



Environmentally Preferable Purchasing Program



Paving the Road to Success

The Department of Defense's
Parking Lot Repair and Maintenance Contract:
An Environmentally Preferable Purchasing Case Study





Environmentally Preferable Purchasing Program

Environmentally Preferable Purchasing (EPP) ensures that environmental considerations are included in purchasing decisions, along with traditional factors, such as product price and performance. The EPP Program provides guidance for federal agencies to facilitate purchases of goods and services that pose fewer burdens on the environment.

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Foreword

The federal government purchases more than \$200 billion worth of goods and services each year. Recognizing that purchasing decisions can have environmental consequences, the federal government is beginning to incorporate environmental considerations into its purchasing practices. As directed in Executive Order 12873, Federal Acquisition, Recycling, and Waste Prevention, the U.S. Environmental Protection Agency (EPA) issued its proposed Guidance on Acquisition of Environmentally Preferable Products and Services to help federal agencies include these considerations when making purchasing decisions. The proposed Guidance establishes guiding principles to help identify products and services that have a lesser or reduced effect on human health and the environment.

EPA's proposed Guidance acknowledges that environmentally preferable purchasing is a dynamic concept that, depending on the product category, will not necessarily be implemented in the same manner from agency to agency or even within a specific agency. In order to demonstrate some of the ways environmentally preferable purchasing principles are currently being applied, EPA is documenting various pilot procurement projects undertaken by executive agencies, state and local governments, and the private sector.

The Department of Defense (DOD) Parking Lot Renovation case study documents one of these projects. This report describes DOD's efforts to introduce environmentally preferable purchasing into a 5-year, \$1 million per year parking lot renovation contract at several Washington, DC area facilities, including the Pentagon. This case study examines in detail the approach undertaken by DOD, the assistance provided by EPA, and the lessons learned. Most importantly, it demonstrates the feasibility of including environmentally preferable purchasing principles into federal contracts. We hope the lessons and insights documented in this case study will help you and your organization as you begin incorporating environmental preferability into your purchasing decisions.

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Paving The Road To Success

INTRODUCTION

The U.S. Department of Defense (DOD) maintains some of the largest buildings and facilities in the world. It also maintains some very large surface parking lots and has recently begun using products with multiple environmental attributes to maintain some of them. On June 4, 1997, DOD awarded a 5-year, \$1 million per year contract to maintain and repair the parking lots and access roads at four Washington, DC, area facilities—the Pentagon, the Court of Appeals for the Armed Forces (Military Court of Appeals), the Federal Office Building Number Two (Navy Annex), and the Hybla Valley Federal Building. The contract includes several unique features to ensure that the work not only meets all price and quality concerns, but also incorporates the use of products with multiple environmental attributes whenever feasible.

The DOD contract is one of the first contracts to incorporate environmentally preferable purchasing.

The new DOD parking lot contract is significant for several reasons:

- It introduces environmentally preferable purchasing at some of DOD's largest and most recognized facilities, most significantly the Pentagon, which houses DOD headquarters.
- It promotes the use of products with multiple environmental attributes rather than focusing on a single environmental attribute, such as recovered material content.
- It includes unique features, including price differentials, that provide incentives for the contractor to continually search for and use products with minimal environmental impacts.
- It relies on consumer-market dynamics rather than government requirements to increase the use of products with multiple environmental attributes.
- It is very flexible and allows the government or the contractor, with government approval, to introduce new products or processes with new or improved environmental performance.

Environmentally preferable products are "products and services [that] have a lesser or reduced effect on human health and the environment when compared to other products and services that serve the same purpose."

— Executive Order 12873, *Federal Acquisition, Recycling, and Waste Prevention*

October 20, 1993

This case study details DOD's successful attempt to adopt environmentally preferable purchasing practices as directed by Executive Order 12873, Federal Acquisition, Recycling, and Waste Prevention. It explains how DOD incorporated the seven guiding principles outlined in the U.S. Environmental Protection Agency's (EPA's) proposed Guidance on Acquisition of Environmentally Preferable Products and Services. It also illustrates how environmental preferability can be incorporated into the contracting process while continuing to meet or exceed existing performance and price objectives.

Project History

Background

On May 31, 1995, DOD, along with the General Services Administration and the National Aeronautics and Space Administration, issued an interim rule to incorporate environmental factors into purchasing, based on directions provided in Executive Order 12873¹. At that time, DOD's Washington Headquarters' Service Office began searching for an appropriate project in which to introduce the new process.

EPA's Environmentally Preferable Guidance

EPA identified seven guiding principles to help federal agencies incorporate environmental preferability into their procurement practices. These principles were proposed in the Federal Register (FR) in EPA's Guidance on Acquisition of Environmentally Preferable Products and Services (60 FR 50722):

- 1) Consideration of environmental preferability should begin early in the acquisition process and be rooted in the ethic of pollution prevention, which strives to eliminate or reduce, up front, potential risks to human health and the environment.
- 2) A product or service's environmental preferability is a function of multiple attributes.
- 3) Environmental preferability should reflect the lifecycle considerations of products and services to the extent feasible.
- 4) Environmental preferability should consider the scale (global versus local) and temporal reversibility aspects of a product or service's impact.
- 5) Environmental preferability should be tailored to local conditions where appropriate.
- 6) Environmental objectives of products or services should be a factor or sub-factor in competition among vendors, when appropriate.
- 7) Agencies need to examine product attribute claims carefully.

¹ See the Federal Register, volume 60, number 104, May 31, 1995, pages 28,494 to 28,500.

As directed by Executive Order 12873, EPA issued draft guidance on September 29, 1995 identifying seven guiding principles to help federal agencies incorporate environmental preferability into their procurement practices. Around that same time, DOD identified a need to issue a contract to repair and maintain the access roads and parking lots at the Pentagon and at three other Washington, DC, area facilities. DOD decided this contract would be the first to incorporate the new environmentally preferable purchasing principles.

