

CITY COUNCIL AGENDA ITEM
CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Authorize the City Manager to Execute a Construction Contract with Doolittle Construction LLC for the Implementation of the 2013 Bituminous Surface Treatment (BST) Program
DEPARTMENT:	Public Works Department
PRESENTED BY:	Mark Relph, Public Works Director Jesus Sanchez, Public Works Operations Manager
ACTION:	<input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Motion <input type="checkbox"/> Discussion

PROBLEM/ISSUE STATEMENT:

The purpose of this motion is to request Council to authorize the City Manager to enter into a contract with Doolittle Construction LLC for \$405,663 for the 2013 Bituminous Surface Treatment (BST) pavement preservation program. The BST program is one of the major components of the City's Annual Road Surface Maintenance Program included in the 2013-2018 Capital Improvement Program (CIP).

Bids were opened on March 20, 2013 and there were two bidders: Granite Construction Company and Doolittle Construction, LLC.

RESOURCE/FINANCIAL IMPACT:

Council has authorized \$1,354,283 in the 2012 CIP Budget for the Annual Road Surface Maintenance Program. The amount of \$481,716 is planned for the 2013 BST pavement preservation program, leaving a remainder of \$76,053 for materials and road maintenance preparation. The balance of \$872,567 will be used for the pavement grant match overlay on N 175th Street from Midvale Ave N to Interstate 5.

RECOMMENDATION

Staff recommends that Council authorize the City Manager to execute a construction contract with Doolittle Construction, LLC for \$405,663 for the 2013 BST pavement preservation program.

Approved By: City Manager **JU** City Attorney **IS**

INTRODUCTION

Due to the rising costs of asphalt treatments, in 2011 the Public Works Department began using Bituminous Surface Treatment as a maintenance strategy that supplements asphalt overlays as a more cost-effective way to protect the City's infrastructure and the investments the City has made over the past 15 years.

This application was successfully implemented in 2011 and 2012 and the City plans to again implement the Bituminous Surface Treatment program in 2013.

BACKGROUND

On March 21, 2011, the Public Works Department shared with Council that the City's ability to sustain an adequate level of service with the exclusive use of asphalt overlays has greatly diminished due to the rising costs of materials. Recognizing that maintenance and preservation of the City's streets is a high priority, staff has re-examined alternatives for protecting the City's investments in its roads. One of these alternatives, the BST, was selected as a key maintenance strategy for the City's road system. A copy of the March 21, 2011 staff report and all of the supporting documents can be found at:

<http://cosweb.ci.shoreline.wa.us/uploads/attachments/cck/Council/Staffreports/2011/stafreport032111-7b.pdf>.

This application was implemented in 2011 in the northeast quadrant of the City (Echo Lake) and in the North City and Ballinger neighborhoods in 2012, with success and positive feedback from the adjacent homeowners. In 2013 the City will continue to implement the Bituminous Surface Treatment program in North City, Briarcrest, Ridgecrest and Echo Lake.

DISCUSSION

BST typically consists of a three-part application of liquid asphalt and cover (aggregate or small rock), capped with a final layer of liquid asphalt. BST is widely used to extend the life of the road, create a new wearing course, and to waterproof existing pavement. BST application runs generally 10% to 25% of the cost of a typical asphalt overlay, thus covering a much larger road surface area for the same cost.

Unlike an asphalt overlay, BST treatments tend to have a coarser finished road surface. This is due to a larger gradation of cover aggregate, but most people would probably not notice the difference. This issue will be controlled with a specification that requires the right combination of aggregate sizes and their relative distribution. To promote public acceptance of the use of BST treatments on residential and collector streets, staff has developed a BST approach using a specific system of materials and application and a targeted public outreach and education program.

The material specifications focus on two issues: aggregate sizes and proportions, and the type of asphalt binder. The size of the aggregate will closely match that of overlays. This should meet the public's expectations from past maintenance. The asphalt binder will be a "rapid set," which promotes a quicker cure time and allows traffic back on the

street within a few hours. The final sweeping and surface treatments would happen a few days later.

The primary objective the City's Road Surface Maintenance Program is to effectively maintain or enhance the integrity of the City's roadway system in the most cost-effective manner. By using BST, the City is able to stretch its resources while maintaining pavement quality. The roads identified (Attachment A) have been selected for a BST road surface preservation treatment this year.

