of this Warrant, in which event the Holder shall receive from the Company the number of Warrant Shares equal to (i) the number of Warrant Shares as to which this Warrant is being exercised minus (ii) the number of Warrant Shares having an aggregate value (determined by reference to the Fair Market Value of a share of Common Stock on the Business Day immediately prior to the date of such exercise), equal to the product of (x) the Exercise Price times (y) the number of Warrant Shares as to which this Warrant is being exercised.

The Company shall, as promptly as practicable and in any event within seven days after payment, execute and deliver or cause to be executed and delivered, in accordance with such

notice, a certificate or certificates representing the aggregate number of shares of Common Stock specified in said notice together with cash in lieu of any fractions of a share as provided in Section 1.3, less those shares not to be issued in the event that the payment of the full Exercise Price is paid or to be paid in the form of a "cashless exercise" pursuant to this Section 1.1. The share certificate or certificates so delivered shall be in such denominations as may be specified in such notice, and shall be issued in the name of the Holder or such other name or names as shall be designated in such notice. This Warrant shall be deemed to have been exercised and such certificate or certificates shall be deemed to have been issued, and such Holder or any other Person so designated to be named therein shall be deemed for all purposes to have become a holder of record of shares, as of the date the aforementioned notice and payment is received by the Company. If this Warrant shall have been exercised only in part, the Company shall, at the time of delivery of such certificate or certificates, deliver to the Holder a new Warrant evidencing the right to purchase the remaining shares of Common Stock called for by this Warrant, which new Warrant shall, in all other respects, be identical with this Warrant, or, at the request of the Holder, appropriate notation may be made on this Warrant which shall then be returned to the Holder. The Company shall pay all expenses, stamp, documentary and similar taxes and other charges payable in connection with the preparation, issuance and delivery of share certificates and new Warrants under this provision.

1.2. Shares to Be Fully Paid And Nonassessable. All shares of Common Stock issued upon the exercise of this Warrant shall be validly issued, fully paid and nonassessable and, if such Common Stock is then quoted on NASDAQ or listed on any national securities exchange (as defined in the Exchange Act), such Common Stock shall, to the extent permitted under the applicable rules of such exchange or NASDAQ, be duly quoted or listed thereon, as the case may be.

1.3. No Fractional Shares Required to Be Issued. The Company shall not be required to issue fractions of shares of Common Stock upon exercise of this Warrant. If any fraction of a share would, but for this Section 1.3, be issuable upon final exercise of this Warrant, in lieu of such fractional share, the Company shall pay to the Holder in cash an amount equal to the same fraction of the Fair Market Value of the Company per share of Common Stock Outstanding on the Business Day immediately prior to the date of such exercise.

1.4. Investment Intent. The Holder represents and warrants that this Warrant is being acquired, and all Warrant Shares to be purchased upon the exercise of this Warrant will be acquired, by the Holder solely for the account of such Holder and not with a view to the fractionalization and distribution thereof and will not be sold or transferred except in accordance with the applicable provisions of the Securities Act and the rules and regulations of the Commission promulgated thereunder, and the Holder agrees that neither this Warrant nor any of the Warrant Shares may be sold or transferred except under cover of a Registration Statement under the Act which is effective and current with respect to such Warrant Shares or pursuant to an opinion of counsel reasonably satisfactory to the Company that registration under the Securities Act is not required in connection with such sale or transfer. Each certificate for shares of Common Stock issued upon exercise of this Warrant, unless at the time of exercise such shares are registered under the Securities Act, shall bear substantially the following legend:

"This security has not been registered under the Securities Act of 1933 and may not be sold or offered for sale unless registered or qualified under said Act and any applicable state securities laws or unless the Company receives an opinion in reasonably acceptable form and

scope to the Company of counsel reasonably satisfactory to the Company that registration, qualification or other such actions are not required under any such laws or that an exemption from such registration is available. The offering of this security has not been reviewed or approved by the United States Securities and Exchange Commission or by any state's securities administrator. This security is also subject to certain additional transfer restrictions provided for in the Warrant the exercise of which resulted in the original issuance of this security, a copy of which restrictions shall be furnished to the holder hereof by the Company upon written request and without charge."

Any certificate issued at any time in exchange or substitution for any certificate bearing such legend (except a new certificate issued upon completion of a public offering pursuant to a registration statement under the Securities Act) shall also bear such legend unless, in the opinion of counsel selected by the Holder of such certificate and reasonably acceptable to the Company, the securities represented thereby need no longer be subject to restrictions on resale under the Securities Act.

1.5. Reservation; Authorization; Capitalization. The Company has duly reserved, and will keep available for issuance upon exercise of the Warrant, the total number of Warrant Shares deliverable from time to time upon exercise of this Warrant in its entirety. The Company will not take any actions during the term of this Warrant that would result in any adjustment of the number of shares of Common Stock issuable upon the exercise of this Warrant if (i) the total number of shares of Common Stock issuable after such action upon exercise of this Warrant, (ii) all shares of Common Stock issued and outstanding and (iii) all shares of Common Stock then issuable (y) upon the exercise of all outstanding options and (z) upon the exercise, conversion or exchange of all other outstanding securities which are exercisable for, convertible into or exchangeable for Common Stock, would exceed the total number of shares of Common Stock then

authorized for issuance by the Company. The Company will not, for as long as this Warrant has not been exercised, change the par value of its Common Stock. The issuance of the Warrant Shares has been duly and validly authorized and, when issued and sold in accordance with the Warrants, the Warrant Shares will be duly and validly issued, fully paid and non-assessable. Neither the issuance of this Warrant nor the issuance of Warrant Shares upon exercise of this Warrant violates or conflicts with the Company's certificate of incorporation or bylaws or any agreement to which the Company is a party.

ARTICLE II - TRANSFER, EXCHANGE AND REPLACEMENT OF WARRANTS

2.1. Ownership of Warrant. The Company shall deem and treat the person in whose name this Warrant is registered as the Holder and owner hereof (notwithstanding any notations of ownership or writing hereon made by any person other than the Company) for all purposes and shall not be affected by any notice to the contrary, until due presentment of this Warrant for registration of transfer as provided in this Article II.

2.2. Transfer of Warrant. The Company agrees to maintain at its principal office the books for the registration of transfers of the Warrants, and transfer of this Warrant and all rights hereunder shall be registered, in whole or in part, on such books, upon surrender of this Warrant at the Company, together with (i) a written assignment of this Warrant duly executed by the Holder or its duly authorized agent or attorney, with (if the Holder is a natural person) signatures

guaranteed by a bank or trust company or a broker or dealer registered with the NASD, (ii) funds sufficient to pay any transfer taxes payable upon such transfer, and (iii) documentation executed by the transferee whereby transferee agrees to be bound by the terms of this Warrant. Upon 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 denominations specified in the instrument of assignment (which shall be whole numbers of shares only) and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be canceled. The Company shall permit the Warrant Securityholders to inspect the warrant registration books from time to time during normal business hours at the Company. Holder shall pay all fees (including reasonable attorney's fees), costs and expenses associated with any transfer of this Warrant requested by Holder.

2.3. Division or Combination of Warrants. This Warrant may be divided or combined with other Warrants upon presentment to the Company of this Warrant and of any Warrant or Warrants with which this Warrant is to be combined, together with a written notice specifying the names and denominations (which shall be whole numbers of shares only) in which the new Warrant or Warrants are to be issued, signed by the Holders hereof and thereof or their respective duly authorized agents or attorneys. Subject to compliance with Section 2.2 as to any transfer or assignment which may be involved in the 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.

2.4. Expenses of Delivery of Warrants. The Company shall pay all expenses, stamp, documentary and similar taxes (other than transfer taxes) and other charges payable in connection with the preparation, issuance and delivery of the Warrants.

ARTICLE III - CERTAIN RIGHTS

3.1 Determination of Fair Market Value. Subject to Section 3.2 hereof, each determination of Fair Market Value shall be made by the Company in accordance with the definition of the term Fair Market Value set forth in Article VI hereof. Upon each determination of Fair Market Value, the Company shall promptly give written notice thereof to all Warrant Securityholders, setting forth in reasonable detail (i) the transaction giving rise to the necessity for such determination (ii) the calculation of such Fair Market Value and the (iii) method and basis of determination thereof (the "Company Determination"). In the event Fair Market Value is determined with reference to subsection (i)(C) or (ii) of the definition of Fair Market Value, the Company's Board of Directors shall make such initial determination within twenty-one (21) days of the event giving rise to the necessity for such determination.

3.2. Contest And Appraisal Rights.

(a) In the event that Fair Market Value is determined with reference to subsection (i)(C) or (ii) of the definition of Fair Market Value, or in the event that the Warrantholder believes that the Company determined Fair Market Value with reference to any other subsection of the definition of Fair Market Value in bad faith or gross malfeasance and a Warrantholder disagrees with the Company Determination (an "Objecting Holder") and by notice to the Company given within 20 days after receipt of notice of the Company Determination (an "Appraisal Notice") elects to dispute the Company Determination, such dispute shall be resolved as set forth in

subsection (b) of this Section 3.2.

(b) For a period of 10 days after the Appraisal Notice, the Company and the Objecting Holder shall negotiate in good faith to resolve their differences as to the determination of Fair Market Value. In the absence of a mutually satisfactory resolution within such 10 day period, the Company shall within 5 days after the last day of such 10 day period engage an investment bank or other qualified appraisal firm reasonably acceptable to the Objecting Holder (the "Appraiser") to make an independent determination of Fair Market Value (the "Appraiser Determination"). The Appraiser Determination shall be made within 20 days of the engagement of such Appraiser and shall be final and binding on the Company and the Objecting Holder. The costs of conducting the appraisal shall be borne solely by the Company.

(c) If the Company does not determine the Fair Market Value of a share of Common Stock, or property or service, as applicable, within the period specified in Section 3.1, then any Warrantholder shall have the right to determine the Fair Market Value (the "Holder Determination") which determination shall be final and binding upon the Company and the Warrantholder(s). Upon each such determination, the

Warrantholder which has determined the Fair Market Value shall promptly give written notice of the Holder Determination to the Company setting forth in reasonable detail (i) the transaction giving rise to the necessity for such determination, (ii) the calculation of such Fair Market Value and (iii) the method and basis of determination thereof. Upon its receipt of the Holder Determination and related notice, the Company shall promptly send such determination and notice to all other Warrantholders. The costs of making the Holder Determination shall be borne solely by the Company.

3.3. Financial Statements And Other Information. Promptly upon transmission thereof, the Company will deliver to each Warrant Securityholder copies of any and all financial statements, proxy statements, notices and other reports as it may send to its public stockholders and copies of all registration statements and all reports which it files with the Commission (or any governmental body or agency succeeding to its functions).

ARTICLE IV - ANTIDILUTION PROVISIONS

4.1. Anti Dilution.

(a) Except as hereinafter provided, in case the Company shall at any time after the date hereof issue or sell any shares of Common Stock (including shares held in the Company's treasury), without consideration or for a consideration per share less than the Exercise Price in effect immediately prior to such issuance or sale of such shares then, and thereafter successively upon each issuance or sale, the Exercise Price in effect immediately prior to each such issuance or sale shall forthwith be reduced to a price determined by multiplying the Exercise Price in effect immediately prior to such issuance or sale by a fraction:

(i) the numerator of which shall be (i) the total number of shares of Common Stock outstanding immediately prior to such issuance or sale, plus (ii) the number of shares of Common Stock which the aggregate consideration, if any, received by the Company upon such issuance or sale would purchase at such Exercise Price, and

(ii) the denominator of which shall be the total number of shares of Common Stock outstanding immediately after such issuance or sale.

(b) For the purposes of any computation to be made in accordance with the provisions of Section 4.1(a), the following provisions shall be applicable:

(i) In case of the issuance or sale of shares of Common Stock for a consideration part or all of which shall be cash, the amount of the cash consideration therefor shall be deemed to be the amount of cash received by the Company for such shares (or, if such shares of Common Stock are offered by the Company for subscription, the subscription price, or, if shares of Common Stock shall be sold to underwriters or dealers for public offering without a subscription offering, the initial public offering price)

before deducting therefrom any commissions or other expenses paid or incurred by the Company for any underwriting of, or otherwise in connection with, the issuance of such shares.

(ii) In case of the issuance or sale of shares of Common Stock for a consideration part or all of which shall be other than cash (otherwise than as a dividend or other distribution on any shares of the Company or on conversion, exchange or exercise of other securities of the Company or upon acquisition of the assets or securities of another company or upon merger or consolidation with another entity), the amount of consideration therefor other than cash shall be the value of such consideration as of the date of the issuance or sale of the shares of Common Stock, irrespective of accounting treatment. The reclassification of securities other than Common Stock into securities including Common Stock shall be deemed to involve the issuance for a consideration other than cash of such Common Stock immediately prior to the close of business on the date fixed for the determination of security holders entitled to receive such Common Stock.

(iii) In case of the issuance of shares of Common Stock upon conversion or exchange of any obligations or of any shares of stock of the Company that shall be convertible into or exchangeable for shares of Common Stock or upon the exercise of rights or options to subscribe for or to purchase shares of Common Stock, the amount of consideration received by the Company for such shares of Common Stock shall be deemed to be the total of (A) the amount of the consideration received by the Company upon the original issuance of such obligations, shares, rights or options, as the case may be, plus (B) the consideration, if any, other than such obligations, shares, rights or options, received by the Company upon such conversion, exchange, or exercise except in adjustment of interest and dividends. The amount of the consideration received by the Company upon the original issuance of the obligations, shares, rights or options so converted, exchanged or exercised and the amount of the consideration, if any, other than such obligations, shares, rights or options, received by the Company upon such conversion, exchange or exercise shall be determined in the same manner provided in clauses (i) and (ii) above with respect to the consideration received by the Company in case of the issuance of shares of Common Stock; if such obligations, shares, rights or options shall have been issued as a dividend upon any stock of the Company, the amount of the consideration received by the Company upon the original issuance thereof shall be deemed to be zero.

(iv) In case of the issuance of shares of Common Stock upon acquisition by the Company of the assets or securities of another company or upon merger or consolidation of the Company with another entity, the consideration therefor received by the Company for such issuance shall be deemed to equal the cash and the Fair Market Value of securities issued by the Company. The Fair Market Value of securities issued shall be the lesser of the Fair Market Value of the securities on the date an agreement in principle with respect to such merger, consolidation or purchase is reached among the parties or the date the agreement of consolidation, merger or purchase is executed.

(v) Shares of Common Stock issuable by way of dividend or other distribution on any stock of the Company shall be deemed to have been issued and to be outstanding at the close of business on the record date fixed for the determination of stockholders entitled to receive such dividend or other distribution and shall be deemed to have been issued without consideration. Shares of Common Stock issued otherwise than as a dividend, shall be deemed to have been issued and to be outstanding at the close of business on the date of issue.

(vi) The number of shares of Common Stock at any time outstanding shall not include any shares then owned or held by or for the account of the Company, but shall include the aggregate number of shares deliverable in respect of the options, rights and convertible and exchangeable securities referred to in Section 4.1(c) at all times while such options, rights or securities remain outstanding and unexercised, unconverted or unexchanged, as the case may be, and thereafter to the extent such options, rights or securities have been exercised, converted or exchanged.