DOD contacted EPA hoping to obtain a list of environmentally preferable products similar to the lists of recovered material (recycled) content products identified in the Comprehensive Procurement Guidelines.² After learning that no such list exists, because the attributes to define such products can differ from region to region, project to project, and product to product, DOD attempted to use lifecycle concepts³ to identify products with environmental attributes appropriate for its needs. Most of the available information on lifecycle assessments, however, was too theoretical to incorporate or was focused on products and processes unrelated to DOD's parking lot repair and renovation needs.

**DOD contacted
EPA for
assistance.**

DOD contacted EPA's Environmentally Preferable Purchasing (EPP) program for assistance. EPP volunteered to help DOD identify the appropriate attributes and suggested turning the project into an environmentally preferable purchasing pilot project. DOD agreed, and the results of this joint pilot project are described below.

Project Scope

The Pentagon is one of the world's largest office buildings, containing close to three times the floor space (by square foot) of the Empire State Building. It provides office space for approximately 29,000 military and civilian employees and over 67 acres of parking in 16 parking lots for 8,770 vehicles. The Pentagon Reservation also includes 10 miles of access roads and five bridges and overpasses.

² EPA is required under section 6002(e) of the Resource Conservation and Recovery Act (RCRA) to designate items that can be made with recovered materials and to recommend practices to assist federal agencies in procuring those items. RCRA also requires that federal agencies, when purchasing designated items, purchase them containing the highest percentage of recovered materials available.

As required in Executive Order 12873, EPA identifies designated products in the Comprehensive Procurement Guidelines, which is published in the Federal Register. EPA recommends recovered material content percentages for each of the products it designates in an accompanying Recovered Materials Advisory Notice. As of June 1997, EPA had designated 24 products in seven product categories.

³ A product's life cycle includes all steps necessary to produce, transport, install, maintain, and dispose of, recycle, or reuse the product. A lifecycle assessment (LCA) is a process for evaluating the environmental burdens associated with a product. LCAs identify and quantify the energy and material uses and releases to the environment and cover the entire life cycle of the product, including extracting and processing the raw materials; manufacturing, transporting, and distributing the product; product installation, use, reuse, and maintenance; recycling; and final disposition.

The contract includes repairs and maintenance for over 12,000 parking spaces.

In addition to the Pentagon's access roads and parking lots, the DOD parking lot repair and maintenance contract also covers an additional 3,000 parking spaces, and their accompanying access roads, at three nearby DOD facilities: the Military Court of Appeals, the Navy Annex, and the Hybla Valley Federal Building.

The parking lot repair contract is a small business set-aside, indefinite quantity, fixed price, task order contract. All of the products used are traditionally purchased by the contractor who is awarded the contract and not directly by DOD. Compared with many of DOD's contracts, the parking lot repair contract is a relatively small and simple procurement. The contract amount was estimated at between \$500,000 to \$1 million per year, and the level of detail required for the contract was fairly routine.

Working closely with EPA, DOD considered several possible options for promoting the use of products with multiple environmental attributes.

DOD's parking lot repair contractor purchases the following types of materials:

- Asphalt Base and Surface Course
- Asphalt Cement
- Asphalt Sealants
- Bituminous Prime and Tack Coats
- Concrete Curing Compounds
- Concrete Drainage Pipes
- Emulsified Asphalt Slurry
- Epoxy Bonding Compounds
- Silicone Sealants
- Traffic Paint
- Traffic Signs and Posts

Developing an Environmentally Preferable Purchasing Pilot Project

DOD and EPA created a small workgroup to outline the components of a successful pilot project. The work group determined that the project should ensure that products used to complete the parking lot repairs meet all government specifications and requirements, are available at an affordable price, and reduce environmental and human health impacts. The group decided it should be easy to implement and should take into account the seven environmentally preferable purchasing principles outlined by EPA. (See the sidebar on page 2.) They also wanted to design the project so that the lessons learned could be easily incorporated into future construction projects.

Looking for a New Approach

Traditionally, DOD uses existing product specifications from similar contracts when preparing a new contract. While this approach saves time, it can inhibit the introduction of innovative products and processes, including the introduction of products with improved environmental performance. DOD wanted an approach that was easy to implement, but was also very flexible. Flexible product specifications are especially important for products with environmental attributes because the market for these products is very dynamic, and new attributes and products are continually being introduced. In addition, new information on existing attributes and products is continually being discovered.

One of the first solutions considered by the DOD and EPA team was developing a list of approved products that must be used by the contractor to repair and maintain the parking lots. This option was not selected because the list would require continual updates in order to accurately reflect state-of-the-art product availability. The updates would require additional resources not currently available to continually investigate new products and attributes.

Independent "Green" Labeling Services

The DOD and EPA team considered relying on independent labeling organizations to identify and approve products with environmental attributes, and requiring the contractor to use "approved" products whenever possible. The team decided against this approach for the following reasons:

- At the time, none of the independent labeling organizations contacted by the team had sufficient information on parking lot products.
- Companies seeking certification from independent labeling organizations can incur significant laboratory costs and product evaluation fees to obtain approval. The DOD and EPA team was concerned that smaller companies that manufacture products with multiple environmental attributes would be unable to afford certification, which would limit the products from which DOD could select. DOD also considered but did not require companies to be certified under ISO 14000 or 9000 requirements for this reason.
- Most importantly, the DOD and EPA team felt that the government needed to make final decisions on product selection. Delegating that responsibility to an outside firm would have unnecessarily reduced DOD's involvement in the decision making process.

Although the team did not want to automatically require or approve products that were prescreened by an independent labeling organization, DOD has found the product specifications developed by such organizations useful when developing other specifications. Green Seal, a nonprofit environmental labeling organization, for example, had an existing specification for the volatile organic compound (VOC) content for paint that was useful in developing the environmental attribute specifications for the paints used in another DOD construction project. As a result, paints that meet the Green Seal specification also meet DOD requirements. Paints do not have to hold a

The DOD/EPA team decided against relying solely on an independent labeling service.

