



**SPECIAL COUNCIL MEETING**  
**MONDAY, APRIL 27, 2020 @ 2:00 p.m.**  
**DOVER CITY HALL, 699 LAKESHORE AVENUE, DOVER**

**MINUTES**

**Present:** Mayor Davis, Council Brockway, Parkin, Strand and Williams. Staff – Engineers, Scott McNee and Brett Converse; Water Systems Mgmt. Hansen and Wade, Treasurer Neal and Clerk Hutchings. Parkin disclosed recent meeting with local business owner and local resident. No conflict presented.

**Public Present:** see “session attendance” for those attending via webinar and phone.

**I. CALL TO ORDER**– Mayor Davis called the meeting to order at 2:00 p.m.

**II. PUBLIC COMMENT** – No public comment received

**III. NEW BUSINESS**

**1) Presentation of Water Flow & Pressure Analysis Report** - McNee gave overview of project beginning with timeline of events. All documents provided to council were reviewed. Adjustments to elevations as compared to original data provided by Sewell Engineering, memo with hydrant flows, adjusted model, pipe and storage option scenarios discussed. Of the scenarios provided, options 2A & 2B provide for both fire flow and static pressure resolution. Addition of pipe only adds to fire flow but does not address the static pressure. Mayor opened to council for questions and discussion. Parkin asked if fire hydrant at top of Shannon Ln. is taken out of service, how fire protection be accomplished. Mayor recalled Fire Chief commenting hydrants need to be 600’ feet from fire location, fire hydrant at mid-hill of Shannon Ln is 545’ from top of cul-de-sac. Likely hydrants would not be used, instead pumper trucks use hydrant at bottom of hill and pressurize system and run hose up hill. Booster pump is for domestic supply, not fire. Brockway had no questions. Williams asked about possibility that DEQ would accept less than 40 psi at top of Shannon Ln. McNee reiterated 12” pipe down the hill does not address static pressure or peak hour demand and DEQ did not indicate possibility of waiver or variance for the 40 psi rule. Strand read from email dated 12/18/2019 regarding 40 psi from DEQ to Sletager and Eldenburg into record (see attached for reference Ex. A). Mayor asked McNee about elevation difference of 14.9’, McNee confirmed. Parkin had no questions, expressed desire not to exclude any of the scenarios presented. Williams asked about official city map, Converse stated city has no official map with elevation data. Strand read from letter dated July 18, 2019 from Eldenburg to Stan Szatkowski of IPELS (Idaho Board of Licensure of Professional Engineers and Professional Land Surveyors) with regard to elevation from into record (see attached for reference Ex. B. Additional attachments and supporting documents available upon public records request.) Mayor noted council will need to decide to adopt any, all or none of the options provided by T-O Engineering. Brockway raised fact that council and staff have been working on this for over a year and documents support DEQ has been consistent with 40 psi requirement, without waiver, without approval of less than 40 psi. strand disclosed on record of having just received communication from Sletager. Message unopened, will not present a conflict. So noted by Mayor. Parkin commented on his findings from 2003 correspondence from DEQ which approved of reconstructing of water lines to enhance water pressures to residences. Also mentions individual booster pumps. **Strand motioned** to direct T-O Engineering to put forward option 2B to DEQ as an acceptable resolution for 20 and 40 psi issues at top of Shannon Lane, **2<sup>nd</sup> by Brockway**. **Roll Call Vote:** Brockway-Aye, Parkin-Aye, Strand-Aye, Williams-Nay. Clarification of motion is for T-O Engineering to submit to DEQ and copy clerk. Clerk will copy all council upon receipt.

**2) Review and acceptance of bid for Chlorine Building and Turbidity System Upgrades** - McNee confirmed 4 contractors were solicited for bids, 2 responded – Idagon and TML with Idagon as lowest bidder. Bid packets were reviewed and are ready for acceptance. Parkin no questions or comments, ready to make a motion. Williams got impression current slow sand filter system is not most efficient water treatment process. Asked about looking to Urban Renewal Plan, re-doing the package along with revisions to the water treatment facilities plan. Mayor reminded of decision at hand and suggested if facilities plan and

As approved by Council at meeting held 5/14/2020 (mch)

DURA are to be reviewed it would need to be a separate agenda item at a future meeting. Brockway commented on the difference in line item costs, no other questions. **Strand motioned** to accept the Idagon bid in the amount of \$182,901 upon city attorney review and approval, **2<sup>nd</sup> by Parkin. Roll Call Vote:** Brockway-Aye, Parkin-Aye, Strand-Aye, Williams-Nay.