(vii) Notwithstanding anything to the contrary contained herein, no adjustment shall be made to the Exercise Price in case of the issuance of shares of Common Stock (A) upon conversion, exchange or exercise of any obligations or securities or of any shares of stock of the Company that shall be convertible into or exchangeable or exercisable for shares of Common Stock for which an adjustment in the Exercise Price has previously been made in accordance with Section 4.1(c), (B) upon the exercise of rights or options to subscribe for or to purchase shares of Common Stock for which an adjustment in the Exercise Price has previously been made in accordance with Section 4.1(c), (C) upon the grant or exercise of rights or options to subscribe for or to purchase shares of Common Stock under the Company's Outside Director Option Plan (500,000 shares), Employee Stock Purchase Plan (500,000 shares), Non-Qualified Stock Option Plan (1,412,562 f/y/e 2001), and the Performance Equity Plan (500,000 shares), up to an aggregate maximum of approximately 3,912,562 shares of Common Stock, subject to adjustment as therein provided (without amendment of the Plans) or (D) upon the exercise of warrants outstanding as attached on Schedule 4.1 attached.

(viii) Treasury Shares shall not be deemed to be issued and outstanding solely by reason of being held in the Company's or any of its Subsidiaries' treasury.

(c) In case the Company shall at any time after the date hereof issue options or rights to subscribe for shares of Common Stock (including shares held in the Company's treasury), or issue any securities convertible into or exchangeable for shares of Common Stock, for a consideration per share less than the Exercise Price then in effect, or without consideration, the Exercise Price in effect immediately prior to

the issuance of such options or rights or securities shall be reduced to a price determined by making a computation in accordance with the provisions of Section 4.1(a), provided that:

(i) the aggregate maximum number of shares of Common Stock deliverable under such options or rights shall be considered to have been delivered at the time such options or rights were

issued, and for a consideration equal to the minimum purchase price per share of Common Stock provided for in such options or rights, plus the cash consideration (determined in the same manner as consideration received on the issue or sale of Common Stock) received by the Company for such options or rights;

(ii) the aggregate maximum number of shares of Common Stock deliverable upon conversion of or exchange for any such securities shall be considered to have been delivered at the time of issuance of such securities, and for a consideration equal to the consideration (determined in the same manner as consideration received on the issue or sale of Common Stock) received by the Company for such securities, plus the consideration, if any, to be received by the Company upon the exchange or conversion thereof; and

(iii) on the expiration of such options or rights, or the termination of such right to convert or exchange, the Exercise Price shall forthwith be readjusted to such Exercise Price as would have obtained had the adjustments made upon the issuance of such options, rights or convertible or exchangeable securities been made upon the basis of the delivery of only the number of shares of Common Stock actually delivered upon the exercise of such options or rights or upon conversion or exchange of such securities.

(d) In case the Company shall at any time subdivide or combine the outstanding shares of Common Stock, the Exercise Price shall forthwith be proportionately decreased in the case of the subdivision or proportionately increased in the case of combination to the nearest one cent. Any such adjustment shall become effective at the close of business on the date that such subdivision or combination shall become effective.

(e) In the event that the number of outstanding shares of Common Stock is increased by a stock dividend payable in shares of Common Stock or by a subdivision of the outstanding shares of Common Stock, which may include a stock split, then from and after the time at which the adjusted Exercise Price becomes effective pursuant to Section 4.1(a) by reason of such dividend or subdivision, the number of shares issuable upon the exercise of this Warrant shall be increased in proportion to such increase in outstanding shares. In the event that the number of outstanding shares of Common Stock is decreased by a combination of the outstanding shares of Common Stock, then, from and after the time at which the adjusted Exercise Price becomes effective pursuant to Section 4.1(a) by reason of such combination, the number of shares issuable upon the exercise of this Warrant shall be decreased in proportion to such decrease in outstanding shares.

(f) In the event of an adjustment of the Exercise Price the number of shares of Common Stock (or reclassified stock) issuable upon exercise of this Warrant after such adjustment shall be equal to the number determined by dividing:

(i) an amount equal to the product of (A) the number of shares of Common Stock issuable upon exercise of this Warrant immediately prior to such adjustment, and (B) the Exercise Price immediately prior to such adjustment, by

(ii) the Exercise Price immediately after such adjustment.

(g) In the case of any reorganization or reclassification of the outstanding shares of Common Stock (other than a change in par value, or from par value to no par value, or from no par value to par value, or as a result of a subdivision or combination) or in the case of any consolidation of the Company with, or merger of the Company with, another corporation, or in the case of any sale, lease or conveyance of all, or substantially all, of the property, assets, business and goodwill of the Company as an entity, the Holder of this Warrant shall thereafter have the right upon exercise to purchase the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, consolidation, merger or sale by a holder of the number of shares of Common Stock which the Holder of this Warrant would have received had all Warrant Shares issuable upon exercise of this Warrant been issued immediately prior to such reorganization, reclassification, consolidation, merger or sale, at a price equal to the Exercise Price then in effect pertaining to this Warrant (the kind, amount and price of such stock and other securities to be subject to adjustment as herein provided).

(h) In case the Company shall, at any time prior to the expiration of this Warrant and prior to the exercise thereof, dissolve, liquidate or wind up its affairs, the Warrantholder shall be entitled, upon the exercise thereof, to receive, in lieu of the Warrant Shares of the Company which it would have been entitled to receive, the same kind and amount of assets as would have been issued, distributed or paid to it upon such Warrant Shares of the Company, had it been the holder of record of shares of Common Stock receivable upon the exercise of this Warrant on the record date for the determination of those entitled to receive any such liquidating distribution. After any such dissolution, liquidation or winding up which shall result in any distribution in excess of the Exercise Price provided for by this Warrant, the Warrantholder may at its option exercise the same without making payment of the aggregate Exercise Price and in such case the Company shall upon the distribution to said Warrantholder consider that the aggregate Exercise Price has been paid in full to it and in making settlement to said Warrantholder, shall deduct from the amount payable to such Warrantholder an amount equal to the aggregate Exercise Price.

(i) In case the Company shall, at any time prior to the expiration of this Warrant and prior to the exercise thereof make a distribution of assets (other than cash) or securities of the Company to its stockholders (the "Distribution") the Warrantholder shall be entitled, upon the exercise thereof, to receive, in addition to the Warrant Shares it is entitled to receive, the same kind and amount of assets or securities as would have been distributed to it in the Distribution had it been the holder of record of shares of Common Stock receivable upon exercise of this Warrant on the record date for determination of those entitled to receive the Distribution.

(j) Irrespective of any adjustments in the number of Warrant Shares and the Exercise Price or the number or kind of shares purchasable upon exercise of this Warrant, this Warrant may continue to express the same price and number and kind of shares as originally issued.

4.2 Officer's Certificate. Whenever the number or kind of Warrant Shares and the Exercise Price shall be adjusted pursuant to the provisions hereof, the Company shall forthwith file, at its principal executive office a statement, signed by the Chairman of the Board, President, or one of the Vice Presidents of the Company and by its Chief Financial Officer or one of its Treasurers or Assistant Treasurers, stating the adjusted number of Warrant Shares and the new Exercise Price calculated to the nearest one hundredth and setting forth in reasonable detail the method of calculation and the facts requiring such adjustment and upon which such calculation is based. Each adjustment shall remain in effect until a subsequent adjustment hereunder is required. A copy of such statement shall be mailed to the Warrantholder.

ARTICLE V - REGISTRATION RIGHTS

5.1 Registration on Request.

(a) Subject to the terms and conditions of this Section 5.1(g), at any time or from time to time from the date beginning the date hereof and ending on January 31, 2006, upon the written request of the Holder or Holders of a majority of the outstanding Warrant Shares and Warrants (such majority determined, for purposes of this Section 5.1, by calculating the number of Warrant Shares for which such Warrants are then exercisable) (the "Initiating Holder(s)"), requesting that the Company effect the registration under the Securities Act of all or not less than a majority of such Initiating Holders' Registrable Securities and specifying the intended method of disposition thereof, the Company will promptly give written notice of such requested registration to all holders of Registrable Securities (who shall have the right to request that their Registrable Securities be included in the registration statement requested pursuant to this Section 5.1 upon written notice to the Company made within 20 days after receipt of the Company's written notice. Thereupon, the Company will use its best efforts to effect the registration under the Securities Act of the Registrable Securities which the Company has been so requested to register for disposition in accordance with the intended method of disposition stated in the Initiating Holder's request; all to the extent requisite to permit the disposition (in accordance with the intended methods thereof as aforesaid), of the Registrable Securities and the additional shares of Common Stock, if any, to be so registered, provided that the holders of Registrable Securities as a class shall be entitled to not more than one registration upon request pursuant to this Section 5.1.

(b) Registrations under this Section 5.1 shall be on such appropriate registration form of the Commission (i) as shall be selected by the Company and (ii) as shall permit the disposition of such Registrable Securities in accordance with the intended method or methods of disposition specified in the Initiating Holders' request for such registration. The Company agrees to include in any such registration

statement all information which holders of Registrable Securities being registered shall reasonably request provided disclosure of such information is in compliance with the Securities Act.

(c) The Company will pay all Registration Expenses in connection with the registrations requested pursuant to this Section 5.1. The Initiating Holders shall pay all underwriting discounts, brokerage commissions and applicable insurance and transfer taxes relating to sale of the Warrant Shares (the "Selling Expenses").

(d) The Initiating Holders will be entitled to request one registration pursuant to this Section 5.1 for which the Company will pay all registration expenses, excluding Selling Expenses. A registration requested pursuant to this Section 5.1 shall not be deemed to have been effected (i) unless a registration statement with respect thereto has become effective and closes; provided that a registration which does not become effective after being filed by the Company pursuant to Section 5.1 solely by reason of the refusal to proceed by the Initiating Holders (other than a refusal to proceed based upon the advice of counsel relating to a matter with respect to the Company) shall be deemed to have been effected by the Company at the request of the Initiating Holders unless the Initiating Holders shall have elected to pay all Registration Expenses in connection with such registration, (ii) if, after it has become effective, such registration is subject to a stop order, injunction or other order of the Commission or other governmental agency or court suspending the effectiveness of such registration statement for any reason, other than by reason of misstatements or omissions made or not made in the registration statement in reliance upon and in conformity with written information furnished to the Company by a Holder of Registrable Securities specifically for use in the preparation of such registration statement, or (iii) the conditions to closing specified in the purchase agreement or underwriting agreement entered into in connection with such registration are not satisfied, other than by reason of some act or omission by any Holder of Registrable Securities participating in the offering. Except as provided in Sections 5.1(c) and 5.1(d)(i) above, whether or not the registration becomes effective and closes, the Company will pay all registration expenses in connection with any registration so initiated.

(e) If a registration requested pursuant to this Section 5.1 involves an underwritten offering, the underwriter or underwriters thereof shall be selected by the holders of at least a majority (by a number of shares) of the Registrable Securities as to which registration has been requested and shall be reasonably acceptable to the Company.

(f) If a requested registration by the Holder pursuant to this Section 5.1 involves an underwritten offering, and the managing underwriter shall advise the Company (with a copy of any such notice to each holder of Registrable Securities requesting registration) that, in its opinion, the number of securities requested to be included in such registration (including securities proposed to be sold for the account of the Company) exceeds the number which can be sold in such offering within a price range acceptable to the Initiating Holders, the Company will include in such registration, to the extent of the number which the Company is so advised can be sold in such offering, (i) first, Registrable Securities requested to be included in such registration by the holder or holders of Registrable Securities, pro rata among such holders

requesting such registration on the basis of the number of such securities requested to be included by such holders, (ii) second, all shares proposed to be included by the Company in such registration and (iii) third, all shares other than Registrable Shares (any such shares with respect to any registration, "Other Securities") requested to be included in such registration by the holder or holders thereof.

(g) The Company may suspend any registration requested pursuant to this Section 5.1 for a period of up to 90 days upon notice to the holders of Registrable Securities whose Securities are covered by the registration Statement requesting pursuant to this Section 5.1 that, in the good faith determination of the Board of Directors of the Company, the registration and sale at such time of the Registrable Securities requested to be so registered would not be in the best

interests of the Company, provided that notwithstanding such suspension, the Company shall continue to diligently process the preparation of the documentation required for such registration. No registration shall be requested pursuant to this Section 5.1 during the period from the date of the notice to the Warrant Securityholders pursuant to Section 5.1(a) of the Company's intention to register securities until the expiration of the lockup period specified in Section 5.4(b), or, if earlier, the date of the Company's notice pursuant to the proviso to the second sentence of Section 5.2(a).

5.2 Incidental Registration.

(a) If the Company at any time from the date hereof and expiring on January __, 2006, proposes to register any of its securities under the Securities Act (other than (x) by a registration on Form S-4 or S-8 or any successor or similar forms) or (y) pursuant to Section 5.1) whether for its own account or for the account of the holder or holders of any other Shares, it will each such time give prompt written notice to all holders of Registrable Securities of its intention to do so and of such holders' rights under this Section 5.2. Upon the written request of any such holder made within 20 days after the receipt of any such notice (which request shall specify the Registrable Securities intended to be disposed of by such holder and the intended method of disposition thereof), the Company will use its commercially reasonable efforts to effect the registration under the Securities Act of all Registrable Securities which the Company has been so requested to register, by inclusion of such Registrable Securities in the registration statement which covers the securities which the Company proposes to register; provided that if, at any time after giving written notice of its intention to register any securities and prior to the effective date of the registration statement filed in connection with such registration, the Company shall determine for any reason either not to register or to delay registration of such securities, the Company may, at its election, give written notice of such determination to each holder of Registrable Securities and, thereupon, (i) in the case of a determination not to register, shall be relieved of its obligation to register any Registrable Securities in connection with such registration (but not from its obligation to pay the Registration Expenses in connection therewith), without prejudice, however, to the rights of any holder of Registrable Securities entitled to request that such registration be effected as a registration under Section 5.1, and (ii) in the case of a determination to delay registering, shall be permitted to delay registering any Registrable Securities, for the same period as the delay in registering such other securities. No registration effected under this Section 5.2 shall relieve the Company of its obligation to effect any registration upon request under Section 5.1, nor shall any such registration hereunder be deemed to have been effected pursuant to Section 5.1. The Company will pay all Registration

Expenses in connection with each registration of Registrable Securities pursuant to this Section 5.2, except for Selling Expenses, which shall be borne by the holder or holders of Registrable Securities selling hereunder.