Green Seal stamp of approval, however, to be used on the DOD project; they must simply meet the DOD specifications.

DOD's Solution

The DOD/EPA team adopted a three-step method.

After examining all of the options, the DOD and EPA team adopted a unique three-step method for incorporating environmental preferability into the parking lot contract that does not include an approved product list, does not rely on outside certification, and allows the contract to be easily modified to include the latest environmental attributes. First, contractors were required to include previous environmental performance information and a plan for obtaining products with environmental attributes in their proposals. Both of these factors were included as part of DOD's bid evaluation process. Second, the team identified attributes that can be used to compare the environmental preferability of products to be used under the contract. The team did not identify all of the possible environmental attributes for every product, but instead provided an overview of currently available ("baseline") attributes. Third, the team developed price differentials as an incentive for the contractor to use products that meet or exceed the baseline attributes. The contractor can also propose to use products or construction practices with additional environmental attributes or improved environmental performance. With DOD approval, the contractor can use the new product or practice and is eligible to receive a price differential for doing so.

Making It Work

Once the DOD and EPA team decided to include baseline attributes in the contract, they had to identify those attributes. This process included conducting the necessary market research, analyzing the research findings and identifying the attributes, and developing worksheets to convey the information to contractors.

Product Research

The DOD and EPA team quickly determined that it did not have the resources available to conduct product research on every item that would be needed under the contract. Instead, it elected to focus only on the most frequently used products. The team selected 20 product categories from approximately 40 categories. Together the 20 products represent approximately 90 percent of the materials used under the contract.

Relying on publicly available information sources, such as the Recycled Products Guide, Harris Directory, Thomas Directory, and the Department of the Interior's National Park Service Sustainable Design and Construction database⁴, the team identified manufacturers and suppliers for each of the product categories. Based on this product information, the team created surveys for each of the categories to gather rel-

⁴ The National Park Service's Sustainable Design and Construction Database is available free via the Internet at <http://www.nps.gov/dsc/dsgncnstr/susdb/index.htm>.

evant information about applicable American Society for Testing and Materials specifications, VOC content, and other product-specific environmental attributes, as well as to request copies of Material Safety Data Sheets (MSDSs).⁵ The surveys also included copies of the operational requirements for each product category and asked respondents to identify the environmental attributes of products meeting the requirements and to explain why the attributes were environmentally preferable. DOD sent the surveys to each of the manufacturers and vendors identified by the DOD and EPA team.

Research included obtaining publicly available information and conducting a product survey.

The surveys were sent directly by DOD rather than the DOD and EPA team to clarify that DOD was seeking the information as a potential customer and to avoid any confusion or potential concerns among the manufacturers and vendors surrounding EPA's participation. This also helped communicate the message that DOD was actively seeking information on products' environmental performance as a consumer for the purpose of making purchasing decisions and that the information was not being collected for regulatory reasons.

Identifying the Environmental Attributes

After compiling the survey results, the DOD and EPA team examined product information for each of the 20 product categories to ensure that the available products met the following minimum requirements:

- Achieved DOD's performance requirements.
- Available at an affordable price.
- Achieved all industry standards; local codes; and pertinent federal, local, and state regulations.
- Offered adequate competition.

Based on the available information, the DOD and EPA team compiled a list of appropriate environmental attributes for 11 of the 20 product categories. The team was unwilling to select environmental attributes for the remaining nine categories due to insufficient information. Due to the inherent flexibility of the contract, however, the contractor, based on an emerging technology or their market research, can suggest additional attributes, products, or processes for any of the product categories, not just the original 20 investigated by the DOD and EPA team. The contractor is eligible to receive a price differential for identifying a new attribute, product, or process if DOD permits its use on the project. (See "Contractor Incentives" below.)

The team identified attributes for 11 product categories

⁵ MSDSs identify any hazardous or toxic materials used in a product and outline proper product safety precautions along with fire and explosion, reactivity, and other safety risks. MSDSs are not required for all products, and the type of required information contained can differ from product to product. As a result, it is difficult to compare products based solely on MSDS information.

DOD's Product Worksheets

The following list identifies the 20 products for which DOD furnished worksheets. The list can be expanded by DOD or, with DOD's approval, by the contractor to include any product or service associated with the contract:

Asphalt Base Course*	Concrete Curing Compounds*
Asphalt Surface Course*	Silicone Sealant—Class A
Traffic Paint—Yellow*	Silicone Sealant—Class B
Traffic Paint—Blue*	Silicone Sealant—Class C
Traffic Paint—Black*	Hot Poured Asphalt Sealants
Traffic Paint—White*	Bituminous Prime and Tack Coats
Traffic Signs—Panels*	Epoxy Bonding Compounds
Traffic Signs—Posts*	Nonreinforced Concrete Drainage Pipes
Reinforced Concrete Drainage Pipes*	Emulsified Asphalt Slurry
Drainage Steps*	Asphalt Cement

* Indicates that the worksheet identified specific environmental performance attributes at the time the contract was awarded. The contractor can suggest additional attributes for any product or process used to complete work under the contract.

The team developed worksheets to identify the environmental attributes.

Product Worksheets

The DOD and EPA team prepared 20 product-specific worksheets to make it easier for the contractor to identify the operational and performance requirements for each product. The worksheets also identify the environmental performance attributes (price differential requirements) for the 11 products for which they were developed. The contractor is required to submit completed worksheets and any necessary supporting data so DOD can certify that the products used to complete the work comply with all of the appropriate operational and performance specifications and can determine whether the product improves environmental performance. (See the appendix for copies of the worksheets.)

Contractor Incentives

The DOD and EPA team determined it would not be sufficient simply to encourage the contractor to use products meeting the environmental criteria identified on the worksheets. Instead, they decided it was necessary to provide incentives for the contractor to continue to search for products with environmental attributes exceeding those described on the worksheets and to propose new products, attributes, and processes.