BID RESULTS AND ANALYSIS

Bids were opened on March 20, 2013 and there were two bidders: Granite Construction Company and Doolittle Construction, LLC.

Contractor	Base Bid (Schedule A)	Additive Bid (Schedule B)	Total
Doolittle Construction LLC	\$385,264.55	\$20,398.40	\$405,662.95
Granite Construction	\$434,231.12	\$14,278.88	\$448,510.00

The estimate for this project was \$465,000. Staff has completed their review on mandatory bidder responsibility criteria on Doolittle Construction, LLC, including State Agency fiscal compliance. References were satisfactory regarding quality of construction and their history of managing budget, materials, and personnel for this type of project. Staff is confident in Doolittle Construction's ability to complete this project within all terms of the contract. Doolittle Construction performed the BST work for the City in 2011 and 2012.

STAKEHOLDER OUTREACH

In preparing to use this alternative method of road surface maintenance, the Public Works Department developed a targeted outreach and education program designed to reach affected stakeholders in the areas planned for the City's BST application, which primarily consist of the North City, Briarcrest and Echo Lake neighborhoods (Attachment A). This will include an informational tri-fold brochure that will be prepared and mailed to adjacent residents within 500 feet of the project boundaries (Attachment B). Public Works has met with the Briarcrest and Echo Lake neighborhood associations in March 2013. The City plans to contact North City Business Association community and Ridgecrest in May 2013 to inform them of the upcoming BST program in their neighborhood. A Frequently Asked Questions (FAQs) document was also created to assist residents with any questions or concerns they might have regarding the BST pavement preservation program (Attachment C). Thus far, initial community reaction has been favorable toward this new application.

COUNCIL GOAL(S) ADDRESSED

The City's BST pavement preservation program supports Council Goal 2, "Improve Shoreline's utility, transportation, and environmental infrastructure". This goal is accomplished by maintaining and preserving our City's streets.

RESOURCE/FINANCIAL IMPACT

Council has authorized \$1,354,283 in the 2013 CIP Budget for the Annual Road Surface Maintenance Program. This authorization included the annual BST Pavement preservation program, the N 175th System Preservation project and the Westminster Ave system preservation project. The latter projects were funded through Roads Capital funds and Surface Transportation Program (STP) grant. The amount of \$481,716 has been planned for the BST pavement preservation program, with \$76,053 to be used for materials and road maintenance preparation. The following table indicates there is adequate funding to award the BST contract and complete the 2013 BST program.

2012 Road Surface Maintenance Program

Project Costs

2013 BST Program	
This contract	\$405,663
Materials and Road Maintenance Preparations	\$76,053
Total Project Costs	\$481,716

Project Revenue

2012 Roads Capital Fund	\$918,000
STP Grant (N175th Overlay)	\$190,229
Total Revenue	\$1,108,229¹

Project Balance (Revenue-Costs)	\$ 626,513²
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RECOMMENDATION