(b) If the Company at any time proposes to register any of its securities under the Securities Act as contemplated by Section 5.2 and such securities are to be distributed by or through one or more underwriters, the Company will, if requested by any holder of Registrable Securities as provided in this Section 5.2, use its commercially reasonable efforts to arrange for such underwriters to include all the Registrable Securities to be offered and sold by such holder among the securities to be distributed by such underwriters, provided that if the managing underwriter of such underwritten offering shall inform the Company and holders of the Registrable Securities requesting such registration and all other holders of any Other Securities

in respect of such underwritten offering, by letter of its belief that inclusion in such distribution of all or a specified number of the securities proposed to be distributed by such underwriters would interfere with the successful marketing of the securities being distributed by such underwriters (such letter to state the approximate number of such Registrable Securities and such Other Securities which may be distributed without such effect), then the Company may, upon written notice to all holders of such Registrable Securities and holders of such Other Securities, reduce pro rata (if and to extent stated by such managing underwriter to be necessary to eliminate such effect) first the number of Other Securities that have been requested be included in such registration statement and second the number of Registrable Securities that have been requested be included in such registration statement so that the resultant aggregate number of such Registrable Securities and Other Securities so included in such registration, together with the number of securities to be included in the registration for the account of the Company, shall be equal to the number of shares stated in such managing underwriter's letter.

5.3 Registration Procedures.

(a) If and whenever the Company is required to effect the registration of any Registrable Securities under the Securities Act as provided in Section 5.1 or Section 5.2, the Company shall, as promptly as possible:

(i) prepare and (within the later of 60 days after the end of the fiscal quarter of the Company within which requests for registration may be given to the Company or 15 days after the date the Company files its quarterly report on Form 10-Q for such period provided that such 10-Q is filed on a timely basis taking into account all possible extension periods, except in the case (A) where requests for registration may be given in the Company's fourth fiscal quarter, in which case the filing shall be within the later of 120 days after the end of such quarter or 30 days after the date the Company files its annual report on Form 10-K for the fiscal year then ended, provided that such 10-K is filed on a timely basis taking into account all possible extension periods, or (B) a registration pursuant to Section 5.1, in which case the filing shall be made as soon as possible after the initial request of an Initiating Holder of Registrable Securities or in any event within ninety (90) days after such request), unless such request is made during the Company's fourth fiscal quarter, in which case the filing shall be within the later of 120 days after the end of such quarter or 30 days after the

date the Company timely files its annual report on Form 10-K for the fiscal year then ended, file with the Commission the requisite registration statement to effect such registration (including such audited financial statements as may be required by the Securities Act) and thereafter use reasonable efforts to cause such registration statement to become and remain effective, subject to the provisions of Article V hereto; provided further that the Company may discontinue any registration of its securities which are not Registrable Securities at any time prior to the effective date of the registration statement relating thereto; and provided further that before filing such registration statement or any amendments thereto, the Company will furnish to the Initiating Holders of Registrable Securities which are to be included in such registration copies of all such documents proposed to be filed, which documents will be subject to their review and review of their counsel only with respect to the information contained therein relating to the Holder;

(ii) prepare and file with the Commission such amendments and supplements to such registration statement and the prospectus used in connection therewith as may be necessary to keep such registration statement effective and to comply with the provisions of the

Securities Act with respect to the disposition of all securities covered by such registration statement until the earlier of (x) in the case of a registration pursuant to Section 5.1, the expiration of 180 days after such registration statement becomes effective (provided that if the registration statement is suspended pursuant to Section 5.1 (g), the registration statement shall be effective for 180 days after suspension is ended), or (y) in the case of a registration pursuant to Section 5.2, the expiration of 120 days after such registration statement becomes effective;

(iii) furnish to each seller of Registrable Securities covered by such registration statement and each underwriter, if any, of the securities being sold by such seller such number of conformed copies of such registration statement and of each such amendment and of copies of the prospectus contained in such registration statement supplement thereto (in each case including all exhibits), such number (including each preliminary prospectus and any summary prospectus) and any other prospectus filed under Rule 424 under the Securities Act, in conformity with the requirements of the Securities Act, and such other documents, as such seller and underwriter, if any, may reasonably request in order to facilitate the public sale or other disposition of the Registrable Securities owned by such seller;

(iv) use its commercially reasonable efforts to register or qualify all Registrable Securities and other securities covered by such registration statement under blue sky or similar laws of such jurisdictions as any seller thereof and any underwriter of the securities being sold by such seller shall reasonably request, to keep such registrations or qualifications in effect for so long as such registration statement remains in effect, and take any other action which may be reasonably necessary or advisable to enable such seller and underwriter to consummate the disposition in such jurisdictions of the securities owned by such seller except that the Company shall not for any such purpose be required to qualify generally to do business as a foreign corporation in any jurisdiction wherein it would not but for the requirements of this subdivision (iv) be obligated to be so qualified, to subject itself to taxation in any such jurisdiction or to consent to general service of process in any such jurisdiction;

(v) use its commercially reasonable efforts to cause all Registrable Securities covered by such registration statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to enable the seller or sellers thereof to consummate the disposition of such Registrable Securities;

(vi) intentionally left blank

(vii) notify the holders of Registrable Securities and the managing underwriter or underwriters, if any, promptly and confirm such advice in writing promptly thereafter:

(A) when the registration statement, the prospectus or any prospectus supplement related thereto or post-effective amendment to the registration statement has been filed, and, with respect to the registration statement or any post-effective amendment thereto, when the same has become effective;

(B) of any request by the Commission for amendments or supplements to the registration statement or the prospectus or for additional information;

(C) of the issuance by the Commission of any stop order suspending the effectiveness of the registration or the initiation of any proceedings by any Person for that

purpose; and

(D) of the receipt by the Company of any notification with respect to the suspension of the qualification of any Registrable Securities for sale under the securities or blue sky laws of any jurisdiction or the initiation or threat of any proceeding for such purpose;

(viii) notify each seller of Registrable Securities covered by such registration statement, at any time when a prospectus relating thereto is required to be delivered under the Securities Act, upon the Company's discovery that, or upon the happening of any event as a result of which, the prospectus included in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state any material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing, and promptly prepare and furnish to such seller and each underwriter, if any, a reasonable number of copies of a supplement to or an amendment of such prospectus as may be necessary so that, as thereafter delivered to the purchasers of such securities, such prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing;

(ix) make reasonable effort to obtain the withdrawal of any order suspending the effectiveness of the registration statement at the earliest possible moment;

(x) otherwise use its best efforts to comply with all applicable rules and regulations of the Commission;

(xi) make available for inspection by a representative of the holders of Registrable Securities participating in the offering, any underwriter participating in any disposition pursuant to the registration and any attorney or accountant retained by such selling holders or underwriter (each, an "Inspector"), all financial and other records, pertinent corporate documents and properties of the Company (the "Records"), and cause the Company' officers, directors and employees to supply all information reasonably requested by any such Inspector in connection with such registration; provided that the Company shall not be required to comply with this subdivision (xi) if immediately prior to the effective date of the registration contemplated hereby, the Company is a Reporting Company within the definition of the Securities Exchange Act of 1934, as amended, and has been for a period of at least one year, or if there is a reasonable likelihood, in the judgment of the Company, that such delivery could result in the loss of any attorney-client privilege related thereto; and provided further that Records which the Company determines, in good faith, to be confidential and which it notifies the Inspectors are confidential shall not be disclosed by the Inspectors (other than to any holder of Registrable Securities participating in the offering, and if disclosed to any such holder shall not be disclosed by such holder) unless (x) such Records have become generally available to the public or (y) the disclosure of such Records may be necessary or appropriate (A) to comply with any law, rule, regulation or order applicable to any such Inspectors or holder of Registrable Securities, (B) in response to any subpoena or other legal process or (C) in connection with any litigation to which such Inspectors or any holder of Registrable Securities is a party (provided that the Company is provided with reasonable notice of such proposed disclosure and a reasonable opportunity to seek a protective order or other appropriate remedy with respect to such Records);

(xii) provide and cause to be maintained a transfer agent and registrar for all

Registrable Securities covered by such registration statement from and after a date not later than the effective date of such Registration Statement;

(xiii) use its commercially reasonable efforts to list all Registrable Securities covered by such registration statement on any securities exchange on which any of the Common Stock is then listed and, if not so listed, to be listed on the NASD automated quotation system and, if listed on the NASD automated quotation system, use its best efforts to secure designation of all such Registrable securities covered by such registration statement as a NASDAQ "national market system security" within the meaning of Rule 11Aa2-1 of the Securities and Exchange Commission or, failing that, to secure NASDAQ authorization for such Registrable Securities and, without limiting the generality of the foregoing, to arrange for at least two market makers to register as such with respect to such Registrable Securities with the NASD; and

(xiv) use its commercially reasonable efforts to provide a CUSIP number for the Registrable Securities, not later than the effective date of the registration.

The Company may require each seller of Registrable Securities as to which any registration is being effected to furnish the Company with such information regarding such seller and the distribution of such Registrable Securities as the Company may from time to time reasonably request in writing for purposes of preparing the relevant registration statement and amendments and supplements thereto.

(b) Each holder of Registrable Securities agrees by acquisition of such Registrable Securities that, upon receipt of any notice from the Company of the occurrence of any event of the kind described in of Section 5.3(a) (viii), such holder will forthwith discontinue such holder's disposition of Registrable Securities pursuant to the registration statement relating to such Registrable Securities until such holder's receipt of the copies of the supplemented or amended prospectus contemplated by of Section 5.3(a) (viii). In the event the Company shall give any such notice, the periods specified in of Section 5.3(a) (ii) shall be extended by the length of the period from and including the date when each seller of any Registrable Securities covered by such registration statement shall have received such notice to the date on which each such seller has received the copies of the supplemented or amended prospectus contemplated by of Section 5.3(a) (viii) .

(c) If any such registration or comparable statement refers to any holder of Registrable Securities by name or otherwise as the holder of any securities of the Company, then such holder shall have the right to require, in the event that such reference to such holder by name or otherwise is not required by the Securities Act or any similar federal statute then in force, the deletion of the reference to such holder.

5.4 Underwritten Offerings.

(a) If requested by the underwriters for any underwritten offering by holders of Registrable Securities pursuant to a registration requested pursuant to Section 5.1, the Company will enter into an underwriting agreement with such underwriters for such offering, such agreement to be reasonably satisfactory in substance and form to the Company, each such holder and the underwriters, and be pursuant to this Warrant, and to contain such representations and warranties by the Company and such other terms as are generally prevailing in agreements of this type, including, without limitation, indemnities to the effect and to the extent provided in

Section 5.5. The holders of the Registrable Securities will cooperate with the Company in the negotiation of the underwriting agreement.

(b) Each holder of Registrable Securities agrees by acquisition of its Registrable Securities not to sell, make any short sale of, loan, grant any option for the purchase of, effect any public sale or distribution of or otherwise dispose of any equity securities of the Company, during the ten days prior to and the 90 days after the effective date of any registration statement filed pursuant to Section 5.1 or Section 5.2 which

involves an underwritten offering, except as part of such registered underwritten offering, whether or not such holder participates in such offering, and except as otherwise permitted by the managing underwriter of such registered underwritten (if any). Each holder of Registrable Securities agrees that the Company may instruct its transfer agent to place stop transfer notations in its records to enforce this Section 5.4(b).

(c) No Person may participate in any registered underwritten offering hereunder unless such Person (i) agrees to sell such Person's securities on the basis provided in any underwriting arrangements approved, subject to the terms and conditions hereof, by the Person or a majority of the Persons entitled to approve such arrangements and (ii) completes and executes all agreements, questionnaires, indemnities and other documents (other than powers of attorney) required under the terms of such underwriting arrangements.

5.5 Expiration of Registration Rights. Notwithstanding anything in Section 5.1 or 5.2 to the contrary, the rights of the Holder or Holders of the Warrants or the Warrant Shares under Sections 5.1 and 5.2 hereof shall expire at such time as such Holder or Holders shall have received from counsel to the Company a written opinion of such counsel that such Holder or Holders has the right, pursuant to the provisions of Rule 144 under the Securities Act, to sell within any three-month period all Warrant Shares then held by and purchasable upon the exercise of Warrants by such Holder.

5.6 Indemnification.

(a) The Company agrees to indemnify and hold harmless each holder of Registrable Securities whose Registrable Securities are covered by any registration statement, its directors and officers and each other Person, if any, who controls such holder within the meaning of the Securities Act, against any losses, claims, damages or liabilities, joint or several, to which any such indemnified party may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of any material fact contained in any registration statement under which such securities were registered under the Securities Act, any preliminary prospectus, final prospectus or summary prospectus contained therein, or any amendment or supplement thereto, or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and the Company will reimburse each such indemnified party for any legal or any other expenses reasonably incurred by them in connection with investigating or defending any such loss, liability, action or proceeding; provided that the Company shall not be liable in any such case to the extent that any such loss, damage, liability (or action or proceeding in respect thereof) or expense arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in such

registration statement, any such preliminary prospectus, final prospectus, summary prospectus, amendment or supplement in reliance upon and in conformity with written information furnished to the Company by or on behalf of such holder specifically for use in the preparation thereof. In addition, the Company shall indemnify any underwriter of such offering and each other Person, if any, who controls and

such underwriter within the meaning of the Securities Act in substantially the same manner and to substantially the same extent as the indemnity herein provided to each indemnified party. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such holder or any such director, officer, underwriter or controlling person and shall survive the transfer of such securities by such holder.

(b) Each prospective seller of Registrable Securities hereunder shall indemnify and hold harmless (in the same manner and to the same extent as set forth in subdivision (a) of this Section 5.6) the Company, each director of the Company, each officer of the Company and each other person, if any, who controls the Company within the meaning of the Securities Act, with respect to any statement or alleged statement in or omission or alleged omission from such registration statement, any preliminary prospectus, final prospectus or summary prospectus contained therein, or any amendment or supplement thereof, if such statement or alleged statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company by or on behalf of such seller specifically for use in the preparation of such registration statement, preliminary prospectus, final prospectus, summary prospectus, amendment or supplement. Any such indemnity shall remain in full force and effect, regardless of any investigation made by or on behalf of the Company or any such director, officer or controlling person and shall survive the transfer of such securities by such seller. The amount payable by any prospective seller of Registrable Securities with respect to the indemnification set forth in this Section 5.6 (b) in connection with any offering of securities will not exceed the amount of net proceeds received by such prospective seller pursuant to such offering.

(c) Promptly after receipt by an indemnified party of notice of the commencement of any action or proceeding involving a claim referred to in this Section 5.6, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party, give written notice to the latter of the commencement of such action; provided that the failure of any indemnified party to give notice as provided herein shall not relieve the indemnifying party of its obligations under this Section 5.6, except to the extent that the indemnifying party is actually prejudiced by such failure to give notice. In case any such action is brought against an indemnified party, unless in such indemnified party's reasonable judgment a conflict of interest between such indemnified and indemnifying parties may exist in respect of such the indemnifying party shall be entitled to participate in and to assume the defense thereof, jointly with any other indemnifying party similarly notified, to the extent that the indemnifying party may wish, with counsel reasonably satisfactory to such indemnified party, and upon notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party for any legal or other expenses incurred by the latter in connection with the defense thereof. No indemnifying party shall, without the consent of the indemnified party, consent to entry of any judgment or enter into any settlement of any such action which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such indemnified party of a release from all liability in respect to such claim or litigation. No indemnified party shall consent to entry of any judgment or enter into any settlement of any such action

the defense of which has been assumed by an indemnifying party without the consent of such indemnifying party, which consent shall not be unreasonable withheld.

