

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

**FORM S-8  
REGISTRATION STATEMENT**  
*UNDER  
THE SECURITIES ACT OF 1933*

**CECO ENVIRONMENTAL CORP.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction  
of incorporation)

**13-2566064**  
(I.R.S. Employer  
Identification No.)

**3120 Forrer Street  
Cincinnati, OH 45209  
(416) 593-6543**

(Address, including zip code, and telephone number, of registrant's principal executive offices)

**EMPLOYEE STOCK PURCHASE PLAN**  
(full title of the plan)

**Phillip DeZwirek  
Chief Executive Officer  
CECO Environmental Corp.  
3120 Forrer Street  
Cincinnati, OH 45209  
(416) 593-6543**

(Name, address, and telephone number, including area code, of agent for service)

*Copy to:*

**Leslie J. Weiss  
Barnes & Thornburg LLP  
One North Wacker Drive, Suite 4400  
Chicago, Illinois 60606  
(312) 357-1313**

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer   
Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

**CALCULATION OF REGISTRATION FEE**

Title of Each Class of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee (2)
Common Stock, No par value	1,500,000	\$3.70	\$5,550,000	\$309.69

(1) The number of shares being registered represents the shares issuable under the CECO Environmental Corp. Employee Stock Purchase Plan and, pursuant to Rule 416 of the Securities Act of 1933, as amended ("Securities Act"), this Registration Statement shall also include such additional shares of the Registrant's Common Stock that may become issuable under the plan by reason of any stock dividend, stock split, recapitalization or other similar transaction.

(2) Computed pursuant to Rule 457(c) and Rule 457(h) under the Securities Act of 1933, as amended, solely for purposes of determining the registration fee, based upon the average of the high and low sale prices of the common stock as reported by the Nasdaq Global Market on June 8, 2009.

**PART I**

**INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

The document(s) containing the information specified in this Part I will be sent or given to participants in the plan as specified by Rule 428(b)(1). Such documents need not be filed with the Securities and Exchange Commission (the "Commission") either as part of this registration statement or as a prospectuses or prospectus supplements pursuant to Rule 424. These documents and the documents incorporated by reference in the registration statement pursuant to Item 3 of Part II of this form, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

**PART II**

**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 3. Incorporation of Documents by Reference**

CECO Environmental Corp. (the "Company") hereby incorporates by reference the following documents filed with the Commission under Section 13 or 15 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"):

- Annual Report on Form 10-K for the year ended December 31, 2008 filed with the Commission on March 16, 2009;

- The Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2009 filed with the Commission on May 11, 2009;
- Our Current Reports on Form 8-K filed with the Commission on March 12, 2009, May 7, 2009, May 19, 2009, and May 28, 2009;
- The description of our common stock contained in the registration statement on Form 10 filed with the Commission on December 13, 1992 pursuant to Section 12(g) of the Exchange Act, together with all amendments or reports filed for the purpose of updating such description.

In addition, all documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference into this registration statement and to be a part hereof from the respective dates of the filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

**Item 4. Description of Securities**

Not Applicable.

**Item 5. Interests of Named Experts and Counsel**

Not Applicable.

**Item 6. Indemnification of Directors and Officers**

Section 145 of the Delaware General Corporation Law, our certificate of incorporation and our bylaws provide for indemnification of our directors, officers, employees and other agents to the extent permitted by the Delaware General Corporation Law. Mandatory indemnification is required for directors and executive officers, and we provide for permissive indemnification for other officers, employees and agents. Also, we are authorized to purchase insurance on behalf of an individual for liabilities incurred whether or not we would have the power or obligation to indemnify him under our bylaws.

**Item 7. Exemption from Registration Claimed**

Not applicable.

**Item 8. Exhibits**

- 4.1 Articles of Incorporation of the Company. (Incorporated by reference to Exhibit 3.I from Form 10-K dated December 31, 2001)
- 4.2 Amended and Restated Bylaws of the Company. (Incorporated by reference to Exhibit 3.II from Form 10-K dated December 31, 2001)
- 5.1\* Opinion of Barnes & Thornburg LLP
- 23.1\* Consent of Barnes & Thornburg LLP (included in Exhibit 5.1)
- 23.2\* Consent of Independent Registered Public Accounting Firm of BDO Seidman, LLP
- 23.3\* Consent of Independent Registered Public Accounting Firm of Battelle & Battelle LLP
- 24.1\* Power of Attorney (Incorporated in the signature page of this Registration Statement)
- 99.1 CECO Environmental Corp. Employee Stock Purchase Plan. (Incorporated by reference to Exhibit A to the definitive proxy statement filed by the Company with the Commission on April 13, 2009)

\* Filed herewith

**Item 9. Undertakings**

(a) the undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however,* that Paragraphs (a)(1)(i) and (a)(1)(ii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for the purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Toronto, Ontario, Canada, on June 12, 2009.

CECO ENVIRONMENTAL CORP.

