



INFORMATIONAL MEMORANDUM

TO: Transportation & Infrastructure Committee
FROM: Bob Giberson, Public Works Director
BY: Pat Brodin, Operations Manager
CC: Mayor Ekberg
DATE: January 20, 2017
SUBJECT: Purchase of Water Hydrant Saver

ISSUE

Committee approval of the purchase of a capital equipment item per TMC 3.32.040.

BACKGROUND

The City of Tukwila Municipal Codes requires all unbudgeted capital equipment valued at over \$5,000.00 to be approved by Council Committee. The proposed purchase of a hydrant saver was not listed in the capital machinery and equipment listing for the 2017-2018 biennial budget, therefore it requires Committee approval.

Every year the Water division is required to excavate and replace fire hydrants that cannot be repaired. In many instances the repair cannot be accomplished because the internal valve seat cannot be removed with our current manually operated removal tool. Average material costs to excavate and replace a fire hydrant is approximately \$4,000.00. The Stanley Hydrant Saver is a hydraulic impact wrench that will make hydrant valve seat removal more cost effective and ergonomically safe for the operator (see video www.youtube.com/watch?v=XfPDlrkDN3g).



ANALYSIS

The purchase of the hydrant saver is within the budgeted amount of \$8,500.00 for water small tools and minor equipment.

RECOMMENDATION

Committee approval for the purchase of the Stanley Hydrant Saver in the amount of \$6,022.50, with sales tax included.

Attachment: Stanley Hydrant Saver Brochure
Current method to remove fire hydrant

HYDRANT SAVER

STANLEY[®]

Hydraulic Tools

QUICK AND EASY VALVE SEAT REMOVAL ...WITHOUT EXCAVATION!

**Hydrant seat removed in less than 5 minutes!
Safe and effective method without reconstruction.**

- **SIMPLE:** Easy to use, turning a once-difficult application into a routine operation
- **COST EFFECTIVE:** Pays for itself in the cost of replacing 2-3 hydrants
- **ENVIRONMENTALLY FRIENDLY:** By extending the life of a hydrant and not scrapping difficult-to-recycle materials



NO HYDRANT REPLACEMENT

Out-of-service hydrant
restricts fire/rescue service.



Hydrant Replacement Costs:

- Excavation
- Curb, sidewalk and street repair
- Cost of new hydrant
- Time & Labor
- Other utility obstacles

NO MANUAL REMOVING OF VALVE SEAT

Hydrant repaired with large
crew to manually remove
valve seat.



Unsafe Methods:

- "Cheater Bars"
- Backhoe
- Truck with chains

Not Effective:

- Bars break
- Not enough torque
- Risk of back injuries

IMPROVED FIRE HYDRANT

Current method



REMOVING MAIN VALVE



1. Remove four bonnet bolts and turn operating nut in the **opening** direction until free of the stem. Remove bonnet.



2. Remove four bolts in stuffing box. Lubricate A-24099 Brass Sleeve. Slide Sleeve over threaded area of stem to protect "O" rings from damage by threads. Lift stuffing box off carefully. Remove brass sleeve.



3. Insert seat wrench so it engages lugs on seat ring. Screw seat wrench stem extension on to hydrant stem until pin engages top of seat rings wrench. (If non-adjustable type, use operating nut instead of seat wrench stem extension.) Shut off water at the gate valve. Turn wrench **counter-clockwise** to unscrew seat ring.



4. Lift stem, complete valve mechanism, and seat wrench as a unit from hydrant barrel.



5. Remove lower stem nuts while stem and valve assembly is still in seat wrench. Replace damaged or worn parts.

6. Reassemble and use seat wrench to hold valve assembly while tightening lower stem nuts firmly to stem. Put on a new copper-asbestos gasket. To do this, place gasket in one side of ring with seam of gasket facing outward. Working in both directions with the thumbs, push the gasket outward and downward until gasket is snugly seated into groove.



7. Loosen seat wrench extension (or operating nut) so seat ring has some float in seat wrench. Replace complete working parts and seat wrench assembly in hydrant barrel.



8. Screw seat ring in place by turning seat wrench **clockwise**. Turn water on at gate valve. Remove seat wrench.



9. Check stuffing box gasket. Lubricate A-24099 Brass Sleeve. Slide Sleeve over threaded area of stem to protect "O" rings from damage by threads. Place stuffing box in position and bolt to barrel. Remove Brass Sleeve. Pour Mueller Hydrant Lubricant into oil reservoir until **THREE-QUARTERS** of an inch from top.



10. Replace bonnet. Turn operating nut in **closing** direction to engage stem. If bonnet has filler plug, make sure that the filler plug hole is aligned with the offset portion of the oil reservoir. Bolt in place.