(d) If the indemnification provided for in this Section 5.6 is unavailable to an indemnified party in respect of any expense, loss, damage or liability referred to therein, then each indemnifying party, in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such expense, loss, claim, damage or liability (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Holder or underwriter, as the case may be, on the other from the distribution of the Registrable Securities or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company on the one hand and of the Holder or underwriter, as the case may be, on the other in connection with the statements or omissions which resulted in such expense, loss, damage or liability, as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Holder or underwriter, as the case may be, on the other in connection with the distribution of the Registrable Securities shall be deemed to be in the same proportion as the total net proceeds received by the Company from the initial sale of the Registrable Securities by the Company to the purchaser bear to the gain realized by the selling Holder or the underwriting discounts and commissions received by the underwriter, as the case may be. The relative fault of the Company on the one hand and of the Holder or underwriter, as the case may be, on the other shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or omission to state a material fact relates to information supplied by the Company, by the Holder or by the underwriter and parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission; provided that the foregoing contribution agreement shall not inure to the benefit of any indemnified party if indemnification would be unavailable to such indemnified party by reason of the proviso contained in the first sentence of Section 5.6 (a), and in no event shall the obligation of any indemnifying party to contribute under this Section 5.6 (d) exceed the amount that such indemnifying party would have been obligated to pay by way of indemnification if the indemnification provided for under Section 5.6 (a) or Section 5.6 (b) had been available under the circumstances.

The Company and the holders of Registrable Securities agree that it would not be just and equitable if contribution pursuant to this Section 5.6 (d) were determined by pro rata allocation (even if the Holders and any underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take account of the equitable considerations referred to in the immediately preceding paragraph and Section 5.6 (c). The amount paid or payable by an indemnified party as a result of the losses, claims, damages and liabilities referred to in the immediately preceding paragraph shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim.

Notwithstanding the provisions of this Section 5.6 (d), no holder of Registrable Securities or underwriter shall be required to contribute any amount in excess of the amount by which (i) in the case of any such holder, the net proceeds received by such holder from the sale of Registrable Securities or (ii) in the case of an underwriter, the total price at which the

Registrable Securities purchased by it and distributed to the public were offered to the public exceeds, in any such case, the amount of any damages that such holder or underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission. No Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

5.7 Rule 144. If the Company shall have filed a registration statement pursuant to Section 12 of the Exchange Act or a registration statement pursuant to the Securities Act, the Company will file the reports required to be filed by it under the Securities Act and the Exchange Act and the rules and regulations adopted by the Commission thereunder and will take such further action as any holder of Registrable Securities may reasonably request, all to the extent required from time to time to enable such holder to sell Registrable Securities without registration under the Securities Act within the limitation of the exemptions provided by (a) Rule 144 under the Securities Act, as such Rule may be amended from time to time, or (b) any similar rule or regulation hereafter adopted by the Commission. Upon the request of any holder of Registrable Securities, the Company will deliver to such holder a written statement as to whether it has complied with such requirements.

ARTICLE VI - DEFINITIONS

The following terms, as used in this Warrant, have the following meanings:

"Affiliate" has the meaning set forth in the Loan Agreement.

"Appraisal Notice" has the meaning set forth in Section 3.2(a).

"Appraiser" has the meaning set forth in Section 3.2(b).

"Appraiser Determination" has the meaning set forth in Section 3.2(b).

"Business Day" means any day excluding Saturday, Sunday and any day on which banking institutions located in New York are authorized by law or other governmental action to be closed, unless there shall have been an offering of Common Stock registered under the Securities Act, in which case "Business Day" means (a) if Common Stock is listed or admitted to trading on a national securities exchange, a day on which the principal national securities exchange on which the Common Stock is listed or admitted to trading is open for business or (b) if Common Stock is not so listed or admitted to trading, a day on which the New York Stock Exchange is open for business.

"Capital Stock" means and includes any and all shares, interests, participations or other equivalents of or interests in (however designated) corporate stock, including without limitation, shares of preferred or

preference stock, (ii) all partnership interests (whether general or limited) in any Person which is a partnership, (iii) all membership interests or limited liability company interests in any limited

liability company and (iv) all equity ownership interests in any Person of any other type.

"Closing Price" means seventy-five (75%) percent of the Fair Market Value of the Common Stock as of the Closing Date.

"Commission" means the Securities and Exchange Commission or any other Federal agency at the time administering the Securities Act.

"Common Stock" has the meaning ascribed to such term in the first paragraph of this Warrant.

"Company" has the meaning set forth in the first paragraph of this Warrant.

"Company Determination" has the meaning set forth in Section 3.1.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and any successor Federal statute, and the rules and regulations of the Commission (or its successor) thereunder, all as the same shall be in effect at the time.

"Expiration Date" has the meaning set forth in the first paragraph of this Warrant.

"Fair Market Value" of:

(i) a share of common stock as of any date of determination means:

(A) if the common stock is traded on an exchange or is quoted on the NASDAQ National Market System, then the average of the closing or last sale prices, respectively, reported for the 5 trading days ended immediately preceding the determination date, provided, however, that if the date of determination is either the Maturity Date, or a date of determination for computation of Fair Market Value in accordance with Section 4.1(b)(iv), then the Fair Market Value of a share of common stock shall be the average of the closing or last sale prices, respectively, reported for the 20 trading days ended the fifth day immediately preceding the Maturity Date or such determination date; or

(B) if the common stock is not traded on an exchange or on the NASDAQ National Market System but is traded in the over-the-counter market, then the mean of the average of the closing bid and asked prices reported for the 5 trading days ended immediately preceding the determination date, provided, however, that if the date of determination is either the Maturity Date, or a date of determination for

computation of Fair Market Value in accordance with Section 4.1(b)(iv), then the Fair Market Value of a share of common stock shall be the mean of the average of the closing bid and asked prices reported for the 20 trading days ended the fifth day immediately preceding the Maturity Date or such determination date; or

(C) in all other circumstances, the fair market value per share of the common stock as determined in good faith by the Board of Directors of the Company, or otherwise in accordance with Section 3.2 hereof;

(ii) the business or property or services in question as of any date of determination, means the amount determined in good faith by the Board of Directors of the Company or otherwise in accordance with Section 3.2 hereof; or

(iii) the Company as of any date of determination shall be the Fair Market Value of a share of Common Stock determined as provided in clause (i) above multiplied by the number of shares of Common Stock then outstanding.

"Holder" has the meaning set forth in the first paragraph of this Warrant.

"Holder Determination" has the meaning set forth in Section 3.2(c).

"Initiating Holder(s)" has the meaning set forth in Section 5.1 hereof.

"Issuance Date" has the meaning set forth in Section 1.5.

"Loan Agreement" has the meaning set forth in the second paragraph of this Warrant.

"NASD" means The National Association of Securities Dealers, Inc.

"NASDAQ" means The National Association of Securities Dealers, Inc. Automated Quotation System.

"Objecting Holder" has the meaning set forth in Section 3.2(a).

"Other Securities" has the meaning set forth in Section 5.1.

"Person" means any natural person, corporation, limited liability company, limited partnership, general partnership, joint stock company, joint venture, association, company, trust, bank, trust company, land trust, business trust or other organization, whether or not a legal entity, and any government agency or political subdivision thereof.

"Public Sale" means any sale of Capital Stock to the public pursuant to an offering registered under the Securities Act or to the public through a broker, dealer or market maker pursuant to the provisions of Rule 144 (or any successor provision then in effect) adopted under the Securities Act.

"Registrable Securities" means any Warrants or Warrant Shares until the date (if any) on which such Warrant Shares shall have been transferred or exchanged and new certificates for them not bearing a legend restricting further transfer shall have been delivered by the Company and subsequent disposition of them shall not require registration or qualification of them under the Securities Act or any similar state law then in force.

"Registration Expenses" means all expenses incident to the Company's performance of or compliance with Section 5.1 through Section 5.6 hereof, including (i) all registration, filing and NASD fees, (ii) all fees and expenses of complying with federal and state securities or blue sky laws, (iii) all word processing, duplicating and printing expenses, (iv) all messenger telephone

and delivery expenses, (v) the fees and disbursements of counsel for the Company and of its independent public accountants, including the expenses of any special audits and "cold comfort" letters required by or incident to such performance and compliance, (vi) the fees and disbursements of any one counsel and any one accountant retained by the holder or holders of more than 50% of the Registrable Securities being registered, (or, in the case of any registration effected pursuant to Section 5.1, as the Initiating Holders shall have selected to represent all holders of the Registrable Securities being registered) up to a maximum of $7,500 in the aggregate, (vii) the fees and expenses of "qualified independent appraiser participating in an offering pursuant to Section 3 of Schedule of the By laws of the NASD, (viii) premiums and other costs of policies of insurance (if any) against liabilities arising out of the public offering of the Registrable Securities being registered if the Company desires such insurance (ix) fees and expenses of other persons retrained by the Company, (x) internal expenses of the Company (including without limitation, relating to all salaries and expenses of officers and employees of the Company to perform legal or accounting duties), (xi) the expense of any annual audit, (xii) the fees and expenses of listing on any securities exchange, and (xiii) any fees and disbursements of underwriters customarily paid by issuers or sellers of securities, but not including underwriting discounts and commissions and transfer taxes, if any, provided that, in any case where Registration Expenses are not to be borne by the Company, such expenses shall not include (i) salaries of the Company personnel or general overhead expenses of the Company, (ii) auditing fees, (iii) premiums or other expenses relating to liability insurance required by underwriters of the Company or (iv) other expenses for the preparation of financial statements or other data, to the extent that any of the foregoing either is normally prepared by the Company in the ordinary course of its business or would have been incurred by the Company had no public offering taken place.

"Securities Act" means the Securities Act of 1933, as amended, and any successor Federal statute and the rules and regulations of the Securities and Exchange Commission (or its successors) thereunder, all as the same shall be in effect from time to time.

"Subsidiary" of any Person means any corporation, partnership, joint venture, association or other business entity of which more than 50% of the total voting power of shares of stock or other interests therein entitled to vote in the election of members of the board of directors, partnership committee, board of managers or trustees or other managerial body thereof is at the time owned or controlled, directly or indirectly, by such Person or one or more of the other Subsidiaries of such Person or a combination thereof. Unless otherwise specified, "Subsidiary" means a Subsidiary of the Company and "Subsidiaries" means all Subsidiaries of the Company.

"Vested Shares" has the meaning set forth in the fourth paragraph of this Warrant.

"Warrant" means the Warrant(s) to purchase Common Stock issued by the Company in connection with the Loan Agreement.

"Warrant Securityholder" means at any time any Warrantholder or any holder of Warrant Shares.

"Warrant Shares" means (i) any shares of Common Stock or other securities issued upon the exercise of any Warrants and (ii) any securities issued with respect to any of such shares or other securities referred to in clause (i) upon the conversion thereof into other securities or by way of stock dividend or stock split or in connection with a combination of shares, recapitalization,

merger, consolidation or other reorganization or otherwise; provided that any of such securities shall cease to be Warrant Shares when such securities shall have (x) been disposed of pursuant to a Public Sale or (y) ceased to be outstanding.

"Warrantholder" means a holder of a Warrant.

All references herein to "days" shall mean calendar days unless otherwise specified.

ARTICLE VII - MISCELLANEOUS

7.1. Notices. Notices and other communications provided for herein must be in writing and may be given by mail, courier, confirmed telex or facsimile transmission and shall, unless otherwise expressly required, be deemed given when received or, if mailed, four Business Days after being deposited in the United States mail with postage prepaid and properly addressed. In the case of the Company, such notices shall be addressed to it as follows:

If to Company: PERMA-FIX ENVIRONMENTAL SERVICES, INC.
1940 N.W. 67th Place
Gainesville, FL 32653
Attention: Dr. Louis Centofanti, President
Facsimile: (404) 847-9977

With a copy to: Conner & Winters
204 N. Robinson, Suite 950
Oklahoma City, OK 73102
Attention: Irwin Steinhorn, Esq.
Facsimile: (405) 232-2695

In the case of the Holder, such notices and communications shall be addressed to its address as shown on the books maintained by the Company, unless the Holder shall notify the Company that notices and communications should be sent to a different address (or telex or facsimile number), in which case such notices and communications shall be sent to the address (or telex or facsimile number) specified by the Holder.

7.2. Waivers; Amendments. No failure or delay of the Holder in exercising any power or right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such a right or power, preclude any other or further exercise thereof or the exercise of any other right or power. No notice or demand on the Company in any case shall entitle the Company to any other or future notice or demand in similar or other circumstances. The rights and remedies of the Holder are cumulative and not exclusive of any rights or remedies which it would otherwise have. The provisions of this Warrant may be amended, modified or waived with (and only with) the written consent of the Company and the Warrantholders holding Warrants entitling such holders to purchase a majority of the Common Stock subject to purchase upon exercise of all the outstanding Warrants (exclusive of Warrants then owned by the Company or any Subsidiary or Affiliate of the Company); provided, however, that no such amendment, modification or waiver

shall, without the written consent of the holders of all Warrants at the time outstanding, (a) change the number of shares of Common Stock subject to purchase upon exercise of this Warrant, the Exercise Price or provisions for payment thereof or (b) amend, modify or waive the provisions of this Section 7.2 or Articles III, IV, Section 1.5 or the definition of Fair Market Value in Article VI and (ii) no amendment, modification or waiver shall, without the written consent of the holders of a majority of Registrable Shares, amend, modify or waive the provisions of Article V.

Any such amendment, modification or waiver effected pursuant to and in accordance with the provisions of this Section shall be binding upon the holders of all Warrants and Warrant Shares, upon each future holder thereof and upon the Company. In the event of any such amendment, modification or waiver, the Company shall give prompt notice thereof to all holders of Warrants and Warrant Shares and, if appropriate, notation thereof shall be made on all Warrants thereafter surrendered for registration of transfer or exchange.

7.3 Governing Law. THIS WARRANT SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF DELAWARE (WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW).

7.4. Transfer; Covenants to Bind Successor and Assigns. All covenants, stipulations, promises and agreements in this Warrant contained by or on behalf of the Company or the Holder shall bind its successors and assigns, whether so expressed or not. This Warrant and all of the Holder's rights hereunder, shall be transferable and assignable by the Holder hereof in whole, or from time to time in part, to any other Person, subject to the restrictions on transferability contained herein and under the applicable securities laws, and the provisions of this Warrant shall be binding upon and inure to the benefit of the Holder hereof and its successors and assigns.

7.5 Severability. In case any one or more of the provisions contained in this Warrant shall be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby. The parties shall endeavor in good faith negotiations to replace the invalid, illegal or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the invalid, illegal or unenforceable provisions.

7.6. Section Headings. The section headings used herein are for convenience of reference only, are not part of this Warrant and are not to affect the construction of or be taken into consideration in interpreting this Warrant.