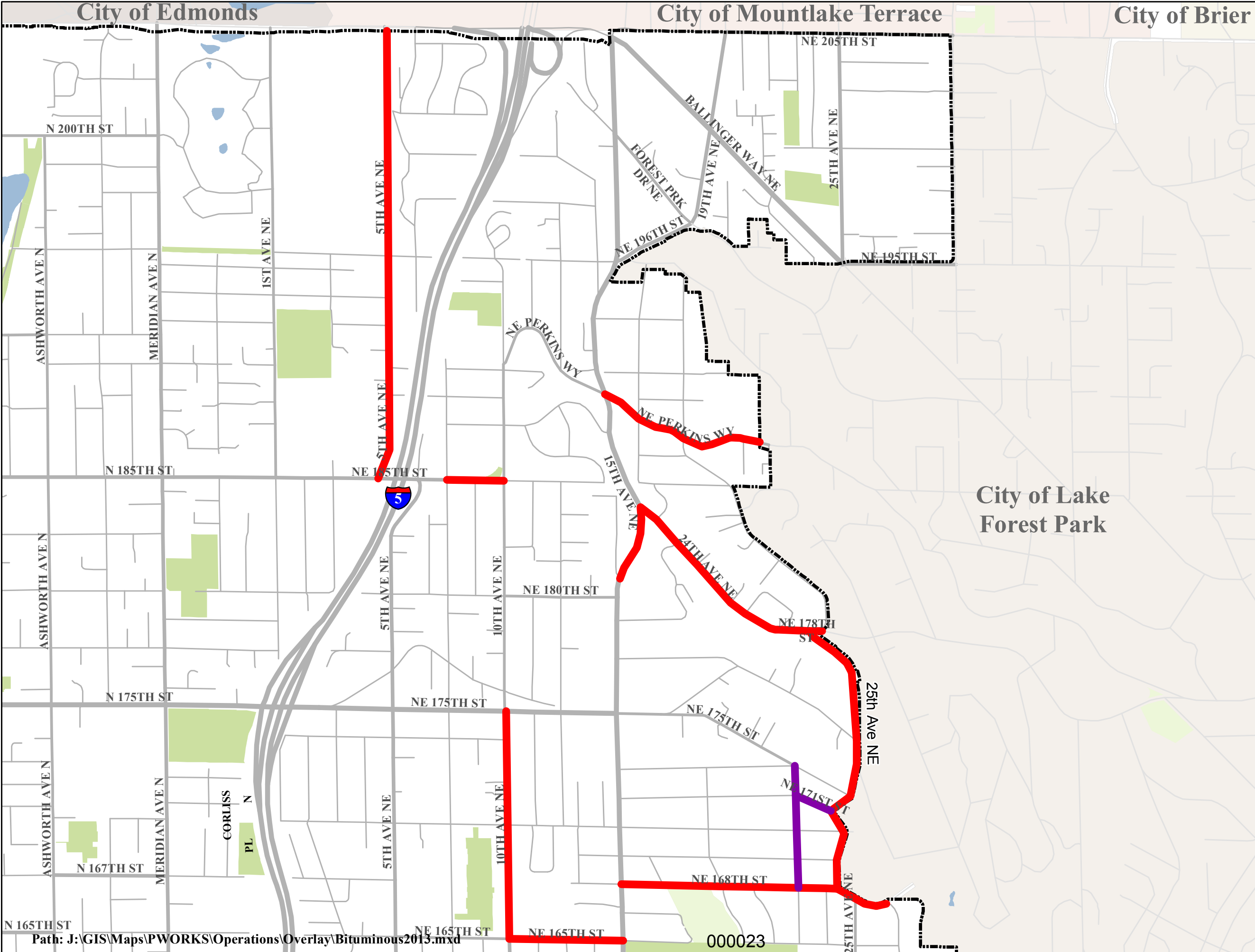
Staff recommends that Council authorize the City Manager to execute a construction contract with Doolittle Construction LLC for \$405,663 for the 2013 BST pavement preservation program.

ATTACHMENTS

Attachment A: 2013 Proposed BST Pavement Preservation Map
Attachment B: Road Surface Preservation Informational Tri-Fold
Attachment C: List of BST FAQs

¹ The Approved 2013 CIP Budget included \$246,054 of STP grant money for the Westminster Ave System Preservation Project. This amount has been removed as revenue because the City is not proceeding with the project.

² The project balance will be used for the N175th System Preservation project which is currently estimated at \$540,000.



City of Shoreline
Geographic Information System

Attachment A
2013

Proposed
Bituminous
Surface
Treatment

Map Feature

Bituminous
(4.2 miles)

Additive

City of Shoreline
Park

Other City Park

Water

0 250 500 1,000 1,500 2,000 Feet

User: jclark

Date: 1/24/2013

Path: J:\GIS\Maps\WORKS\Operations\Overlay\Bituminous2013.mxd 000023

PAVEMENT PRESERVATION

A good street system is a critical component of a healthy economy and a strong community. Well maintained streets are vital to our local economy and essential in connecting our citizens. Whether moving goods and services to and from our local businesses or ensuring that our children have a safe route to school, our streets connect us together. Our aging streets must be preserved in good physical condition to provide the high level of service we demand.

FAST FACTS

- Return on Investment (ROI) – According to the American Public Works Association, every \$1.00 spent on pavement preservation will **save from \$4.00 to \$5.00 or more** in rehabilitation/reconstruction costs.
- On average, pavement preservation projects support approximately **25% more jobs** on a dollar for dollar basis compared with new construction or rehabilitation projects.
- Pavement preservation is socially responsible and Eco-friendly. It utilizes up to **80% less of the Earth's non-renewable resources** than highway rehabilitation and reconstruction programs.
- Pavement preservation improves efficiency and safety, reducing motorist delays by using techniques that can be **completed faster with less traffic disruptions**.



