
From: McLemore, Susanne on behalf of Dye, Dave
Sent: Friday, March 13, 2009 10:43 AM
To: Paananen, Ron
Subject: FW: Tunnel System

Hi, Ron. Has a response been sent to Mr. Still? Jo would like a copy. Thanks!

Susie :)

From: Paananen, Ron
Sent: Friday, February 20, 2009 3:06 PM
To: Hammond, Paula; Dye, Dave
Subject: RE: Tunnel System

I will work with the team on a response. Our previous work on a twin bore showed that the bores would have to be 43 feet in diameter, not 36 as Mr. Still suggests. Twin bore requires cross passages every 600 feet or so between the tunnels for emergency egress. From our analysis, going from twin 43 foot tunnels to one 54 foot saved about \$600 million. This was confirmed by several tunnel experts.

From: Hammond, Paula
Sent: Thu 2/19/2009 7:21 PM
To: Dye, Dave; Paananen, Ron
Subject: Fw: Tunnel System

Would one of you care to respond? Thanks
Paula

From: Nelson Still
To: Hammond, Paula
Sent: Thu Feb 19 19:14:04 2009
Subject: Fw: Tunnel System

Dear Madam,
I am forwarding this correspondence in case you did not receive the previous email.
Kind regards
Nelson R Still

--- On **Mon, 2/9/09**, **Nelson Still** <stillknotty@yahoo.com> wrote:

From: Nelson Still <stillknotty@yahoo.com>
Subject: Tunnel System
To: "Paula Hammon (DOT)" <hammonp@wsdot.wa.gov>
Date: Monday, February 9, 2009, 1:22 AM

February 8, 2009

Paula Hammond

Dear Madam:

Further to my previous letter dated 16 January 2009 regarding the building of a tunnel system to replace the Alaskan Way viaduct I wish to make some further points as follows:

- 1) A tunnel boring machine of 36' diameter would be + - 40% cheaper than the 54' machine. The smaller machine is probably available second hand and also has a better re-sale value.
- 2) Even if one tunnel was closed for some reason the other tunnel could still service traffic flow north and south.
- 3) The smaller bore tunnel would be structurally stronger and could withstand seismic disturbance better than the larger tunnel.. Whichever design is used a gel should be pumped into the surrounding strata for added protection from water penetration or seismic disturbance.
- 4) The tunnels would have an incline that would allow any water (example flooding) to flow in the desired direction and then pumped out. The highest elevation would face the prevailing winds and this would allow exhaust gases in the tunnel dissipate quicker.
- 5) In the twin tunnel system, only the road deck would require concrete and this would be a substantial saving. The sidewalls and the headwall would only require fireproofing.
- 6) A good audio system and video system would be required so that drivers and passengers could be advised on any problem and what to do.
- 7) Drivers would have to know in the event of an evacuation that they must switch off, leave the keys in the ignition, doors unlocked and move quickly to the safety area (probably the adjacent tunnel).
- 8) Fire protection of the actual tunnel lining (concrete segments) must be very carefully considered. Damage control from terrorist action must also be considered.
- 9) Traffic flow would be both lanes going south in tunnel #1 and both lanes going north in tunnel #2. Alternatively traffic in both tunnels could have one lane going north and one lane going south which means that in the event of an emergency (example fire) the tunnel could be cleared very quickly,
- 10) The alternative method as described in 9) would allow traffic in one lane to do a u-turn and exit the tunnel quickly.
- 11) Fire hoses and phones every 200 yards which could be used by drivers in an emergency.
- 12) The twin tunnel system would allow drivers and passengers to exit from one tunnel to the other for safety reasons. The safety of persons using the tunnels is of the utmost importance. It has to be top priority.

Sincerely,

6/25/2009

Nelson R Still
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