7.7 Right to Specific Performance. The Company acknowledges and agrees that in the event of any breach of the foregoing covenants and agreements, the Holder would be irreparably harmed and could not be made whole only by the award of monetary damages. Accordingly, the Company agrees that the Holder, in addition to any other remedy to which the Holder may be entitled at law or equity, will be entitled to seek and obtain an award of specific performance of any of the foregoing covenants and agreements.

7.8. CONSENT TO JURISDICTION. THE COMPANY HEREBY CONSENTS TO THE JURISDICTION OF ANY STATE OR FEDERAL COURT LOCATED WITHIN THE COUNTY OF

NEW YORK, STATE OF NEW YORK, AND IRREVOCABLY AGREES THAT, SUBJECT TO HOLDER'S ELECTION, ALL ACTIONS OR PROCEEDINGS ARISING OUT OF OR RELATING TO THIS WARRANT SHALL BE LITIGATED IN SUCH COURTS. THE COMPANY ACCEPTS FOR ITSELF AND IN CONNECTION WITH ITS PROPERTIES, GENERALLY AND UNCONDITIONALLY, THE NON-EXCLUSIVE JURISDICTION OF THE AFORESAID COURTS AND WAIVES ANY DEFENSE OF FORUM NON CONVENIENS, AND IRREVOCABLY AGREES TO BE BOUND BY ANY JUDGMENT RENDERED THEREBY IN CONNECTION WITH THIS WARRANT. IF THE BORROWER PRESENTLY IS , OR IN THE FUTURE BECOMES, A NONRESIDENT OF THE STATE OF NEW YORK, BORROWER HEREBY WAIVES PERSONAL SERVICE OF ANY AND ALL PROCESS AND AGREES THAT ALL SUCH SERVICE OF PROCESS MAY BE MADE UPON BORROWER BY CERTIFIED OR REGISTERED MAIL, RETURN RECEIPT REQUESTED, DIRECTED TO BORROWER, AT BORROWER'S ADDRESS

APPEARING IN LENDER'S RECORDS AND SERVICE SO MADE SHALL BE COMPLETE (10) DAYS AFTER THE SAME HAS BEEN POSTED AS AFORESAID.

7.9. WAIVER OF JURY TRIAL. THE COMPANY AND HOLDER HEREBY WAIVE THEIR RESPECTIVE RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS WARRANT. THE COMPANY AND HOLDER ACKNOWLEDGE THAT THIS WAIVER IS A MATERIAL INDUCEMENT TO ENTER INTO A BUSINESS RELATIONSHIP, THAT EACH HAS RELIED ON THE WAIVER IN ENTERING INTO THIS WARRANT AND THAT EACH WILL CONTINUE TO RELY ON THE WAIVER IN THEIR RELATED FUTURE DEALINGS. THE COMPANY AND HOLDER FURTHER WARRANT AND REPRESENT THAT EACH HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT EACH KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

[This space intentionally left blank.]

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed in its corporate name by one of its officers thereunto duly authorized, and its corporate seal to be hereunto affixed, attested by its Secretary or an Assistant Secretary, all as of the day and year first above written.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/ Richard T. Kelecy
Name: Richard T. Kelecy
Title: V.P.

Accepted as of the day and year
first above written:

BHC INTERIM FUNDING L.P.
By: BHCGP, L.L.C., its General Partner
By: BHC INVESTORS, L.L.C., its Managing Member

By: /s/ Steven H. Brooks
Name: Steven H. Brooks
Title: Manager

Address: BHC Interim Funding L.P.
444 Madison Avenue
New York, NY 10022
Telephone: 212-753-1991
Telecopier: 212-753-7730

SUBSCRIPTION FORM

(To Be Executed by the Registered Holder If He Desires to Exercise the Warrant)

TO: Perma-Fix Environmental Services, Inc.

The undersigned hereby exercises the right to purchase _____ shares of Common Stock, no par value per share, covered by the attached Warrant in accordance with the terms and conditions thereof, and herewith makes payment of the Warrant Price for such shares in full.

_____
Signature

_____
Address

_____

Dated: _____

Dated: _____

ASSIGNMENT

(To Be Executed by the Registered Holder If He Desires to Exercise the Warrant)

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto _____the right to purchase shares of Common Stock of Perma-Fix Environmental Services, Inc. evidenced by the within Warrant, and does hereby irrevocably constitute and appoint [_____] Attorney to transfer the said Warrant on the books of the Company, with full power of substitution.

_____
Signature

_____
Address

_____

Dated: _____

In the Presence of:

_____

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUABLE UPON EXERCISE OF THIS WARRANT AGREEMENT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD OR TRANSFERRED EXCEPT (i) UNDER COVER OF A REGISTRATION STATEMENT UNDER SUCH ACT WHICH IS EFFECTIVE AND CURRENT WITH RESPECT TO THIS WARRANT OR SUCH SHARES OF COMMON STOCK, AS THE CASE MAY BE, OR (ii) PURSUANT TO THE WRITTEN OPINION OF COUNSEL REASONABLY ACCEPTABLE TO PERMA-FIX ENVIRONMENTAL SERVICES, INC. TO THE EFFECT THAT REGISTRATION UNDER SUCH ACT IS NOT REQUIRED WITH RESPECT TO SUCH SALE OR TRANSFER.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

RYAN, BECK & CO., LLC

WARRANT AGREEMENT

Dated as of December 22, 2000

WARRANT AGREEMENT, dated as of December 22, 2000 (the "Agreement"), by and between PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (the "Company") and RYAN, BECK & CO., LLC ("Ryan Beck" or "Holder").

W I T N E S S E T H:

WHEREAS, the Company proposes to issue to the Holder, or subject to the terms hereof, those permitted designees, warrants ("Warrants") to purchase up to an aggregate 213,889 shares of common stock of the Company, par value $.001 per share ("Common Stock");

WHEREAS, this Agreement is one of nine warrant agreements (collectively, the "Warrant Agreements") issued by the Company to Ryan Beck, Larkspur Capital Corporation ("Larkspur"), and certain of their officers and/or directors, with all such Warrant Agreements dated as of December 22, 2000, allowing the holders (collectively, the "Holders of the Warrant Agreements") under all of the Warrant Agreements to purchase up to an aggregate of 1,069,444 shares of Common Stock (the "Total Warrant Shares"), pursuant to the terms of a letter agreement, dated January 25, 2000 (the "Letter Agreement"), among the Company, Ryan Beck and Larkspur, whereby Ryan Beck and Larkspur have agreed to provide certain financial services to the Company;

WHEREAS, the Company proposes to issue the Warrants to the Holder and enter into all of the Warrant Agreements for certain services provided under the Letter Agreement;

WHEREAS, the Holder is an "accredited investor," as such term is defined in Rule 501 of Regulation D promulgated under the Securities Act of 1933, as amended (the "Act");

WHEREAS, if the Holder designates any other party as a designee for the purpose of receiving any portion of the Warrants pursuant to the terms hereof, then, prior to receiving any of the Warrants as designee of the Holder, such designee must execute and deliver to the Company a written certification ("Certification"), the form and content of which must be

satisfactory to the Company, in which such designee represents to the Company that such designee is an "accredited investor" under Rule 501 of Regulation D promulgated under the Act and how such designee is an accredited investor, and that such designee is acquiring such designated Warrants for the designees' own account, for investment purposes only and not with a view toward distribution or resale and agrees to be subject to and bound by all of the other conditions and provisions of this Agreement (including, but not limited to, the representations, warranties and covenants contained in Sections 3 and 7 hereof) and shall execute and deliver to the Company an agreement in form and substance substantially the same as this Agreement except for the name and number of Warrants to be issued to the designee;

WHEREAS, the Common Stock is listed for trading on the Boston Stock Exchange and the National Association of Securities Dealers Automated Quotation SmallCap market ("NASDAQ"), and the Company is subject to the reporting requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and has been subject to such filing requirements for the past ninety (90) days; and

WHEREAS, in reliance upon the representations made by the Holder in this Agreement and the Holders of the Warrant Agreements in all of the other Warrant Agreements, the transactions contemplated by this Agreement and all of the Warrant Agreements, are such that the offer and purchase of securities hereunder will be exempt from registration under applicable federal securities laws because this is a private placement and intended to be a nonpublic offering pursuant to Sections 4(2) and/or 3(b) of the Securities Act and/or Regulation D promulgated under the Act.

NOW, THEREFORE, in consideration of the premises, the payment by Ryan Beck and Larkspur to the Company of an aggregate of ten dollars and sixty-nine cents ($10.69), the agreements herein set forth and other good and valuable consideration, hereby acknowledged, the parties hereto agree as follows:

1. Grant. The Holder is hereby granted Warrants providing the right to purchase, at any time and from the date hereof until 5:30 p.m., New York time, on December 22, 2005, up to an aggregate of 213,889 shares of Common Stock (the "Warrant Shares") at an initial exercise price (subject to adjustment as provided in Section 11 hereof) of $1.44 per share of Common Stock subject to the terms and conditions of this Agreement. Except as set forth herein, the Warrant Shares issuable upon exercise of the Warrants are in all respects identical to the shares of Common Stock that have been issued to the public. .

2. Warrant Certificates. The warrant certificates (the "Warrant Certificates") delivered and to be delivered pursuant to this Agreement shall be in the form set forth in Exhibit A, attached hereto and made a part hereof, with such appropriate insertions, omissions, substitutions, and other variations as required or permitted by this Agreement. There shall be one Warrant Certificate issued to the Holder hereunder in the amount of 213,889 Warrants.

3. Representations, Warranties and Covenants of Holder. The Holder of Warrants and/or Warrant Shares hereby represents, warrants and covenants to the Company as follows:

3.1 Investment Intent. The Holder represents and warrants that the Warrants are being, and any underlying Warrant Shares will be, purchased or acquired solely for such Holder's own account, for investment purposes only and not with a view toward the distribution or resale to others. The Holder acknowledges and understands that neither the Warrants nor Warrant Shares have been registered under the Act by reason of a claimed exemption under the provisions of the Act which depends, in large part, upon the Holder's representations as to investment intention, investor status, and related and other matters set forth herein. The Holder understands that, in the view of the Securities and Exchange Commission (the "Commission"), among other things, a purchase with an intent to distribute or resell would represent a purchase and acquisition with an intent inconsistent with its representation to the Company, and the Commission might regard such a transfer as a deferred sale for which the registration exemption is not available.

3.2 Certain Risk. The Holder recognizes that the purchase of the Warrants or Warrant Shares involves a high degree of risk in that (a) although the Company has had an unaudited net income for the nine month period ended September 30, 2000, and audited net income for the year ended December 31, 1999, the Company did sustain losses through December 31, 1998, from its operations, and may require substantial funds for its operations; (b) that the Company has a substantial accumulated deficit; (c) an investment in the Company is highly speculative and only investors who can afford the loss of their entire investment should consider investing in the Company and the Warrants or Warrant Shares; (d) an investor may not be able to liquidate his investment; (e) transferability of the Warrants or Warrant Shares is extremely limited; (f) in the event of a disposition an investor could sustain the loss of his entire investment; (g) the Warrants represent non-voting equity securities, and the right to exercise such Warrants and purchase shares of voting equity securities in a corporate entity that has an accumulated deficit; (h) no return on investment, whether through distributions, appreciation, transferability or otherwise, and no performance by, through or

of the Company, has been promised, assured, represented or warranted by the Company, or by any director, officer, employee, agent or representative thereof; and, (i) while the Common Stock is presently quoted and traded on the Boston Stock Exchange and the NASDAQ and while the Holder is a beneficiary of certain registration rights provided herein, the Warrants subscribed for and that are purchased under this Agreement and the Warrant Shares (a) are not registered under applicable federal or state securities laws, and thus may not be sold, conveyed, assigned or transferred unless registered under such laws or unless an exemption from registration is available under such laws, as more fully described herein, and (b) the Warrants subscribed for and that are to be purchased under this Agreement are not quoted, traded or listed for trading or quotation on the NASDAQ, or any other organized market or quotation system, and there is therefore no present public or other market for the Warrants, nor can there be any assurance that the Common Stock will continue to be quoted, traded or listed for trading or quotation on the Boston Stock Exchange or the NASDAQ or on any other organized market or quotation system.

3.3 Prior Investment Experience. The Holder acknowledges that Holder has prior investment experience, including investment in non-listed and non-registered securities, or Holder has employed the services of an investment advisor, attorney or accountant to read all of the documents furnished or made available by the Company to them and to evaluate the merits and risks of such an investment on Holder's behalf, and that Holder recognizes the highly speculative nature of this investment.

3.4 No Review by the Commission. The Holder hereby acknowledges that this

offering of the Warrants has not been reviewed by the Commission because this private placement is intended to be a nonpublic offering pursuant to Sections 4(2) and/or 3(b) of the Act and/or Regulation D promulgated under the Act.

3.5 Not Registered. The Holder understands that the Warrants and the Warrant Shares have not been registered under the Act by reason of a claimed exemption under the provisions of the Act which depends, in part, upon the Holder's investment intention. In this connection, the Holder understands that it is the position of the Commission that the statutory basis for such exemption would not be present if Holder's representations merely meant that Holder's intention was to hold such securities for a short period, such as the capital gains period of tax statutes, for a deferred sale, for a market rise (assuming that a market develops), or for any other fixed period.

3.6 No Public Market. The Holder understands that there is no public market for the Warrants. The Holder understands that although there is presently a public market for the Common Stock, including the Warrant Shares, Rule 144 (the "Rule") promulgated under the Act requires, among other conditions, a one-year holding period following full payment of the consideration therefore prior to the resale (in limited amounts) of securities acquired in a nonpublic offering without having to satisfy the registration requirements under the Act. The Holder understands that the Company makes no representation or warranty regarding its fulfillment in the future of any reporting requirements under the Exchange Act, or its dissemination to the public of any current financial or other information concerning the Company, as is required by the Rule as one of the conditions of its availability. The Holder understands and hereby acknowledges that the Company is under no obligation to register the Warrants or the Warrant Shares under the Act, except as set forth in Section 10 hereof.

3.7 Sophisticated Investor. The Holder (a) has adequate means of providing for the Holder's current financial needs and possible contingencies and has no need for liquidity of the Holder's investment in the Warrants; (b) is able to bear the economic risks inherent in an investment in the Warrants and understands that an important consideration bearing on Holder's ability to bear the economic risk of the purchase of Warrants is whether the Holder can afford a complete loss of the Holder's investment in the Warrants and the Holder represents and warrants that the Holder can afford such a complete loss; and (c) has such knowledge and experience in business, financial, investment and banking matters (including, but not limited to, investments in restricted, non-listed and non-registered securities) that the Holder is capable of evaluating the merits, risks and advisability of an investment in the Warrants.

3.8 Tax Consequences. The Holder acknowledges that the Company has made no representation regarding the potential or actual tax consequences for the Holder which will result from entering into the Agreement. The Holder acknowledges that the Holder bears complete responsibility for obtaining adequate tax advice regarding the Agreement.