**IV. FUTURE MEETINGS/AGENDA ITEMS** – Mayor reviewed items from agenda. Next regular council meeting will remain on schedule with budget workshop to begin at 3pm same day as previously planned.

**V. ADJOURNMENT - Strand motioned** to adjourn the meeting, **2<sup>nd</sup> by Williams.** All in favor, meeting adjourned at 3:42 p.m.

*Respectfully submitted, Michele Hutchings – Clerk*

As approved by Council at meeting held 5/14/2020 (mch)

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## Session Attendance for "Council Meeting - Water Flow and Pressure 4/27/20 @ 2pm"

4/27/2020 1:33:55 PM - 4/27/2020 3:43:06 PM (GMT-08:00) Pacific Time



This page displays all of the attendees that you had logged in during the meeting.

Name	Email	Time Connected (Min)	Details
City of Dover	cityclerk@cityofdoveridaho.org	129	<a href="#">View</a>
Tom Roult	troult@vmivideo.com	19	<a href="#">View</a>
Michael Davis	mayormike@cityofdoveridaho.org	17	<a href="#">View</a>
dan parkin	dan@cityofdoveridaho.org	123	<a href="#">View</a>
Scott McNee	smcnee@to-engineers.com	116	<a href="#">View</a>
Diane Brockway	diane.m.brockway@gmail.com	115	<a href="#">View</a>
Bill Strand	doverharpist@gmail.com	113	<a href="#">View</a>
Bob Hansen	wsmibob@aol.com	111	<a href="#">View</a>
Jay Bredt	doverparksid@gmail.com	108	<a href="#">View</a>
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john Thorpe	thorpefamily5@hotmail.com	81	<a href="#">View</a>
Brett Converse	bconverse@jub.com	103	<a href="#">View</a>
Eric J Eldenburg	eeldenburg@jasewell.com	75	<a href="#">View</a>
Ralph Stetager	ralph@sandpointwaterfront.com	13	<a href="#">View</a>
Alex	alett@doverbayidaho.com	66	<a href="#">View</a>
Caller : 3083		80	<a href="#">View</a>
Caller 2 1116		79	<a href="#">View</a>
Caller : 3083		81	<a href="#">View</a>
Caller 1562		83	<a href="#">View</a>
Caller : 1562		18	<a href="#">View</a>
Caller : 0189		37	<a href="#">View</a>

**Total Unique Attendees: 20**

Ex. A.

**From:** Matthew Plaisted  
**To:** "Ralph Sletager"; Katy Baker-Casile; Jim Williamson; Chris Westerman  
**Cc:** "Eric Eldenburg (eeldenburg@jasewell.com)"  
**Subject:** RE: QUESTION for the DEQ draft  
**Date:** Wednesday, December 18, 2019 9:34:00 AM  
**Attachments:** image001.png  
Pages from City of Dover Water System Facility Plan - June 2007.pdf  
City of Dover - Dover Bay Development Dissapproval Letter - 04-07-2005.pdf  
City of Dover - Dover Bay Development Water Distribution System Submitta....pdf

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Hi Ralph,

I sent an email to Eric earlier this year that I thought cleared up the confusion about 30psi. 30 psi has never been the design standard for Dover Bay or the City of Dover, and 30psi was never approved by DEQ. The only way 30psi would have been approved would have been through a waiver from the operating pressure requirements in place at the time Dover Bay Development was proposed (IDAPA 58.01.08 Section 552.01.b - *see below*). Our records do not show that a waiver was ever granted, therefore the City and Dover Bay Development were required to meet operating pressure requirements in place.

From the 2005 IDAPA 58.01.08 Section 552.01.b:

**b. Minimum Pressure.**

- i. Any public water system shall be capable of providing sufficient water during maximum hourly demand conditions (including fire flow) to maintain a minimum pressure of twenty (20) psi throughout the distribution system, as measured at the service connection or along the property line adjacent to the consumer's premises.
- ii. Any public water system constructed or significantly modified after July 1, 1985, shall maintain a minimum pressure of forty (40) psi throughout the distribution system, at peak hour flow during peak day of the year, excluding fire flow, measured at the service connection or along the property line adjacent to the consumer's premises.

(1) Existing water systems that are planning to expand their service area shall meet the criteria in Subsections 552.01.b.i. and 552.01.b.ii. in the new service area. Such systems should upgrade pressure standards in the existing system at the same time as the expansion occurs.

The referenced report prepared by J.A. Sewell and Associates (included as Attachment 3 in your email) was not approved by DEQ (*See 04/07/2005 letter included*), and therefore 30psi was not approved. Further, a subsequent report prepared by J.A. Sewell and associates was submitted to DEQ with the correct pressure requirements (*see Pages from June 2007 Facility Plan*).