The team devised incentives for two phases of the contractual process—one prior to and one following the award of the contract. The first incentive required each contractor bidding on the contract to submit a proposed approach for identifying, obtaining, and evaluating environmentally preferable products as part of their proposed management plan.

Each contractor's environmentally preferable purchasing plan was evaluated as part of its technical evaluation score. A contractor could obtain higher technical performance scores and increase its likelihood of winning the contract by demonstrating experience or familiarity with environmentally preferable purchasing practices in its proposal.

Contractors also could increase their overall score if their past performance on similar projects demonstrated a propensity for environmental stewardship. Evidence of environmental stewardship might include onsite recycling or the selection of products based on environmental considerations.

Price Differentials

The contract includes a price differential to encourage the contractor to continue searching for products with improved environmental performance. The price differential allows the contractor to earn additional money for identifying and using products with additional environmental attributes. The price differential is based on the number of environmental attributes for the products used to complete each line item in the contract. Each line item includes specific activities related to particular aspects of parking lot maintenance and repair.

There is, for example, a separate line item for each of the following five activities: providing 4-inches of asphalt base course, providing 2- to 4-inches of asphalt surface course, removing existing signs and posts, painting new traffic lines, and installing new road sign posts. The parking lot contract includes 147 line items in 45 categories.

Work is issued to the contractor through task orders specifying a line item or list of line items to be completed. A single task order, for example, might include line items directing the contractor to remove existing traffic posts and signs from a designated section of the parking lot, remove the existing asphalt, increase the height of the utility covers, repave the designated section with new asphalt, repaint the parking lot lines, and install new traffic posts and signs.

Although the contractor agrees to a fixed price for each line item, the contractor can earn up to a 10 percent price differential per line item by using products with multiple environmental attributes. The price differential is computed based on the attribute information provided on the contract worksheets. (See the appendix for copies of the worksheets.)

The contractor can earn a price differential for using environmental products.

The 20 product worksheets include mandatory operational requirements and 11 of the 20 contain optional environmental attribute (price differential) requirements. Every product used to complete work under the contract must meet all operational requirements. The contracting firm is not required to use products that meet the environmental attributes, but is entitled to a 2 percent price differential for each attribute if it does. The contractor can also suggest new environmental attributes for any product used under the contract and, pending approval of the DOD Contracting Officer's Representative, the contractor is eligible to receive a price differential for incorporating the new attribute.

The contract limits the price differential to 5 percent of a task order.

The contract, however, establishes a limit of five price differentials per line item to limit the total price differential to 10 percent per line item. The contract also imposes an overall price differential ceiling of 5 percent for each task order. For example, even if a contractor earned the maximum price differential of 10 percent for every line item in a \$10,000 task order, the contract limits the total price differential for the task order to 5 percent (\$500).

The DOD and EPA team determined that 5 percent of the total task order price was the maximum the government could provide as a price differential. They established this limit based on a scenario in which the contractor earned a price differential for every task order. In that scenario, DOD's available budget would only support a 5 percent price differential.

For additional information, please consult the "Computing the Price Differential" box on page 12.

Raising the Standards

The contract allows DOD to modify the mandatory operational requirements and voluntary environmental attributes at any time. This allows DOD to raise a product's environmental standards by moving an attribute from the voluntary to the mandatory category. The contractor is required to provide products that meet all mandatory requirements and is not eligible for a price differential for doing so.

DOD is expecting to use this option as environmental attributes become industry standard product attributes. For example, the contractor currently can receive a price differential for using paints with a VOC content less than 150 grams per liter. If paints ever routinely obtain this level, however, DOD might make this attribute a mandatory rather than voluntary requirement.

DOD can also introduce new environmental attributes at any time. Doing so provides the contractor with an incentive to increase the environmental performance of the products they choose to use by creating an additional price differential opportunity. This provides DOD with an effective mechanism for encouraging the contractor to continually search for products with additional environmental attributes.

The contractor, as discussed previously, can also suggest new environmental attributes at any time. After obtaining DOD approval, the contractor is eligible to receive a price differential each time a product incorporating the attribute is used. This provides the contractor with additional incentives to identify new products and attributes and improve overall environmental performance throughout the duration of the contract.

Both DOD and the contractor can introduce new environmental attributes.

Why Price Differentials?

Price differentials were included in the contract for several reasons. The contract is a small business set-aside contract, and the DOD and EPA team recognized that the contractors bidding on the contract were not likely to have an overhead budget large enough to absorb the cost of identifying and procuring products with multiple environmental attributes. The price differentials were included to provide an incentive for the contracting firm to complete the necessary research and to compensate it for doing so.

The DOD and EPA team recognized, however, that price differentials are not always a viable option. While DOD will be using products with reduced environmental impacts in another upcoming multimillion-dollar Pentagon renovation contract, it does not expect to use price differentials for three reasons. First, a 5 percent price differential on a multimillion-dollar contract is significantly larger than a 5 percent price differential on a \$1 million per year contract. DOD does not feel it can justify or afford the additional expense.

Price differentials are not always a viable option.

Second, the contractors likely to submit proposals on the larger Pentagon renovation contracts are larger companies that are more likely to have overhead budgets that allow them to invest the time necessary to identify and procure products with environmentally beneficial attributes. They are also more likely to have existing environmental expertise. DOD believes the primary motivation for larger contractors to adopt environmentally preferable practices is their ability to use their involvement with a large-scale federal environmentally preferable purchasing project as a marketing tool to win future contracts.

Third, the use of products with improved environmental performance will be part of the contractor's annual performance evaluation. A poor performance evaluation can negatively affect the contractor's ability to obtain new government contracts. DOD feels that including the use of products with environmental attributes in a contractor's performance evaluation will be a sufficient incentive for contractors.

Computing the Price Differential

Like many government contracts, work under DOD's parking lot repair and maintenance contract is assigned by issuing task orders. Each task order contains a list of individual line items, each of which identifies a specific activity to be completed by the contractor, the number of times that activity can be completed under the task order, and the price the contractor will be paid for completing it.