3.9 Commission Filing. The Holder acknowledges that Holder has been previously furnished with true and complete copies of the following documents which have been filed with the Commission pursuant to Sections 13(a), 14(a), 14(c) or 15(d) of the Exchange Act, and that such have been furnished to the Holder a reasonable time prior to the date hereof: (i) Annual Report on Form 10-K for the year ended December 31, 1999 (the "Form 10-K"), as may be amended; (ii) the Company's Proxy Statement delivered

to shareholders on or about November 13, 20001999; and (iii) the information contained in any reports or documents required to be filed by the Company under Sections 13(a), 14(a), 14(c) or 15(d) of the Exchange Act since the distribution of the Form 10-K.

3.10 Documents, Information and Access. The Holder's decision to purchase the Warrants are not based on any promotional, marketing or sales materials, and the Holder and the Holder's representatives have been afforded, prior to purchase thereof, the opportunity to ask questions of, and to receive answers from, the Company and its management, and has had access to all documents and information which Holder deems material to an investment decision with respect to the purchase of Warrants hereunder.

3.11 No Commission. The Holder agrees and acknowledges that no commission or other remuneration is being paid or given directly or indirectly for soliciting the subscription described hereunder.

3.12 Accredited Investor. The Holder is an ""accredited investor"" under Rule 501 of Regulation D promulgated under the Act as follows:

3.12.1 Natural Person. If the Holder is a natural person, such person (i) has an individual net worth, or joint net worth with such person's spouse at the time of the purchase described hereunder, in excess of $1,000,000 or (ii) had individual income in excess of $200,000 in each of the two most recent years or joint income with such person's spouse in excess of $300,000 in each of those years and has a reasonable expectation of reaching the same income level in the current year.

3.12.2 Corporation. If the Holder is a corporation, such corporation has total assets in excess of $5,000,000 and was not formed for the specific purpose of acquiring the Warrants or the Warrant Shares.

3.12.3 Trust. If the Holder is a trust, such must be (i) a revocable or grantor trust and each person with the power to revoke the trust must qualify as an accredited investor under Section 3.12.1 or 3.12.2 above and/or (ii) a trust with total assets in excess of $5,000,000, not formed for the specific purpose of acquiring the securities offered and whose purchase is directed by a sophisticated person as described in Section 3.7 hereof.

3.13 Reliance. The Holder understands and acknowledges that the Company is relying upon all of the representations, warranties, covenants, understandings, acknowledgments and agreements contained in

this Agreement in determining whether to accept this subscription and to sell and issue the Warrants to the Holder.

3.14 Accuracy or Representations and Warranties. All of the representations, warranties, understandings and acknowledgments that Holder has made herein are true and correct in all material respects as of the date of execution hereof. The Holder will perform and

comply fully in all material respects with all covenants and agreements set forth herein, and the Holder covenants and agrees that until the acceptance of this Agreement by the Company, the Holder shall inform the Company immediately in writing of any changes in any of the representations or warranties provided or contained herein.

4. Representations, Warranties and Covenants of the Company. In order to induce Holder to enter into this Agreement, the Company hereby represents, warrants and covenants to Holder as follows:

4.1 Organization, Authority, Qualification. The Company is a corporation duly incorporated, validly existing and in good standing under the laws of the State of Delaware. The Company has full corporate power and authority to own and operate its properties and assets and to conduct and carry on its business as it is now being conducted and operated.

4.2 Authorization. The Company has full power and authority to execute and deliver this Agreement and to perform its obligations under and consummate the transactions contemplated by this Agreement. Upon the execution of this Agreement by the Company and delivery of the Warrants, this Agreement shall have been duly and validly executed and delivered by the Company and shall constitute the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms.

4.3 No Commission. The Company agrees and acknowledges that no commission or other remuneration is being paid or given directly or indirectly for soliciting the issuance of the Warrants.

4.4 Ownership of, and Title to, Securities. The Warrant Shares, if issued, will be, duly authorized, validly issued, fully paid and nonassessable shares of the capital stock of the Company, free of personal liability. Upon consummation of the issuance of the Warrants (and upon the exercise of the Warrants, in whole or in part) pursuant to this Agreement, the Holder will own and acquire title to the Warrants (and the Warrant Shares, as the case may be) free and clear of any and all proxies, voting trusts, pledges, options, restrictions, or other legal or equitable encumbrance of any nature whatsoever (other than

the restrictions on transfer due to federal and state securities laws or as otherwise provided for in this Agreement or in the Warrants).

5. Exercise of Warrant.

5.1 Method of Exercise. Subject to the terms hereof, the Warrants initially are exercisable at an aggregate initial exercise price per share of Common Stock set forth in Section 9.1 hereof payable by certified or cashier's check in New York Clearing House funds, subject to adjustment as provided in Section 11 hereof. Upon surrender of a Warrant Certificate with the annexed Form of Election to Purchase duly executed, together with payment of the Exercise Price (as hereinafter defined) for the shares of Common Stock purchased pursuant to the terms hereof, at the Company's principal offices (presently located at 1940 NW 67th Place, Gainesville, FL 32653) the Holder shall be entitled to receive a certificate or certificates for the shares of Common Stock so purchased. The purchase rights represented by each Warrant Certificate are exercisable at the option of the Holder thereof, in whole or in part (but not as to fractional shares of the Common Stock underlying the Warrants). Warrants may be exercised to purchase all or part of the shares of Common Stock represented thereby. In the case of the purchase of less than

all the shares of Common Stock purchasable under any Warrant Certificate, the Company shall cancel said Warrant Certificate upon the surrender thereof and shall execute and deliver a new Warrant Certificate of like tenor for the balance of the shares of Common Stock purchasable thereunder.

5.2 Exercise by Surrender of Warrants. In addition to the method of payment set forth in Section 5.1 and in lieu of any cash payment required thereunder, subject to the terms hereof, the Holder of the Warrants shall have the right at any time and from time to time to exercise the Warrants held by such Holder in full or in part by surrendering a Warrant Certificate in the manner specified in Section 5.1 in exchange for the number of Warrant Shares equal to the product of (x) the number of Warrant Shares as to which the Warrants are being exercised multiplied by (y) a fraction, the numerator of which is the Market Price (as defined in Section 5.3 below) of the Warrant Shares less the Exercise Price and the denominator of which is such Market Price. Solely for the purposes of this paragraph, Market Price shall be calculated as the average of the Market Prices for each of the five trading days preceding the Notice Date.

5.3 Definition of Market Price. As used herein, the phrase "Market Price" at any date shall be deemed to be the average closing bid quotation of the Company's Common Stock (i) as reported on the NASDAQ for the last five (5) trading days, or (ii) if the Common Stock is not traded on NASDAQ, the average closing price as listed on a national securities exchange for the last five (5) trading days, or (iii) if no longer traded on NASDAQ or listed on a national securities exchange, as determined in good faith by resolution of the Board of Directors of the Company, based on the best information available to it.

6. Issuance of Certificates. Upon the exercise of the Warrants or any portion thereof, the issuance of certificates for the Warrant Shares underlying such Warrants so exercised, shall be made forthwith (and in any event within five (5) business days thereafter) without charge to the Holder exercising such Warrants,

including, without limitation, any tax which may be payable in respect of the issuance thereof, and such certificates shall be issued in the name of the Holder thereof.

The Warrants and the certificates representing the Warrant Shares shall be executed on behalf of the Company by the manual or facsimile signature of the then Chairman or Vice Chairman of the Board of Directors or President or Vice President of the Company.

7. Restriction on Transfer of Warrants or Warrant Shares. The Holder, by such Holder's acceptance hereof, covenants and agrees that the Warrants are being acquired as an investment and not with a view to the distribution thereof. The Holder, by such Holder's acceptance thereof, agrees that (i) no public distribution of Warrants or Warrant Shares will be made in violation of the provisions of the Act and the Rules and Regulations promulgated thereunder and (ii) during such period as delivery of a prospectus with respect to Warrants or Warrant Shares may be required by the Act, no public distribution of Warrants or Warrant Shares will be made in a manner or on terms different from those set forth in, or without delivery of, a prospectus then meeting the requirements of Section 10 of the Act and in compliance with all applicable state securities laws. The Holder and each permitted transferee thereof further agrees that if any distribution of any of the Warrants or Warrant Shares is proposed to be made by them otherwise than by delivery of a prospectus meeting the requirements of Section 10 of the Act, such action shall be taken only after receipt by the Company of an opinion of its counsel, or an opinion of counsel reasonably

satisfactory to the Company, to the effect that the proposed distribution will not be in violation of the Act or of applicable state law. Furthermore, it shall be a condition to the transfer of the Warrants that any transferee thereof deliver to the Company his or its written agreement to accept and be bound by all of the terms and conditions contained in this Agreement. Any Warrant Shares issued upon exercise of the Warrants shall bear a legend to the following effect:

The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended (the "Act"), or qualified under applicable state securities laws, and are restricted securities within the meaning of the Act. Such securities may not be sold or transferred, except pursuant to a registration statement under such Act and qualification under applicable state securities laws which are effective and current with respect to such securities or pursuant to an opinion of counsel reasonably satisfactory to the issuer of such securities that registration and qualification are not required under applicable federal or state securities laws or an exemption is available therefrom.

These securities are also subject to the registration rights set forth in that certain Warrant Agreement executed by Perma-Fix Environmental Services, Inc. (the "Company") and Ryan, Beck & Co.

LLC, dated as of December 22, 2000, a copy of which is on file at the Company's Principal Executive Office.

8. Warrant Holder Not Shareholder. Neither this Agreement nor the Warrant Certificate shall be deemed to confer upon the Holder any right to vote the Warrant Shares or to consent to or receive notice as a shareholder of the Company as such, because of this Agreement or the Warrant Certificate, in respect of any matters whatsoever, or any other rights or liabilities as a shareholder.

9. Exercise Price.

9.1 Initial and Adjusted Exercise Price. Except as otherwise provided in Section 11 hereof, the initial exercise price of each Warrant shall be $1.44 per share of Common Stock. The adjusted exercise price shall be the price which shall result from time to time from any and all adjustments of the initial exercise price in accordance with the provisions of Section 11 hereof.

9.2 Exercise Price. The term "Exercise Price" herein shall mean the initial exercise price or the adjusted exercise price, depending upon the context.

10. Registration Rights.

10.1 Piggyback Registration. Subject to the terms of this Section 10, if, at any time commencing after the date hereof and expiring seven (7 years from the effective date, the Company proposes to register any of its equity securities under the Act (other than a registration statement (i) on Form S-8 or any successor form to such form or in connection with any employee or director welfare, benefit or compensation plan, (ii) on Form S-4 or any successor form to such form or in connection with any merger, consolidation, acquisition or exchange offer, (iii) in connection with a rights offering exclusively to existing holders of Common Stock, (iv) in connection with an offering solely to employees of the Company or its subsidiaries, or (v) relating to a transaction pursuant to Rule 145 of the Act), it will give written notice by registered mail, at least thirty (30) days prior to the filing of each such registration statement, to the Holder of its intention to do so. If Holder notifies the Company within twenty (20) business days after receipt of

any such notice of its desire to include any Warrant Shares held by such Holder or Warrant Shares underlying Warrants held by such Holder in such proposed registration statement, the Company shall afford any such Holder of the opportunity to have any such Warrant Shares held by such Holder or Warrant Shares underlying Warrants held by such Holder, registered under such registration statement (sometimes referred to herein as the "Piggyback Registration").

Notwithstanding the provisions of this Section 10.1, the Company shall have the right at any time after it shall have given written notice pursuant to this Section 10.1 (irrespective of whether a written request for inclusion of any such securities shall have been made) to elect not to file any such proposed registration statement, or to withdraw the same after the filing but prior to the effective date thereof.

If a Piggyback Registration is an underwritten primary registration on behalf of the Company, and the managing underwriters advise the Company in writing that in their reasonable opinion based upon market conditions the number of securities requested to be included in such registration exceeds the number that can be sold in such offering or would impair the pricing of such offering, the Company will include in such registration (i) first, the securities the Company proposes to sell, (ii) second, up to the full number of applicable Common Stock requested to be included in such registration by holders of Common Stock with prior or superior piggyback registration rights, (iii) third, the number of applicable Total Warrant Shares requested to be included in such registration, pro rata among the Holders of the Warrant Agreements on the basis of the number of shares requested by such Holders of the Warrant Agreements to be included and which, in the opinion of the managing underwriter, can be sold without adversely affecting the price range or probability of success of such offering, and (iv) fourth, other securities to be included in such registration.

10.2 Demand Registration.

(a) Subject to the terms of this Section 10, at any time after the date hereof and expiring five (5) years from the effective date, the Holders of the Warrant Agreements representing a "Majority" (as hereinafter defined) of the Total Warrant Shares (assuming the exercise of all the warrants issued under all of the Warrant Agreements) shall have the right (which right is in addition to the registration rights under Section 10.1 hereof), exercisable by written notice to the Company, to have the Company prepare and file with the Securities and Exchange Commission (the "Commission"), on one occasion only, a registration statement and such other documents, including a prospectus, as may be necessary in the opinion of both counsel for the Company and counsel for Ryan Beck, in order to comply with the provisions of the Act, so as to permit a public offering and the sale of their respective Total Warrant Shares for nine (9) consecutive months by such Holders of the Warrant Agreements notifying the Company within ten (10) days after receiving notice from the Company of such request.

(b) The Company covenants and agrees to give written notice of any registration request under this Section 10.2 by any of the Holders of the Warrant Agreements to all Holders of the Warrant Agreements within ten (10) days from the date of the receipt of any such registration request.

(c) Notwithstanding anything to the contrary contained herein, if the Company is obligated to file a registration statement covering all or a portion of the Total Warrant Shares

under Section 10.2(a) but shall not have filed a registration statement for that portion (or all, as the case may be) of the Total Warrant Shares to be covered by the registration statement within the time period specified in Section 10.3 hereof pursuant to the written notice specified in Section 10.2(a) of a Majority of the Holders of the Warrant Agreements, which time period shall be extended pursuant to 10.2(d) below, the Company shall have the option, but not the obligation, upon the written notice of election of a Majority of the Holders of the Warrant Agreements to repurchase (i) any and all Warrant Shares at the higher of the Market Price per share of Common Stock on (y) the date of the notice sent pursuant to Section 10.2(a) or (z) the expiration of the period specified in Section 10.3(a) and (ii) any and all Warrants at such Market Price less the Exercise Price of such Warrants. Such repurchase shall be in immediately available funds and shall close within two (2) days after the later of (i) the expiration of the period specified in Section 10.3(a) or (ii) the delivery of the written notice of election specified in this Section 10.2(d). The Company shall have no obligation to exercise the option that may be granted pursuant to the terms of this paragraph (c) of Sectio n 10.2 hereof.

(d) Notwithstanding anything to the contrary, the Company may delay the filing of a registration statement under this Section 10.2 and may withhold efforts to cause such registration statement to become effective if the Company determines in good faith that such registration might interfere with or affect the negotiation or completion of any material transaction or other material event that is being contemplated by the Company (whether or not a final decision has been made to undertake such material transaction at the time the right to delay is exercised). The Company may exercise such right to delay the filing or effectiveness of a registration statement two times and may delay the filing or effectiveness of such registration statement for not more than 90 days beyond the relevant period set forth in Section 10.3(a). Upon any delay by the Company pursuant to this Section 10.2(d) which lasts more than 60 days, the Majority of the Holders of the Warrant Agreements may rescind the notice given pursuant to Section 10.2(a), and the Holders of the Warrant Agreements will be deemed not to have exercised the right to effect the filing of a registration statement under Section 10.2(a) as a result of such notice.