The email you included does not direct Eric to design to 30psi, it does not even state that the water system should be designed in accordance with the Washington State Water System Design Manual. It is unclear how this could be interpreted as DEQ issuing a waiver from operating requirements in place at the time.

DEQ will continue to work with the City to address this issue. DEQ has not issued any violations for this issue as the City is currently making progress towards understanding the extent and fixing the issue. I hope this has cleared up some of the confusion regarding the pressure requirements within the City of Dover.

Thanks,

Matt



**Matt Plaisted, P.E. | Water Quality Engineering Manager**

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*Our mission is to protect human health and the quality of Idaho's air, land, and water.*

Ex.B

Hello Jim,

As previously indicated to you, I have been researching our archived engineering documents as necessary to respond to Bill Strand's letter to you dated July 11, 2019, which appears to represent a complaint addendum. I have found a certain amount of information related to the complaint addendum, but it does take time to investigate all details of the entire situation. Now that this issue has been elevated to a Board Complaint status, it is imperative that I investigate all aspects of the complaint to insure that my response is inclusive of all details related to the specifics of the complaint addendum.

Regarding the Mayor's comment within her letter to Dover Bay Development dated June 14, 2019, the Mayor states "The City has not maintained its own computer model. Sewell Engineers holds most of the modeling data used to design, construct and test the City systems." We question that comment, since Tate Engineering prepared a hydraulic network analysis model as late as 2014, which included GPS location of water system components, and included all water system improvements up to that point in time. Our model was created in 2004-2005, and the model has simply been re-run to test flows to be expected by various replats as those replats are coming on line.

To date, I have found the following information related to my response to the complaint addendum. Please bear in mind that this original analysis was prepared approximately 15 years ago.

Design Criteria

Our research shows that on May 25, 2004, John Tindall with the DEQ directed Eric Eldenburg and Gary Gaffney with the DEQ (with copy to Ralph Sletager) that "The DW analysis should include information from the State of Washington, "DW Design Manual"." See Attachment 1, email from John Tindall.

I have attached as Attachment 2 a copy of Page 8-2 from the Washington State Department of Health Water System Design Manual. 8.1.3 states "Distribution pipelines must be able to sufficiently deliver water to meet peak customer demands (commonly defined as peak hourly demand) at 30 psi at every existing and proposed service connection per WAC 246-290-230(5)."

I have attached as Attachment 3 pages from our original water system distribution system design submittal to the DEQ dated March 4, 2005. Within the design submittal there are two references that "the existing and expanded water systems will be able to provide Peak Hourly Demand (PHD) flows throughout the Dover Bay Development project, without dropping below a minimum pressure of 30 psi within the distribution system."

This design submittal was approved by both the DEQ and the City. Therefore, the Dover Bay Development water system expansion project was designed to meet a minimum required pressure of 30 psi at Peak Hourly Demand flow conditions.

#### Elevation Used for the Essex Reservoir

Our research shows that the water surface elevations within the Essex reservoir for use within our original hydraulic network analysis for peak hourly demand analysis varied and was approximately 2254 to 2258 (NAVD 29). I have attached as Attachment 4, three sheets (16, 19 & 20) from the January 14, 1992 Ruen-Yeager & Associates, Inc. Record Drawings for the City of Dover Water Line Plan & Profile drawings, Reservoir Structural drawing and Reservoir Details. Sheet 16, Water Line Plan & Profile shows that the waterline entering the Essex reservoir is at an elevation of approximately 2247 to 2248 (assumed NAVD 29). Adding to this elevation the 32 " shown in the Inlet/Outlet Pipe Connection detail shown on Sheet 20, Reservoir Details, you arrive at a tank bottom elevation of approximately 2250.5 (assumed NAVD 29). This is in conflict with the bottom of tank elevation shown on Sheet 19, which shows an elevation of 2241.5 (assumed NAVD 29). Evidently, for the purposes of the water system hydraulic analysis, we relied on the elevation shown for the pipe entering the tank to determine the tank elevation, since it is not reasonable to raise the pipe up to near the top of the reservoir as the pipe enters/exits the reservoir. While the City has provided evidence regarding the elevation difference between the Essex reservoir and the top of Tank Hill, the exact elevation of the Essex rank has not been provided.