In the sample task order on the right, the first line item requests the contractor to remove up to 280 tons of deteriorated asphalt concrete and to recompact the subbase. The contractor will be paid \$71 for each ton of asphalt removed for a total of up to \$19,880 to complete the line item. The formula for computing the price a contractor will be paid for completing each line item is:

$$\text{Line Item Price} = \text{Quantity Completed} \times \text{Price}$$

Unlike traditional task orders, the contractor working under DOD's parking lot repair contract can increase the price they are paid for completing each line item by incorporating DOD-approved environmental attributes. The environmental attributes are identified on the product worksheets that the contractor completes and provides to DOD before initiating work on a task order. (See the appendix for copies of the worksheets.) As described in the case study, the contractor can propose new environmental attributes for any line item and can modify or create worksheets to identify the new attributes.

The contractor can earn a two percent price differential for each environmental attribute incorporated in completing a line item. In the adjacent sample task order, the contractor is planning to use a product with a single environmental attribute when installing the parking lot stall lines. Doing so can earn the contractor an additional \$154.66, which is two percent of the maximum line item price of \$7,733. The formula for computing the price differential for each line item is:

$$\text{Price Differential} = \text{Number of Environmental Attributes} \times 0.02 \times \text{Line Item Price}$$

The total amount the contractor is paid is calculated by computing the value of each line item, including any price differentials earned, using the formulas described above. In this example, the contractor has the potential to earn up to \$161,586.69, including \$298.44 in price differentials.

Restrictions

The DOD parking lot contract establishes two restrictions to prevent the price differential from becoming prohibitively expensive for the government:

- No line item can include more than five environmental attributes. This limits each line item's maximum price differential to 10 percent.
- The total price differentials cannot exceed 5 percent for any task order.

For additional information on these restrictions, see "Price Differentials" on page 9.

Sample Government Task Order Cost Estimate

Contract: Requirements Contract for Parking Lot and Road Repair
 Contract Number: MDA946-97-D-3007
 Contractor: D-M&S, Inc.

Task Order Number: SAMPLE
 Prepared by: Bob Cox
 Date Prepared: 10/1/97

EPP Met	Line Item #	Description	Quantity	Unit of Measure	Unit Price	Total Line Item	Price Diff.	Extended for Price Diff.
N/A	001A	Remove deteriorated asphalt concrete and recompact subbase	280	TN	\$71.00	\$19,880.00		\$19,880.00
N/A	001B	Compacted aggregate base course	140	TN	\$10.15	\$1,421.00		\$1,421.00
0	001C	100mm (4") asphalt base course and tack coat	140	TN	\$35.00	\$4,900.00		\$4,900.00
N/A	006B	Full depth milling for asphalt overlay up to a depth of 100mm (4")	14,418	SY	\$0.55	\$7,929.90	\$0.00	\$7,929.90
N/A	006D	Disposal of asphalt grinding	2,312	TN	\$19.00	\$43,928.00	\$0.00	\$43,928.00
N/A	007B	150mm (6") saw cut	577	LF	\$9.00	\$5,193.00		\$5,193.00
0	0011	Provide new bituminous tack coat and new 50mm (2") surface course asphaltic concrete overlay	1601	TN	\$38.40	\$61,478.40	\$0.00	\$61,478.40
1†	015C	Crosswalks	630	SF	\$0.70	\$441.00	\$8.82	\$449.82
1†	015F	Lane markings	975	LF	\$6.45	\$6,288.75	\$125.78	\$6,414.53
1†	015J	Pavement marking "Handicapped Parking"	9	EA	\$51.00	\$459.00	\$9.18	\$468.18
1†	015K	Parking stall lines (2 lines up to 3 m (10 feet) long)	185	STALLS	\$41.80	\$7,733.00	\$154.66	\$7,887.66
N/A	015M	Furnish and install relative glass beads in pavement markings	448	LF	\$3.40	\$1,523.20		\$1,523.20
N/A	042	Provide compaction testing	5	EA	\$22.60	\$113.00	\$113.00	
Totals						\$161,288.25	\$298.44	\$161,586.69

Sample Additional Requirements:

- Heel into existing structures
- Recycle all construction debris
- Phase construction to prevent disruption of traffic
- Provide adequate traffic control measures and barriers to prevent vehicular and pedestrian accidents
- Ensure proper storm water drainage by providing pavement elevations in accordance with plan provided with Task Order
- All joints between new pavement, old pavement and other structures shall be sealed using approved joint sealant
- Paint color to be selected by CO

Sample Submittals Requirements:

- Construction Schedule - Submittal #26
- Warranty - Submittal #37
- Construction Debris - Submittal #40
- Asphalt Delivery Records - Submittal #55
- Density Field Test Report (when requested by CO) - Submittal #59
- Thickness Field Test Report (when requested by CO) - Submittal #60
- Straight Edge Test Record (when requested by CO) - Submittal #61

† For this line item, the contractor proposed using a paint with a single environmental attribute—a VOC content of less than 100 grams per liter. As stated on the product worksheets (provided in the appendix), paints with a VOC content of less than 150 grams per liter are eligible for a price differential. In this example, the contractor has already received permission from DOD to use the low VOC paint and DOD has agreed to provide a price differential.

Advantages to DOD's Approach

The way in which DOD incorporated environmentally preferable purchasing principles into the parking lot maintenance and repair contract reveals several advantages.

Continual Improvement

The flexible contract design allows the government to continually improve the baseline for measuring the environmental preferability of a product. This helps ensure that the government is aware of products with the highest number of environmental attributes. As new products that provide improved environmental performance are introduced, they can be easily integrated by DOD and its contractor if they meet DOD's other operational and performance requirements.

Contract Flexibility

The environmentally preferable clauses in the contract were developed as "add-ons." The clauses are clearly identified in the contract and not buried within the contract language. They are specifically designed to be easily modified. The framework can be easily adapted for use in other DOD or federal contracts and can be easily removed if, for any reason, it becomes necessary to do so.