2013 STREET PRESERVATION PROGRAM

The following streets will receive a BST surface treatment during the Summer of 2013.

5 th Ave NE	NE 185 th to NE 205 th ST
NE 185 th ST	8 th Ave NE to 10 th Ave NE
10 th Ave NE	NE 165 th ST to NE 175 th ST
NE 165 th ST	10 th Ave NE to 15 th Ave NE
NE Perkins WY	15 th Ave NE to 21 st PL NE
15 th Ave NE	14 th Ave NE to 24 th Ave NE
24 th Ave NE	15 th Ave NE to City Limits
25 th Ave NE	NE 178 th ST to NE 168 th ST
NE 168 th ST	15 th Ave NE to 27 th Ave NE
NE 171 st ST	22 nd Ave NE to 25 th Ave NE
22 nd Ave NE	NE 175 th St to NE 168 th ST



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2013 Street Preservation Program



PROTECTING OUR INVESTMENT

The City of Shoreline will be applying a new Bituminous Surface Treatment (BST) surface to approximately 8.4 lane miles of arterial and collector streets this summer for the purpose of preserving our street network.

WATCH FOR ADDITIONAL MAILINGS

The City of Shoreline Public Works Department will be mailing an additional letter to each property owner introducing the contractor that will be performing the Bituminous Surface Treatment (BST) once this information is available. The letter will also give you a starting date and contractor contact information.

THE SHORELINE BST SYSTEM

The first step in the BST system is to spray a heavy coating of emulsified asphalt oil onto the street surface and then immediately cover the oil with specified rock size (3/8" or less). Rollers are then utilized to embed the rock into the oil. The second step occurs after the first seal is allowed to cure and harden for typically three to seven days. The second step consists of a fog seal, which is a light coating of slow-setting emulsified asphalt sprayed on the rock to seal the new road surface. The result is a cost-effective seal coat that will preserve the existing pavement, slow pavement deterioration, and provide a new pavement wearing surface. See the photographs below, which show the typical two-part BST/fog seal



Asphalt and chips are applied to the existing pavement



A fog seal is applied after the BST has cured



BST BENEFITS

- Preserves surface condition
- Slows pavement deterioration
- Seals cracks
- Restore skid resistance
- Corrects minor pavement damage
- Saves money compared to overlays

WHAT SHOULD I EXPECT ON MY STREET?

If your street is selected to receive a BST this summer, you will receive notice approximately one week before the work is to take place.

All private trees and other vegetation will need to be trimmed back behind the edge of the pavement to allow room for the large dump trucks, street sweeper and equipment. This means any branches extending out over the pavement edge must be trimmed to a vertical height of 13-feet prior to the start of the project.

We ask that you move your vehicles off the street to clear the street on the day that the BST will be placed.

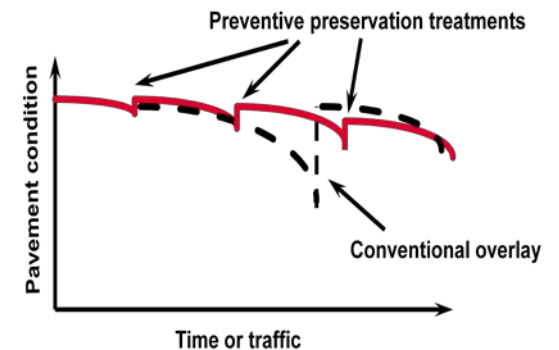
The BST process is very fast, but the finished product must cure, sometimes overnight, to ensure that the chips adhere to the fresh oil. Please abide by traffic control signs and do not use newly sealed streets until directed.

Cost-effective solutions to preserve our streets

PAVEMENT PRESERVATION

Pavement preservation is the concept that it is better to keep good pavements in good condition and not to allow them to deteriorate to the point where costly rehabilitation methods are required. The idea is to recognize the value of the existing pavement network and establish as a priority the preservation of the investment that has already been made.

Pavement preservation takes advantage of the pavement deterioration curve by focusing on the purchase of inexpensive preservation treatments that can cost a fraction of the cost of standard street rehabilitation methods. Preservation focuses on the use of surface treatments on regular frequent intervals to give a small boost to the condition of an already good pavement. Pavement preservation techniques are employed only on those pavements that are structurally sound.