#### Elevation Used for Water Service at the Top of Tank Hill

Our research shows that the elevation for the water service to the top of Tank Hill for use within our original hydraulic network analysis was 2158 (NAVD 29). I have included as Attachment 5 a topographical map of original contours shown at the top of Tank Hill. Even though the original water system design was not required to be designed for a minimum pressure of 40 psi at Peak Hourly Demand flow conditions, I have followed

through the analysis based on the DEQ criteria at the time for minimum water system pressure of 40 psi. The 2004 Edition of the applicable IDAPA Rules indicated under 58.01.08.552.01.b.ii "Any public water system constructed or significantly modified after July 1, 1985, shall maintain a minimum pressure of forty (40) psi throughout the distribution system, at peak hour flow during peak day of the year, excluding fire flow, measured at the service connection or along the property line adjacent to the consumer's premises. (5-3-03)"

With the information provided within the attached topographical map, it can be determined that the elevation at the service connection (which is approximately 5' below ground) or along the property line adjacent to the consumer's premises, is at an elevation of 2158, or even at a lower elevation. The City's pressure measurements are taken at the fire hydrant at the top of Shannon Lane (Tank Hill). Our Record Drawings show that this fire hydrant elevation is at approximate elevation of 2167 (NAVD 29), which is 9' higher than the elevation we used within the original hydraulic network analysis for water service to the highest lot on Tank Hill, see Attachment 6.

#### City's Analysis

On July 12, 2019, I received an email from Brett Converse, City Engineer, regarding questions related to the water system pressure at the east end of Shannon Lane, See Attachment 7. Within this email, Brett indicates that the "estimated maximum elevation difference available at 86.5', which is not enough to achieve 40 psi (with zero flow). I interpreted the Shannon Lane elevation from the record drawing profile which has room for interpretation error; therefore we had a crew run out and survey the two locations. The survey information came in at 86.3' elevation difference." Brett also included a copy of a portion of which appears to be the current IDAPA Rules, which do not apply since the water system expansion was designed in accordance with the WA DOH Water System Design Manual, and the water system was designed in 2004, which would have been governed by Rules in place at that time.

However, in Bill Strand's letter to you dated July 11, 2019, Bill states "This is confirmed by a recent survey performed by TO Engineers (under contract to the City of Dover) that indicate an elevation change of 84.3 feet (this includes the water level in a full reservoir)."

Within these two survey measurements there is 2' of elevation difference. However, for the sake of argument, let's assume that the 84.3' is accurate. If we add to that the elevation difference from the fire hydrant to the service connection point or along the property line adjacent to the consumer's premises (as included in the IDAPA Rules),

which indicates 9' of elevation difference, although that is approximate, and could be interpreted as being even greater than 9', we arrive at an elevation difference of 93.3'. 93.3' of elevation difference calculates to a pressure of 40.4 psi.

### Conclusions

1. The water system was designed in accordance with the Washington State Department of Health Water System Design Manual. 8.1.3 states "Distribution pipelines must be able to sufficiently deliver water to meet peak customer demands (commonly defined as peak hourly demand) at 30 psi at every existing and proposed service connection per WAC 246-290-230(5).

2. Regardless of the original design requirements, without physically measuring the exact elevation of the Essex reservoir, and utilizing an elevation of 2241.5 (NAVD 29) for the reservoir bottom, the "Pump On" elevation can be calculated to be approximately 2250 (NAVD 29). The elevation "at the service connection or along the property line adjacent to the consumer's premises" is approximately 2158 (NAVD 29), or even lower. Based on these elevations, the static water pressure would be 39.83 psi, which is approximately 40 psi. Therefore, with the elevation difference information provided by the City, this leads me to believe that the actual elevation of the Essex Reservoir may be slightly higher than what the 1992 Record Drawings indicate for the bottom of tank elevation.

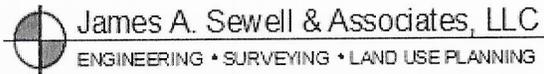
I am continuing to research and respond to other allegations within Bill Strand's letter to you. I will provide additional information in the near future, but you seemed anxious to receive the attached information.

We are in the process of updating our hydraulic network analysis to include current-day data, which should include accurate elevations (which we don't yet have for the Essex Reservoir) and to include updated maximum daily flow and peak hourly flow data as presented in the 2018 T-O Water Facilities Plan. We are updating the hydraulic network analysis to verify that the required 1,500 gpm fireflow can be provided while maintaining a minimum water system pressure of 20 psi. We would appreciate being provided by the City the exact elevation information (NAVD 29) related to the Essex Reservoir as determined by JUB or TO (whichever is deemed more accurate) in the analysis of elevation difference between the Essex Reservoir and the top of Tank Hill, so that we have confidence that our hydraulic network analysis utilizes accurate elevation data. If for some reason the City does not want to provide this elevation information, with the City's permission we can complete an elevation survey of the Essex reservoir elevation to determine the tank water surface elevation.

When our modeling data update is complete, we will present our complete modeling data to the City for their use.

Thank you for your consideration of my response information. As always, should you have questions or comments, please contact me.

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