By: /s/ Phillip DeZwirek  
Phillip DeZwirek  
Chief Executive Officer

**POWER OF ATTORNEY**

KNOW ALL PERSONS BY THESE PRESENTS, that each such person whose signature appears below constitutes and appoints, jointly and severally, Phillip DeZwirek and Dennis W. Blazer his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Registration Statement of Form S-8 (including post-effective amendments), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed below by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Phillip DeZwirek</u> Phillip DeZwirek	Chief Executive Officer and Chairman of the Board (Principal Executive Officer)	June 12, 2009
<u>/s/ Dennis W. Blazer</u> Dennis W. Blazer	Vice president-Finance and Administration, Chief Financial Officer (Principal Financial Officer)	June 12, 2009
<u>/s/ Richard J. Blum</u> Richard J. Blum	Director	June 12, 2009
<u>/s/ Arthur Cape</u> Arthur Cape	Director	June 12, 2009
<u>/s/ Jason DeZwirek</u> Jason DeZwirek	Director	June 12, 2009

/s/ Thomas J. Flaherty  
Thomas J. Flaherty

Director

June 12, 2009

/s/ Ronald E. Krieg  
Ronald E. Krieg

Director

June 12, 2009

/s/ Donald A. Wright  
Donald A. Wright

Director

June 12, 2009

## EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
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4.2	Amended and Restated Bylaws of the Company. (Incorporated by reference to Exhibit 3.II from Form 10-K dated December 31, 2001)
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23.1*	Consent of Barnes & Thornburg LLP (included in Exhibit 5.1)
23.2*	Consent of Independent Registered Public Accounting Firm of BDO Seidman, LLP
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24.1*	Power of Attorney (Incorporated in the signature page of this Registration Statement).
99.1	CECO Environmental Corp. Employee Stock Purchase Plan. (Incorporated by reference to Exhibit A to the definitive proxy statement filed by the Company with the Commission on April 13, 2009)

\* Filed herewith



June 12, 2009

CECO Environmental Corp.  
3120 Forrer Street  
Cincinnati, OH 45209

Re: Employee Stock Purchase Plan

Gentlemen:

We have acted as counsel to CECO Environmental Corp., a Delaware corporation (the "Company") in connection with the Registration Statement on Form S-8 (the "Registration Statement") to be filed with the Securities and Exchange Commission (the "SEC") in connection with the registration under the Securities Act of 1933, as amended (the "Securities Act"), of 1,500,000 shares of your common stock, \$0.01 par value (the "Shares") which will be issuable under the CECO Environmental Corp. Employee Stock Purchase Plan (the "Plan").

We have examined the Certificate of Incorporation and By-Laws of the Company, each as amended and restated to date, the Registration Statement, the Plan and originals or duplicates, or certified copies of, such records, minutes, agreements and other documents relating to the Company as we have deemed material for the purposes of rendering this opinion.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified, photostatic or other copies, the authenticity of the originals of any such documents and the legal competence of all signatories to such documents. We assume that the appropriate action will be taken, prior to the offer and sale of the Shares in accordance with the Plan, to register and qualify the Shares for sale under all applicable state securities or "blue sky" laws. We have also assumed (a) that where a document has been examined by us in draft form, it will be or has been executed and/or filed in the form of that draft, (b) the accuracy and completeness of all factual representations made in the Registration Statement, the Plan and other documents reviewed by us, (c) that resolutions contained in any minutes or consents reviewed by us were passed at one or more duly convened, constituted and quorate meetings, or by unanimous written resolutions, remain in full force and effect, and have not been rescinded or amended, and (d) that on the date of issuance of any of the Shares, the Company will have sufficient authorized but unissued common shares.

We express no opinion herein as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware.

It is understood that this opinion is to be used only in connection with the offer and sale of the Shares while the Registration Statement is in effect.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters.

Based on the foregoing, we are of the opinion that when the Shares have been purchased and the purchase price therefor has been paid in accordance with the terms and conditions of the Plan and as described in the Registration Statement, as the same may be amended, and when the Company has complied with the Securities Act, the Shares will be validly issued, fully paid and non-assessable.

We hereby consent to the filing of this opinion with the SEC in connection with the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act. In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act, or the rules and regulations of the SEC.

Very Truly Yours,

/s/ Barnes & Thornburg LLP

BARNES & THORNBURG LLP



**BDO Seidman, LLP**  
Accountants and Consultants

233 N. Michigan Ave., Suite 2500  
Chicago, Illinois 60601  
Telephone: 312-856-9100  
Fax: 312-856-1379

**Consent of Independent Registered Public Accounting Firm**

Board of Directors and Shareholders  
CECO Environmental Corp.  
Cincinnati, Ohio

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 relating to the CECO Environmental Corp. Employee Stock Purchase Plan, of our reports dated March 13, 2009, relating to the consolidated financial statements and the effectiveness of internal control over financial reporting of CECO Environmental Corp., appearing in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008. Our report on the effectiveness of internal control over financial reporting expresses an adverse opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2008.

/s/ BDO Seidman, LLP

Chicago, Illinois  
June 12, 2009

Consent of Independent Registered Public Accounting Firm

The Board of Directors  
CECO Environmental Corp.  
Cincinnati, Ohio

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8, relating to the CECO Environmental Corp. Employee Stock Purchase Plan, of our report dated March 17, 2008 relating to the financial statements of CECO Environmental Corp. and its subsidiaries for the two years ended December 31, 2007, appearing in the Annual Report on Form 10-K of CECO Environmental Corp. and its subsidiaries for the year ended December 31, 2008.

/s/ Battelle & Battelle LLP

Dayton, Ohio  
June 12, 2009