(e) Notwithstanding anything herein to the contrary, the obligations of the Company and rights of the Holders of the Warrant Agreements under Sections 10.1, 10.2 and 10.3 of this Agreement and the other Warrant Agreements shall expire and terminate at such time as Ryan Beck, or its successors, shall have received from counsel to the Company an unqualified written opinion of such counsel that the Holders of the Warrant Agreements have the right, pursuant to the provision of Rule 144 under the Act, to sell within any three month period from the date of the opinion all of the Total Warrant Shares then held and purchasable upon exercise of the warrants issued under the Warrant Agreements by such Holders of the Warrant Agreements.

10.3 Covenants of the Company With Respect to Registration. In connection with any registration under Section 10.1 or 10.2 hereof, the Company covenants and agrees as follows:

(a) The Company shall use its reasonable efforts to file a registration statement demanded under Section 10.2(a) hereof within fifty (50) days of receipt of any demand therefore, shall use

its reasonable efforts to have any registration statements declared effective at the earliest possible time, and shall furnish each of the Holders of the Warrant Agreements desiring to sell all

or any portion of the Total Warrant Shares under such registration statement such number of prospectuses as shall reasonably be requested.

(b) The Company shall pay all costs (excluding fees and expenses of Holder(s)' counsel and any underwriting or selling commissions which shall be paid by the Holders of the Warrant Agreements), fees and expenses in connection with all registration statements filed pursuant to Section 10.1 and 10.2(a) hereof including, without limitation, the Company's legal and accounting fees, printing expenses, blue sky fees and expenses.

(c) The Company will take all necessary action which may be required in qualifying or registering the Warrant Shares included in a registration statement for offering and sale under the securities or blue sky laws of such states as reasonably are requested by the Holder(s), provided that the Company shall not be obligated to execute or file any general consent to service of process or to qualify as a foreign corporation to do business under the laws of any such jurisdiction.

(d) Nothing contained in this Agreement shall be construed as requiring the Holders of the Warrant Agreements to exercise their Warrants prior to the initial filing of any registration statement or the effectiveness thereof.

(e) The Company shall deliver promptly to each of the Holders of the Warrant Agreements participating in the offering requesting the correspondence and memoranda described below copies of all correspondence between the Commission and the Company, its counsel or auditors and all memoranda relating to discussions with the Commission or its staff with respect to the registration statement.

10.4 Indemnification.

(a) Subject to the terms of this Section 10, the Company will indemnify and hold harmless the Holders of the Warrant Agreements participating in the offerings covered by Sections 10.1 or 10.2,, its directors and officers, and each person, if any, who controls such holders within the meaning of Section 15 of the Act or Section 20(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), from and against, and will reimburse such holders and each such controlling person with respect to, any and all loss, damage, liability, cost and expense to which such holder or controlling person may become subject under the Act or otherwise, insofar as such losses, damages, liabilities, costs or expenses are caused by any untrue statement or alleged untrue statement of any material fact contained in a Registration Statement filed with the Commission pursuant to Section 10, any prospectus contained therein or any amendment or supplement thereto, or arise out of, or are based upon, the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made not misleading; provided, however, that the Company will not be liable in any such case to the extent that any such loss, damage, liability, cost or expense arises out of, or is

based upon, an untrue statement or alleged untrue statement or omission or alleged omission so made in conformity with information furnished by such holders or such controlling person in writing specifically for use in the preparation thereof.

(b) Subject to the terms of this Section 10, each of the Holders of the Warrant Agreements will severally, and not jointly, indemnify and hold harmless the Company, its directors and officers, any controlling person and any underwriter from and against, and will

reimburse the Company, its directors and officers, any controlling person and any underwriter with respect to, any and all loss, damage, liability, cost or expense to which the Company or any controlling person and/or any underwriter may become subject under the Act or otherwise, insofar as such losses, damages, liabilities, costs or expenses are caused by any untrue statement or alleged untrue statement of any material fact contained in such Registration Statement filed with the Commission pursuant to Section 10, any prospectus contained therein or any amendment or supplement thereto, or arise out of, or are based upon, the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was so made in reliance upon, and in strict conformity with, written information furnished by, or on behalf of, the Holders of the Warrant Agreements specifically for use in the preparation thereof.

(c) Promptly after receipt by an indemnified party pursuant to the provisions of Section 10.4(a) or 10.(b) of notice of the commencement of any action involving the subject matter of the foregoing indemnity provisions, such indemnified party will, if a claim thereof is to be made against the indemnifying party pursuant to the provisions of Section 10.4(a) or 10.4(b) , promptly notify the indemnifying party of the commencement thereof; but the omission to so notify the indemnifying party will not relieve the indemnifying party from any liability which it may have to any indemnified party otherwise than hereunder. In case such action is brought against any indemnified party and the indemnified party notifies the indemnifying party of the commencement thereof, the indemnifying party shall have the right to participate in, and, to the extent that it may wish, assume the defense thereof; or, if there is a conflict of interest which would prevent counsel for the indemnifying party from also representing the indemnified party, (or, in the event that the indemnified party and the indemnifying party are both named as parties in the action and it is reasonably determined, in good faith, by counsel for the indemnified party and counsel for the indemnifying party that there is such a conflict) the indemnified parties have the right to select only one (1) separate counsel to participate in the defense of such action on behalf of all such indemnified parties. After notice from the indemnifying parties to such indemnified party of the indemnifying parties" election so to assume the defense thereof, the indemnifying parties will not be liable to such indemnified parties pursuant to the provisions of said Section 10.4(a) or 10.4(b) for any legal or other expense subsequently incurred by such indemnified parties in connection with the defense thereof, other than reasonable costs of investigation, unless (a) the indemnified parties shall have employed counsel in accordance with the provisions of the preceding sentence; (b) the indemnifying parties shall not have employed counsel satisfactory to the indemnified parties to represent the indemnified parties

within a reasonable time after the notice of the commencement of the action or (c) the indemnifying party has authorized the employment of counsel for the indemnified party at the expense of the indemnifying parties.

10.5 Majority. For purposes of this Agreement, the term ""Majority"" in reference to the Holders of the Warrant Agreements, shall mean in excess of fifty percent (50%) of the then outstanding warrants issued under the Warrant Agreements or Total Warrant Shares that (y) are not held by the Company, an affiliate, officer, creditor, employee or agent thereof or any of their respective affiliates, members of their family, persons acting as nominees or in conjunction therewith and (z) have not been resold to the public pursuant to a registration statement filed with the Commission under the Act.

11. Adjustments to Exercise Price and Number of Securities.

11.1 Subdivision and Combination. In case the Company shall at any time subdivide or combine the outstanding shares of Common Stock, the Exercise Price shall forthwith be proportionately decreased in the case of subdivision or increased in the case of combination.

11.2 Stock Dividends and Distributions. If the Company at any time, or from time to time, while the Warrants are outstanding shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock, then the Exercise Price shall be proportionately decreased.

11.3 Adjustment in Number of Securities. Upon each adjustment of the Exercise Price pursuant to the provisions of this Section 11, the number of Warrant Shares issuable upon the exercise at the adjusted exercise price of each Warrant shall be adjusted to the nearest full amount by multiplying a number equal to the Exercise Price in effect immediately prior to such adjustment by the number of Warrant Shares issuable upon exercise of the Warrants immediately prior to such adjustment and dividing the product so obtained by the adjusted Exercise Price.

11.4 Definition of Common Stock. For the purpose of this Agreement, the term "Common Stock" shall mean (i) the Common Stock or (ii) the class of stock designated as Common Stock in the Articles of Incorporation of the Company as may be amended as of the date hereof, or (ii) any other class of stock resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value, or from par value to no par value, or from no par value to par value.

11.5 Merger or Consolidation. In case of any consolidation of the Company with, or merger of the Company with, or merger of the Company into, another corporation (other than a consolidation or merger in which the Company is the surviving entity), the corporation formed by such consolidation or merger shall execute and deliver to the Holder a supplemental warrant agreement providing that the holder of each Warrant then outstanding or to be outstanding shall have the right thereafter (until the expiration of such Warrant) to receive, upon exercise of such Warrant, the kind and amount of shares of stock and other

securities and property receivable upon such consolidation or merger, by a holder of the number of shares of Common Stock of the Company for which such warrant might have been exercised immediately prior to such consolidation, merger, sale or transfer. Such supplemental warrant agreement shall provide for adjustments which shall be identical to the adjustments provided in Section 11. The above provision of this subsection shall similarly apply to successive consolidations or mergers.

11.6 No Adjustment of Exercise Price in Certain Cases. No adjustment of the Exercise Price shall be made:

(a) Upon the issuance or sale of the Warrants or the shares of Common Stock issuable upon the exercise of the Warrants;

(b) If the amount of said adjustment shall be less than two cents (2 cents) per Warrant Share, provided, however, that in such case any adjustment that would otherwise be required then to be made shall be carried forward and shall be made at the time of and together with the next subsequent adjustment which, together with any adjustment so carried forward, shall amount to at least two cents (2 cents) per Warrant Share.

12. Exchange and Replacement of Warrant Certificates. Each Warrant Certificate is exchangeable without expense, upon the surrender thereof by the registered Holder at the principal executive office of the Company, for a new Warrant Certificate of like tenor and date representing in the aggregate the right to purchase the same number of Warrant Shares in such denominations as shall be designated by the Holder thereof at the time of such surrender.

Upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of any Warrant Certificate, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it, and reimbursement to the Company of all reasonable expense incidental thereto, and upon surrender and cancellation of the Warrants, if mutilated, the Company will make and deliver a new Warrant Certificate of like tenor, in lieu thereof.

13. Elimination of Fractional Interests. The Company shall not be required to issue certificates representing fractions of shares of Common Stock upon the exercise of the Warrants, nor shall it be required to issue scrip or pay cash in lieu of fractional interests, it being the intent of the parties that all fractional interests shall be eliminated by rounding any fraction up to the nearest whole number of shares of Common Stock or other securities, properties or rights.

14. Reservation and Listing of Securities. The Company shall at all times reserve and keep available out of its authorized shares of Common Stock, solely for the purpose of issuance upon the exercise of the Warrants, such number of shares of Common Stock or other securities, properties or rights as shall be issuable upon the exercise thereof. The Company covenants and agrees that, upon exercise of the Warrants and payment of the Exercise Price therefore, all shares of Common Stock and other securities issuable upon

such exercise shall be duly and validly issued, fully paid, non-assessable and not subject to the preemptive rights of any stockholder. As long as the Warrants shall be outstanding, the Company shall use its reasonable efforts to cause all shares of Common Stock issuable upon the exercise of the Warrants to be listed (subject to official notice of issuance) on all securities exchanges on which the Common Stock issued to the public in connection herewith may then be listed and/or quoted.

15. Notices to Warrant Holders. Nothing contained in this Agreement shall be construed as conferring upon the Holder the right to vote or to consent or to receive notice as a stockholder in respect of any meetings of stockholders for the election of directors or any other matter, or as having any rights whatsoever as a stockholder of the Company. If, however, at any time prior to the expiration of the Warrants and their exercise, any of the following events shall occur:

(a) the Company shall take a record of the holders of its shares of Common Stock for the purpose of entitling them to receive a dividend or distribution payable otherwise than in cash, or a cash dividend or distribution payable otherwise than out of current or retained earnings, as indicated by the accounting treatment of such dividend or distribution on the books of the Company; or

(b) the Company shall offer to all the holders of its Common Stock any additional shares of capital stock of the Company or securities convertible into or exchangeable for shares of capital stock of the Company, or any option, right or warrant to subscribe therefore; or

(c) a dissolution, liquidation or winding up of the Company (other than in connection with a consolidation or merger) or a sale of all or substantially all of its property, assets and

business as an entirety shall be proposed;

then, in any one or more of said events, the Company shall give written notice of such event at least fifteen (15) days prior to the date fixed as a record date or the date of closing the transfer books for the determination of the stockholders entitled to such dividend, distribution, convertible or exchangeable securities or subscription rights, or entitled to vote on such proposed dissolution, liquidation, winding up or sale. Such notice shall specify such record date or the date of closing the transfer books, as the case may be. Failure to give such notice or any defect therein shall not affect the validity of any action taken in connection with the declaration or payment of any such dividend, or the issuance of any convertible or exchangeable securities, or subscription rights, options or warrants, or any proposed dissolution, liquidation, winding up or sale.

16. Notices. All notices, requests, consents and other communications hereunder shall be in writing and shall be deemed to have been duly made and sent when delivered, or mailed by registered or certified mail, return receipt requested:

(a) If to a registered holder of the Warrants, to the address of such holder as shown on the books of the Company; or

(b) If to the Company, to the address set forth in Section 5 hereof or to such other address as the Company may designate by notice to the Holder; or

(c) If to Ryan Beck, to Ryan, Beck & Co., LLC, 200 Park Avenue, New York, NY 10166, Attention Randy F. Rock.

17. Supplements and Amendments. The Company and Ryan Beck may from time to time supplement or amend this Agreement without the approval of any holder of the Warrants in order to cure any ambiguity, to correct or supplement any provision contained herein which may be defective or inconsistent with any provisions herein, or to make any other provisions in regard to matters or questions arising hereunder which the Company and Ryan Beck may deem necessary or desirable and which the Company and Ryan Beck deem shall not adversely affect the interests of the Holders of the Warrant Agreements.

18. Successors. All the covenants and provisions of this Agreement shall be binding upon and inure to the benefit of the Company, the Holder and their respective successors and assigns hereunder.

19. Termination. This Agreement shall terminate at the close of business on December 22, 2005.

20. Governing Law; Submission to Jurisdiction. This Agreement and each Warrant Certificate issued hereunder shall be deemed to be a contract made under the laws of the State of Delaware and for all purposes shall be construed in accordance with the laws of said State without giving effect to the rules of said State governing the conflicts of laws.

The Company and the Holder hereby agree that any action, proceeding or claim against it arising out of, or relating in any way to, this Agreement shall be brought and enforced in the federal courts located in Wilmington, Delaware, and irrevocably submits to such jurisdiction,

which jurisdiction shall be exclusive. The Company and the Holder hereby irrevocably waive any objection to such exclusive jurisdiction or inconvenient forum. Any such process or summons to be served upon any of the Company and the Holder (at the option of the party bringing such action, proceeding or claim) may be served by transmitting a copy thereof, by registered or certified mail, return receipt requested, postage prepaid, addressed to it at the address set forth in Section 16 hereof. Such mailing shall be deemed personal service and shall be legal and binding upon the party so served in any action, proceeding or claim. The Company and the Holder agree that the prevailing party(ies) in any such action or proceeding shall be entitled to recover from the other party(ies) all of its/their reasonable legal costs and expenses relating to such action or proceeding and/or incurred in connection with the preparation therefore.