Shared Responsibility

The responsibility for incorporating products with environmental attributes is shared between the contractor and the government. The contractor's role is to investigate the availability and performance of products with multiple environmental attributes and bring them to the government's attention. The government's primary role is to establish the baseline for measuring improvement in environmental performance and to evaluate the products proposed by the contractor to determine if they warrant a price differential.

Market-Driven

DOD is not developing unique specifications for products that only they will use. It is simply expressing a desire to purchase products with multiple environmental attributes as they become available. This approach relies on the dynamics of the marketplace, including competitive pricing and the ability to select the most appropriate product from among multiple options.

Works Within Existing Procurement Procedures

None of the standard DOD contract award procedures were modified to incorporate environmentally preferable purchasing. The evaluation procedures used to award the parking lot repair and maintenance contract were identical to those used for previous contracts. The environmentally preferable evaluation criteria contained in the Request for Proposal (RFP) were examined along with the more traditional technical aspects, such as demonstrated experience and performance.

Current Status and Future Steps

The parking lot repair and maintenance contract was awarded on June 4, 1997, to D-M&S Inc., a Woodstock, Maryland contractor. The first Task Order was issued in September 1997. In less than a month, D-M&S Inc. had already identified several products with additional environmental attributes and a new environmentally superior process, all of which appear to significantly improve environmental performance while continuing to meet or exceed DOD's performance criteria. The contractor is very pleased with the process for incorporating products with additional environmental attributes and is excited at the possibility of earning a price differential for doing so. The success of the environmentally preferable contract clauses will be continually monitored throughout the contract's 5-year period of performance.

DOD is currently considering ways to incorporate environmentally preferable purchasing into a contracting vehicle for the Pentagon's 15- to 20-year renovation effort. Future case studies will document this work.

Lessons Learned

The DOD parking lot repair and maintenance contract is one of the first attempts by a federal agency to provide contractors with an incentive to incorporate environmentally preferable purchasing under Executive Order 12873. As a result, many of the lessons learned from this process can help guide future attempts. The following are highlights of some of the most important lessons learned.

Environmentally Preferable Purchasing Can Be Successfully Incorporated Into the Contracting Process

DOD's contract has successfully integrated environmentally preferable purchasing priorities within several phases of the contracting process—the development of the RFP, evaluation of contractor proposals, contract award, contract startup, and contract operation. The DOD and EPA team will continue to evaluate the success of this approach during the contract's 5-year period of performance.

Market Research Takes Time

Market research for this project was time-consuming, despite the relatively small number of products examined, because many manufacturers and vendors did not have information on the environmental attributes of their products. This problem should be alleviated as the demand for products with multiple environmental attributes increases and manufacturers and vendors respond by identifying the environmental attributes of their products. Until that time, market research can be contracted out if adequate funding is available. Alternatively, it can be reduced by limiting the initial research to a few select product categories.

DOD recently contracted a market research firm to collect information on the environmental impacts of construction products. DOD is currently reviewing the information for possible use during the 15- to 20-year, multimillion-dollar Pentagon renovation. EPA will be publishing future case studies documenting these efforts.

It is important to note, however, that market research might not be necessary for all projects. There are an increasing number of publicly available databases that contain information on the environmental attributes of a wide variety of products. These databases will help government agencies select products without requiring agencies to conduct independent market research, which can be very time consuming and expensive. It is also likely that as the demand for products with improved environmental performance increases, many manufacturers will begin identifying the environmental-preferable aspects of their products in product literature.

Draft RFPs Are Not Always Necessary

DOD published a draft RFP in July 1996 to allow contractors an opportunity to comment on DOD's proposed approach for incorporating environmentally preferable purchasing. While draft RFPs are beneficial in some situations, DOD did not receive any comments, with the exception of a single comment addressing a portion of the contract unrelated to environmentally preferable purchasing.

After talking with potential small business set-aside contractors, DOD concluded that the level of effort required to respond to a draft RFP exceeds what contractors are willing to invest without compensation. Contractors devote resources to RFPs in proportion to the value of the contract. Since draft RFPs do not provide contractors with any financial reward, they are not likely to produce helpful responses. The actual RFP was released in December 1996 and did not contain any modifications to the environmentally preferable purchasing language published in the draft RFP.

DOD contracting officials now believe that draft RFPs are more likely to be helpful when the contracts are large and the number of potential contractors is small. This will provide contractors with an opportunity to ask DOD to clarify selected portions, which will result in more detailed contractor proposals that are easier to evaluate.

Interagency Teamwork Works

DOD and EPA demonstrated the advantage of working together to incorporate environmentally preferable purchasing into DOD's contractual procedures. DOD was instrumental in initiating the project and in defining the project goals and boundaries. EPA worked closely with DOD to identify and examine the environmental attributes associated with parking lot maintenance and repair work. Together, they developed a unique approach that met Executive Order 12873's directive that federal agencies incorporate environmentally preferable purchasing.

Appendix

Environmental Performance Evaluation Worksheets

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract for Parking Lot & Road Repairs**
Contractor _____

Submittal Date _____
Submittal #: _____
Item Description: **ASPHALT BASE COURSE**
Product Number: **1**
Line Item #: **001C**
 002B
 004B

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>
VDOT - BM2*	Yes No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>
A. More Than 25% Recycled Asphalt	_____ % Recycled Asphalt*	Yes No
<i>Number of Price Differential Requirements Met: _____</i>		

* The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL _____

Date: _____

Approved/Disapproved

Comments: _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract For Parking Lot & Road Repairs**
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: **ASPHALT BASE COURSE**
Product Number: **2**
Line Item #: **001D**
002C
004C
0011

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
VDOT - SM-2A*	Yes	No
100% Recycled Aggregate*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. More Than 15% Recycled Asphalt	_____ % Recycled Asphalt*	Yes	No
<i>Number of Price Differential Requirements Met:</i> _____			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: Requirements Contract for Parking Lot & Road Repairs
Contractor _____