BITUMINOUS SURFACE TREATMENT FREQUENTLY ASKED QUESTIONS (FAQS)

1. When can I start driving and walking on the road surface once this application has been completed? The street will remain open to automobile and non-vehicular traffic, except for brief delays when equipment is present (Expect one hour process to sweep the road, place tack coat and roll the aggregate rock). Please drive SLOWLY (10 mph max) for several days after the BST has been placed due to the loose aggregate on the street surface. Bicyclists and motorcyclists should use extra caution due to loose rock. Pedestrians should know that walking on a new BST may result in tracking oil onto the soles of shoes. Ensure that you do not track the oil into homes, businesses, and other facilities as it is difficult to clean from flooring, especially carpet. Allow the fog coat surface two hours to dry before driving or walking on the surface (this is the last step of the process, usually completed one week later).
2. What streets will the City be working on and what is the planned schedule? Please see the map accompanying this list of questions.
3. Do I need to move my car, truck or other vehicles off the street? If so, how much notice will I receive? Yes, vehicles should be moved off the street on the day of BST operations. Notification will be given to property owners twice—one week ahead and 3 days ahead of BST operations. If you do not move your vehicle, it will be towed.
4. Will the entire road be closed? If so, where do I park? The entire street will be closed in both directions. Please park your vehicle in your driveway or another location that is not closed for road work.
5. Will there be emergency access to my home? Streets will remain open at all times except for the brief period when construction crews are working on your street. Property owners will not be prevented from accessing their homes. Emergency crews—police, fire, ambulance—will have full and open access to your home during this project.
6. What will be the hours of operation for this project on my street? BST operations will be conducted during daylight hours. Exact work hours for your street will be difficult to predict due to the possibility of delays during construction. Generally, Monday through Friday, from 7:00 am to 5:00 pm. Saturday work may be necessary due to weather conditions.
7. Why is the City choosing to use this method of application to preserve the road instead of the normal overlay that is done each year? Bituminous surface treatments are a widely used street surface treatment that is proven to preserve the condition of the existing street network. They are less expensive than overlays, and when used properly, BST is a crucial part of a successful pavement management plan.
 - BST improves the street by sealing cracks and restoring the skid resistant surface.
 - BST lowers life-cycle costs by increasing durability and prolonging street life.
 - BST improves safety by renewing the contrast between the dark street surface and light-colored striping and traffic control markings.

8. Does this new approach save money? **Yes.** BSTs have lower initial cost than normal overlays and can help preserve street condition. The City is adopting BST as part of its pavement preservation approach to manage the street network at the lowest life-cycle cost to the public.
9. But our street is in good condition—why is the City applying a BST? **The City has invested a considerable amount of money in building and rehabilitating streets to bring them up to good condition. BST is intended to seal and preserve pavements that are in good condition so that they do not deteriorate quickly. This approach delays more extensive and costly repairs, lowering the cost to maintain our streets over the course of its life cycle.**
10. Is the material being used environmentally safe? **Not only are BSTs absolutely safe for the environment, but they are also a 100 percent recyclable product that can be milled and reused when the street is rehabilitated at a future date.**
11. Will we be notified if there is a change in the City’s schedule? How much in advance will we be notified? **While the City will attempt to stay on schedule, there are bound to be some changes. We ask for your patience with the work schedule as there are many factors involved, including good weather. In general, when you see the “No Parking” signs on your street, this will indicate that the work will commence within the following three days, weather permitting. The project is planned for early August.**
12. What do you recommend for pet owners? **You can help us by keeping your pets indoors, leashed, or in a fenced area on the day of BST operations.**
13. How will I get my mail? **Mail will be delivered as usual.**
14. While the project is in progress, will we still receive the normal services that we now get such as garbage, UPS, FedEx? **Normal services such as garbage, UPS and FedEx will be delivered as usual.**
15. If there is an emergency in our home and we need to get out while the project is going on, how will this work? **The streets will be open to traffic during this project except for a brief delay while construction crews are on your street. We ask that, if you must leave your home due to an emergency, please do so by notifying the flaggers.**
16. Will there be someone on site, at all times during the project, to address any questions or concerns we may have? **The City’s Project Manager and/or representatives, will be available by telephone and on site to address your questions and concerns at (206) 801-2441.**