21. Entire Agreement; Modification. This Agreement contains the entire understanding between the parties hereto with respect to the subject matter hereof and may not be modified or amended except by a writing duly signed by the party against whom enforcement of the modification or amendment is sought.

22. Severability. If any provision of this Agreement shall be held to be invalid or unenforceable, such invalidity or unenforceability shall not affect any other provision of this Agreement.

23. Captions. The caption headings of the Sections of this Agreement are for convenience of reference only and are not intended, nor should they be construed as, a part of this Agreement and shall be given no substantive effect.

24. Benefits of this Agreement. Nothing in this Agreement shall be construed to give to any person or corporation other than the Company and the Holder any legal or equitable right, remedy or claim under this Agreement; and this Agreement shall be for the sole benefit of the Company and Holder and any other registered holder.

25. Counterparts. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and such counterparts shall together constitute but one and the same instrument.

26. Assignment. This Agreement may not be assigned by the Holder without prior written consent of all parties hereto. The Warrants granted hereunder may be assigned in part, or in whole if prior to any such assignment the assignee executes and delivers to the Company a Certification, the form and content of which must be satisfactory to the Company, in which such assignee represents to the Company that such assignee is an "accredited investor" under Rule 501 of Regulation D promulgated under the Act and how such assignee is an accredited investor, and that such assignee is acquiring such designated Warrants for the assignees' own account, for investment purposes only and not with a view toward distribution or resale and agrees to be subject to and bound by all of the other conditions and provisions of this Agreement (including, but not limited to, the representations, warranties and covenants contained in Sections 3 and 7 hereof) and such assignee shall execute and deliver to the Company an agreement in form and substance substantially the same as this Agreement except for the name and number of Warrants to be issued to the assignee.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed, as of the day and year first above written.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/ Richard T. Kelecy
Richard T. Kelecy
Vice President and Chief Financial Officer

RYAN, BECK & CO., LLC

By: /s/ Randy F. Rock
Name: Randy F. Rock
Title: Managing Director

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUABLE UPON EXERCISE OF THIS WARRANT AGREEMENT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD OR TRANSFERRED EXCEPT (i) UNDER COVER OF A REGISTRATION STATEMENT UNDER SUCH ACT WHICH IS EFFECTIVE AND CURRENT WITH RESPECT TO THIS WARRANT OR SUCH SHARES OF COMMON STOCK, AS THE CASE MAY BE, OR (ii) PURSUANT TO THE WRITTEN OPINION OF COUNSEL REASONABLY ACCEPTABLE TO PERMA-FIX ENVIRONMENTAL SERVICES, INC. TO THE EFFECT THAT REGISTRATION UNDER SUCH ACT IS NOT REQUIRED WITH RESPECT TO SUCH SALE OR TRANSFER.

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUABLE UPON EXERCISE OF THIS WARRANT ARE SUBJECT TO THE TERMS AND CONDITIONS, INCLUDING REGARDING PARTIAL CANCELLATION, SET FORTH IN THAT CERTAIN WARRANT AGREEMENT BETWEEN THE HOLDER HEREOF AND THE COMPANY, A COPY OF WHICH IS ON FILE AT THE COMPANY'S PRINCIPAL EXECUTIVE OFFICE.

COMMON STOCK PURCHASE WARRANT CERTIFICATE

Dated: December 22, 2000

Two Hundred Thirteen Thousand Eight Hundred Eighty Nine (213,889) Warrants

to Purchase Two Hundred Thirteen Thousand Eight Hundred Eighty Nine (213,889)

Shares of Perma-Fix Environmental Services, Inc.

Common Stock, $.001 Par Value Per Share

VOID AFTER 5:30 P.M., NEW YORK TIME

on

December 22, 2005

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (the "Company"), hereby certifies that RYAN, BECK & CO., LLC and its permissible successors and assigns (the "Warrant Holder" or "Holder"), for value received, is entitled to purchase from the Company at any time after the date hereof, until 5:30 p.m., New York Time on December 22, 2005, up to an aggregate of Two Hundred Thirteen Thousand Eight Hundred Eighty Nine (213,889) shares (the "Shares" or "Warrant Shares") of the Company's common stock, par value $.001 per share (the "Common Stock") at an exercise price equal to $1.44 per share (the "Per Share Exercise Price") subject to adjustment as provided in that certain Warrant Agreement of even date herewith between the Company and the Holder.

1. **Exercise of Warrant**. Upon presentation and surrender of this Common Stock Purchase Warrant Certificate ("Warrant Certificate" or "this Certificate"), with the Election to Purchase or Assign form duly executed and completed, at the principal office of the Company at 1940 Northwest 67th Place, Gainesville, Florida 32653-1649, together with (a) cash or a cashier's or certified check payable to the Company in the amount of the Per Share Exercise Price multiplied by the number of Warrant Shares being purchased or (b) Warrants to be surrendered pursuant to a cashless exercise as described in Section 5.2 of the Warrant Agreement (either, the "Aggregate Exercise Price"), the Company, or the Company's transfer agent, as the case may be, shall deliver to the Warrant Holder hereof, certificates of Common Stock which, in the aggregate, represent the number of Warrant Shares being purchased. All or less than all of the Warrants represented by this Certificate may be exercised and, in case of the exercise of less than all, the Company, upon surrender hereof, will deliver to the

Warrant Holder a new Warrant Certificate or Certificates of like tenor and dated the date hereof entitling said Warrant Holder to purchase the number of Warrant Shares represented by this Certificate which have not been exercised or surrendered and to receive the Registration Rights set forth in Section 7 below (to the extent such rights have not already been exercised) with respect to such Warrant Shares.

2. **Exchange and Transfer**. This Certificate, at any time prior to the exercise hereof, upon presentation and surrender to the Company, may be exchanged, alone or with other certificates of like tenor registered in the name of the same Warrant Holder, for another Certificate or Certificates of like tenor in the name of such Warrant Holder exercisable for the aggregate number of Warrant Shares as the Certificate or Certificates surrendered.

3. **Rights and Obligations of Warrant Holder of this Certificate**. The Holder of this Certificate shall not, by virtue hereof, be entitled to any rights of a stockholder in the Company, either at law or in equity; provided, however, that in the event any certificate representing shares of Common Stock or other securities is issued to the Holder hereof upon exercise of some or all of the Warrants evidenced by this Warrant Certificate, such Holder shall, for all purposes, be deemed to have become the Holder of record of such Common Stock on the date on which this Certificate, together with a duly executed Purchase form, was surrendered and payment of the Aggregate Exercise Price was made pursuant to the terms hereof, irrespective of the date of delivery of such share certificate. The rights of the Holder of this Certificate are limited to those expressed herein and the Holder of this Certificate, by his acceptance hereof, consents and agrees to be bound by, and to comply with, all of the provisions of this Certificate, including, without limitation, all of the obligations imposed upon the Warrant Holder contained in this Warrant Certificate. In addition, the Warrant Holder of this Certificate, by accepting the same, agrees that the Company may deem and treat the person in whose name this Certificate is registered on the books of the Company as the absolute, true and lawful owner for all purposes whatsoever, and the Company shall not be affected by any notice to the contrary.

4 **Issuance of Certificates**. As soon as practicable after full or partial exercise of this Warrant Certificate, the Company, at its expense, will cause to be issued in the name of, and delivered to, the Holder

of this Warrant Certificate, a certificate or certificates for the number of fully paid and nonassessable shares of Common Stock to which that Holder shall be entitled on such exercise. No fractional shares will be issued on exercise of this Warrant. If on any exercise of this Warrant a fraction of a share results, the Company will pay the cash value of that fractional share, calculated on the basis of the Per Share Exercise Price. All such certificates shall bear a restrictive legend to the effect that, subject to the provisions of Section 7 below, the Shares represented by such certificate have not been registered under the Securities Act of 1933, as amended (the "Act"), or qualified under any state securities laws and the Shares may not be sold or transferred in the absence of such registration and qualification or an exemption thereof, such legend to be substantially in the form of the bold face language appearing on page 1 of this Warrant Certificate.

5 **Disposition of Warrants or Shares**.

a. The Holder of this Warrant Certificate, by his acceptance thereof, agrees

that (i) no public distribution of Warrants or Shares will be made in violation of the provisions of the Securities Act of 1933, as amended, and the Rules and Regulations promulgated thereunder (collectively, the "Act"), and (ii) during such period as delivery of a prospectus with respect to Warrants or Shares may be required by the Act, no public distribution of Warrants or Shares will be made in a manner or on terms different from those set forth in, or without delivery of, a prospectus then meeting the requirements of Section 10 of the Act and in compliance with all applicable state securities laws. The holder this Warrant Certificate and each transferee hereof further agrees that if any distribution of any of the Warrants or Shares is proposed to be made by them otherwise than by delivery of a prospectus meeting the requirements of Section 10 of the Act, such action shall be taken only after receipt by the Company of an opinion of its counsel, to the effect that the proposed distribution will not be in violation of the Act or of applicable state law. Furthermore, it shall be a condition to the transfer of the Warrants that prior written consent to such transfer be obtained from the Company after delivery to the Company of a Certification and agreement as defined in Section 26 of the Warrant Agreement.

b. By acceptance hereof, the Holder represents and warrants that this Warrant Certificate is being acquired, and all Warrant Shares to be purchased upon the exercise of this Warrant Certificate will be acquired, by the Holder solely for the account of the Holder and not with a view to the fractionalization and distribution thereof, and will not be sold or transferred except in accordance with the applicable provisions of the Act and the rules and regulations promulgated thereunder, and the Holder agrees that neither this Warrant Certificate nor any of the Warrant Shares may be sold or transferred except under cover of a registration statement under the Act which is effective and current with respect to such Warrant Shares or pursuant to an opinion of counsel reasonably satisfactory to the Company that registration under the Act is not required in connection with such sale or transfer. Any Warrant Shares issued upon exercise of this Warrant shall bear the following legend:

> The securities represented by this certificate have not been registered under the Securities Act of 1933 and are restricted securities within the meaning thereof. Such securities may not be sold or transferred, except pursuant to a registration statement under such Act which is effective and current with respect to such securities or pursuant to an opinion of counsel reasonably satisfactory to the issuer of such securities that such sale or transfer is exempt from the registration requirements of such Act.

6. **Warrant Holder Not Shareholder**. This Warrant Certificate shall not be deemed to confer upon the Holder any right to vote the Warrant Shares or to consent to or receive notice as a shareholder of the Company as such, because of this Warrant Certificate, in respect of any matters whatsoever, or any other rights or liabilities as a shareholder.

7. **Registration Rights**. The Company agrees that the Warrant Shares shall have those registration rights set forth in Section 10 of the Warrant Agreement.

8. **Notices**. All notices, requests, consents and other communications hereunder shall be in writing and shall be deemed to have been duly made and sent when delivered, or mailed by registered or certified mail, return receipt requested:

If to the Company: Perma-Fix Environmental Services, Inc.
1940 Northwest 67th Place
Gainesville, Florida 32653-1649
Attention: Dr. Louis F. Centofanti
Chief Executive Officer

with copies simultaneously by like means to: Conner & Winters
One Leadership Square, Suite 1700
211 North Robinson
Oklahoma City, Oklahoma 73102
Attention: Irwin H. Steinhorn, Esquire

If to the Holder: ; Ryan, Beck & Co., LLC
200 Park Avenue
New York, New York 10166
Attention: Randy F. Rock
Managing Director

9. **Governing Law**. This Warrant Certificate and all rights and obligations hereunder shall be deemed to be made under and governed by the laws of the State of Delaware without giving effect to such State's conflict of laws provisions. The Holder hereby irrevocably consents to the venue and jurisdiction of the federal courts located in Wilmington, Delaware.

10. **Successors and Assigns**. This Warrant Certificate shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns.

11. **Headings**. The headings of various sections of this Warrant Certificate have been inserted for reference only and shall not be a part of this Agreement.

12. **Subject to Warrant Agreement**. This Warrant Certificate is subject to the terms and conditions set forth in the Warrant Agreement. In the event of a conflict between this Warrant and the Warrant Agreement, the Warrant Agreement shall control.

IN WITNESS WHEREOF, the Company has caused this Warrant Certificate to be duly executed, manually or by facsimile, by one of its officers thereunto duly authorized.

Dated as of December 22, 2000.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/ Richard T. Kelecy

Richard T. Kelecy
Vice President and Chief Financial Officer

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FIRST AMENDMENT TO LOAN AGREEMENT AND CONSENT

This First Amendment to Loan Agreement and Consent is executed effective January 30, 2001 by and among PNC Bank, National Association ("PNC"), as agent (in such capacity, "Agent") for the financial institutions (collectively the "Lenders") that are now or that may hereafter become a party to the Credit Agreement (as defined below), and Perma-Fix Environmental Services, Inc. (the "Borrower").

RECITALS

PNC, as Agent for the Lenders, has established a credit facility for the Borrower (the "Senior Credit Facility"), as evidenced by that certain Revolving Credit, Term, Loan and Security Agreement, dated as of December 22, 2000 (the "Credit Agreement") by and among the Agent, the Lenders and the Borrower.

BHC Interim Funding, L.P. ("BHC") has proposed to extend credit to the Borrower in an amount up to $6,000,000.00 (the "BHC Loan") to be evidenced and secured by a certain Loan Agreement, Promissory Note, Warrant and certain other documents executed in connection therewith (the "BHC Documents").

The Borrower has requested and PNC has agreed to consent to the BHC Loan and to the BHC Documents, and in order to facilitate the BHC Loan transaction, the Borrower has requested and PNC has agreed to amend a certain provision of the Credit Agreement.

Now Therefore, for good and valuable consideration the parties hereto agree as follows:

1. Defined Terms. Except as otherwise defined herein, all terms defined in the Credit Agreement will have the same meaning herein.

2. Amendment. PNC, as Agent for the Lenders, hereby agrees to amend the provisions of paragraph 7.4 of the Credit Agreement by deleting the last two sentences thereof and adding the following:

> "Notwithstanding the foregoing, Borrower will be entitled to use all proceeds received by the Borrower or any of the Subsidiaries generated from issuances of equity or subordinated Indebtedness from and after January 30, 2001, to pay Subordinated Loans and to pay any other Indebtedness owing by Borrower to any Person other than PNC or the Lenders, including but not limited to BHC Interim Funding, L.P. and RBB Bank."

3. Consent. PNC hereby consents to the BHC Loan and to the execution and delivery of the BHC Documents and the granting of liens to BHC pursuant to the terms of the BHC Documents. PNC acknowledges and agrees that PNC has previously received prior drafts of the BHC documents and all other information regarding the BHC Loan required by PNC in order to grant such consent.

4. Full Force and Effect. Except to the extent amended hereby, all of the terms, covenants and conditions contained in the Credit Agreement will remain in full force and effect and the liens created thereby will remain unabated and uninterrupted.

This instrument has been executed effective as of the date first above written.

PNC Bank, National Association, as Agent
For the Lenders

By: /s/ Wing Louie
Name: Wing Louie
Title: Vice President

Perma-Fix Environmental Services, Inc.,

By: Richard T. Kelecy
Name: Richard T. Kelecy
Title: Vice President