Submittal Date _____
Submittal #: _____

Item Description: TRAFFIC PAINT - YELLOW
Product Number: 3
Line Item #: 13F 013G
 013H 013J
 004K

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
FS-TT-001952*	Yes	No
Water-based*	Yes	No
Lead-free*	Yes	No
Chromatic-free*	Yes	No
150 g/l VOC Content*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. Less Than 150 g/l Voc Content	_____g/l VOC Content*	Yes	No
<i>Number of Price Differential Requirements Met: _____</i>			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments: _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract for Parking Lot & Road Repairs**
Contractor _____

Submittal Date _____
Submittal #: _____

Item Description: **TRAFFIC PAINT - BLUE**
Product Number: **4**
Line Item #: **013G 013H**
013I 013J
013K

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
FS-TT-001952*	Yes	No
Water-based*	Yes	No
Lead-free*	Yes	No
Chromate-free*	Yes	No
150 g/l VOC Content*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. Less Than 150 g/l VOC Content	_____g/l VOC Content*	Yes	No
<i>Number of Price Differential Requirements Met: _____</i>			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments: _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract for Parking Lot & Road Repairs**
Contractor _____

Submittal Date _____
Submittal #: _____

Item Description: **TRAFFIC PAINT - BLACK**
Product Number: **5**
Line Item #: **012 013A 013B**
 013C 013D 013E
 013F 013G 013H
 013I 013J

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
FS-TT-001952*	Yes	No
Water-based*	Yes	No
Lead-free*	Yes	No
Chromate-free*	Yes	No
150 g/l VOC Content*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. Less Than 150 g/l VOC Content	_____g/l VOC Content*	Yes	No
<i>Number of Price Differential Requirements Met: _____</i>			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments: _____

Environmental Performance Evaluation Worksheet

Contract Number:

Project Title:

Requirements Contract for Parking Lot & Road Repairs

Contractor

Submittal Date

Submittal #:

Item Description:

TRAFFIC PAINT - WHITE

Product Number:

6

Line Item #:

013A	013B	013C
013D	013E	013F
013G	013H	013I
013J	013K	

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
FS-TT-001952*	Yes	No
Water-based*	Yes	No
Lead-free*	Yes	No
Chromate-free*	Yes	No
150 g/l VOC Content*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. Less Than 150 g/l VOC Content	_____g/l VOC Content*	Yes	No
<i>Number of Price Differential Requirements Met: _____</i>			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments:

Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: Requirements Contract for Parking Lot & Road Repairs
Contractor _____

Submittal Date _____
Submittal #: _____

Item Description: TRAFFIC SIGN - PANEL
Product Number: 7
Line Item #:

018a	018AA	018AB	018B
018C	018D	018E	018F
018G	018H	018I	018J
018K	018L		

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
Aluminum*	Yes	No
80% Recycled Aluminum*	Yes	No
VDOT - Road and Bridge Specifications, Section 701*	Yes	No
FHA - Manual on Uniform Traffic Control Devices*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. More Than 80% Recycled Aluminum	_____g/l Recycled Aluminum*	Yes	No
<i>Number of Price Differential Requirements Met:</i> _____			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments: _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract For Parking Lot & Road Repairs**
Contractor: _____

Submittal Date: _____
Submittal #: _____
Item Description: **TRAFFIC SIGN - POST**
Product Number: **8**
Line Item #: **016**

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
Aluminum*	Yes	No
80% Recycled Aluminum*	Yes	No
VDOT - Road and Bridge Specifications, Section 701*	Yes	No
FHA - Manual on Uniform Traffic Control Devices*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. More Than 80% Recycled Aluminum	_____g/l Recycled Aluminum*	Yes	No
<i>Number of Price Differential Requirements Met: _____</i>			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: Requirements Contract For Parking Lot & Road Repairs
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: REINFORCED CONCRETE DRAINAGE PIPE
Product Number: 15
Line Item #: 027A 027B 027C
 027D 027E 027F
 027G 027H

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
AASTM-C-76M*	Yes	No
CLASS III*	Yes	No
Water-based Mold Releases Used in Concrete Manufacture*	Yes	No
65% Recycled Steel Reinforcement*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. More Than 65% Recycled Steel Reinforcement*	_____ % Recycled Steel Reinforcement*	Yes	No
<i>Number of Price Differential Requirements Met: _____</i>			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: Requirements Contract For Parking Lot & Road Repairs
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: DRAINAGE STRUCTURE STEPS
Product Number: 17
Line Item #: 033A 033B 033C 033D 033D 033E
 034A 034B 034C 034D 034D 034E
 035A 035B

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
Aluminum*	Yes	No
80% Recycled Aluminum*	Yes	No
ASTM B 221*	Yes	No
29CFR 1910.27*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. More Than 15% Recycled Asphalt	_____ % Recycled Asphalt*	Yes	No
<i>Number of Price Differential Requirements Met:</i> _____			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: Requirements Contract For Parking Lot & Road Repairs
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: CONCRETE CURING COMPOUND
Product Number: 20
Line Item #: 020A 020B 020C 020D
 021A 021B 021C 021D
 023A 023B 036A 037

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
Membrane Forming*	Yes	No
Clear*	Yes	No
ASTM C 309*	Yes	No
Type I*	Yes	No
Class B*	Yes	No
Water-based*	Yes	No
Acrylic*	Yes	No
90 g/l VOC Content*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>	
A. Less Than 90 g/l VOC Content	_____g/l VOC Content*	Yes	No
<i>Number of Price Differential Requirements Met:</i> _____			

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract For Parking Lot & Road Repairs**
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: **SILICONE SEALANT - CLASS A**
Product Number: **9**
Line Item #: **005 020A 020B 020C 020D 021A**
021B 021C 012D 023A 023B 037

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>			
Tensile Strength	ASTM C 1135*	45 PSI Maximum	Yes	No
Durometer Hardness Shore	ASTM D 2240*	"A" (10-25)	Yes	No
Bond to Concrete Mortar	VTM 90*	50 PSI Minimum	Yes	No
Tack Free Time	VTM 90*	180 mins. Maximum	Yes	No
Extrusion Rate	VTM 90*	75 g/min	Yes	No
Non-volatile	VTM 90*	90% Minimum	Yes	No
Specific Gravity	ASTM D 792 (meth A)*	1.1 - 1.5	Yes	No
Movement Capability and Adhesion	VTM 90*	No adhesive or cohesive failure after 10 cycles At 0 degrees F.	Yes	No
Ozone and U.V. Resistance and Adhesion	ASTM C 793-T5*	No chalking, cracking or bond loss after 5,000 hrs.	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>
<i>Number of Price Differential Requirements Met: _____</i>		

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract For Parking Lot & Road Repairs**
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: **SILICONE SEALANT - CLASS B**
Product Number: **10**
Line Item #: **005 020A 020B 020C 020D 021A**
021B 021C 012D 023A 023B 037

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>			
Tensile Strength	ASTM C 1135*	40 PSI Maximum	Yes	No
Durometer Hardness Shore	ASTM D 2240*	"00" (40-80)	Yes	No
Bond to Concrete Mortar	VTM 90*	40 PSI Minimum	Yes	No
Tack Free Time	VTM 90*	180 mins. Maximum	Yes	No
Extrusion Rate	VTM 90*	90 g/min	Yes	No
Non-volatile	VTM 90*	90% Minimum	Yes	No
Specific Gravity	ASTM D 792 (meth A)*	1.1 - 1.5	Yes	No
Movement Capability and Adhesion	VTM 90*	No adhesive or cohesive failure after 10 cycles At 0 degrees F.	Yes	No
Ozone and U.V. Resistance and Adhesion	ASTM C 793-T5*	No chalking, cracking or bond loss after 5,000 hrs.	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>
<i>Number of Price Differential Requirements Met: _____</i>		

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract For Parking Lot & Road Repairs**
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: **SILICONE SEALANT - CLASS C**
Product Number: **11**
Line Item #: **005 020A 020B 020C 020D 021A**
021B 021C 012D 023A 023B 037

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>			
Tensile Strength	ASTM C 1135*	15 PSI Maximum	Yes	No
Durometer Hardness Shore	ASTM D 2240*	"00" (20-80)	Yes	No
Bond to Concrete Mortar	VTM 90*	35 PSI Minimum	Yes	No
Tack Free Time	VTM 90*	180 mins. Maximum	Yes	No
Extrusion Rate	VTM 90*	100 g/min	Yes	No
Non-volatile	VTM 90*	90% Minimum	Yes	No
Specific Gravity	ASTM D 792 (meth A)*	1.1 - 1.5	Yes	No
Movement Capability and Adhesion	VTM 90*	No adhesive or cohesive failure after 10 cycles At 0 degrees F.	Yes	No
Ozone and U.V. Resistance and Adhesion	ASTM C 793-T5*	No chalking, cracking or bond loss after 5,000 hrs.	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>
<i>Number of Price Differential Requirements Met: _____</i>		

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: Requirements Contract For Parking Lot & Road Repairs
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: HOT POURED ASPHALT JOINT SEALANT
Product Number: 12
Line Item #: 010

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
FS-SS-S1401*	Yes	No
or		
AASHTO MI73*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>
<i>Number of Price Differential Requirements Met:</i> _____		

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: Requirements Contract For Parking Lot & Road Repairs
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: BITUMINOUS PRIME AND TACK COAT
Product Number: 13
Line Item #: 001C 001D
 002B 002C
 004B 004C
 011

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
ASTM D 977*	Yes	No
SS-Ih*	Yes	No
Negative spot test with AASHTO T102 with standard naptha for base asphalt used to manufacture emulsion*	Yes	No
No Petroleum Distillate Solvents*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>
<i>Number of Price Differential Requirements Met: _____</i>		

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract For Parking Lot & Road Repairs**
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: **NONREINFORCED CONCRETE DRAINAGE PIPE**
Product Number: **16**
Line Item #: **028A**
028B
028C

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>	
ASTM C 14M*	Yes	No
Class II*	Yes	No
Water-based Mold Releases Used in Concrete Manufacture*	Yes	No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>
<i>Number of Price Differential Requirements Met: _____</i>		

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract For Parking Lot & Road Repairs**
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: **EMULSIFIED ASPHALT SLURRY**
Product Number: **18**
Line Item #: **010**

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>
ASTM D 3910* Type I*	Yes No Yes No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>
<i>Number of Price Differential Requirements Met:</i> _____		

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

Environmental Performance Evaluation Worksheet

Contract Number: _____
Project Title: **Requirements Contract For Parking Lot & Road Repairs**
Contractor: _____

Submittal Date: _____
Submittal #: _____

Item Description: **ASPHALT CEMENT**
Product Number: **19**
Line Item #: **003**

Operational Requirement <i>(Mandatory)</i>	Requirement Met <i>(Circle One)</i>
Viscosity Grade Residue - AR 4000*	Yes No
ASTM 3381*	Yes No

Price Differential Requirement <i>(Optional)</i>	Contractor Submittal	Requirement Met <i>(Circle One)</i>
<i>Number of Price Differential Requirements Met: _____</i>		

*The contractor must attach additional information showing that both operational and price differential requirements have been met.

GOVERNMENT APPROVAL

Date: _____

Approved/Disapproved

Comments _____

 Government Approving Official

The logo consists of the letters 'EPP' in a bold, serif font, set within a light blue, rounded rectangular background that has a subtle gradient and a slight shadow effect.

We want to hear from you! Please tell us about your EPP activities and efforts. We are collecting and sharing information, tools, and hints about what works and what doesn't, as environmentally preferable purchasing evolves and expands. Please contact the EPP program by e-mail, regular mail, or fax:

Eun-Sook Goidel

Environmentally Preferable Purchasing Program

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