MINUTES OF THE REGULAR MEETING OF
BOARD OF DIRECTORS OF
DOUGLAS COUNTY SEWER IMPROVEMENT DISTRICT NO. 1
September 20, 2017

CALL TO ORDER:

The Regular Meeting of the Board of Directors of the Douglas County Sewer Improvement District No. 1 duly convened at 9:30 a.m. on Wednesday, September 20, 2017 at the Wastewater Treatment Plant, Stateline, Douglas County, Nevada.

ROLL CALL:

Present was Director Mike Bradford, Director Steve Johnson and Director John Koster.

RECOGNITION OF OTHERS IN ATTENDANCE:

In attendance were District Manager Rob Hopkins, District Controller Paula East-Janicki, District Engineer, Rob Anderson and the District's attorney, James Cavilia. Representatives of Kingsbury General Improvement District (KGID), Round Hill General Improvement District (RHGID) and Tahoe Douglas District (TDD) in addition to members of the public were also in attendance.

PUBLIC COMMENT:

None.

APPROVAL OF AGENDA:

It was moved by Director Koster, seconded by Director Johnson and carried unanimously that the agenda as noticed be approved and adopted.

MINUTES OF PRIOR MEETING:

It was moved by Director Johnson, seconded by Director Koster and carried unanimously that the minutes of the Regular Meeting of August 16, 2017 be approved as presented.

Discussion and possible action regarding 2017 Nevada legislature and legislation related to governance of Douglas County Sewer Improvement District No. 1 and NRS Chapter 309, including next steps to ensure a smooth transition from Douglas County Sewer Improvement District No. 1 to new entity, Douglas County Lake Tahoe Sewer Authority by October 1, 2017.

The District's legal counsel, Jim Cavilia, indicated that the four initial Trustees of the Douglas County Lake Tahoe Sewer Authority (DCLTSA) have been appointed and that October 11, 2017 has been set for the first meeting of the Board of Trustees. Mr. Cavilia stated that based upon the enabling legislation, the first action of the Board should be the appointment of the fifth Trustee, who is to be a person representing the business community within Stateline, Nevada.

Director Johnson stated that he would encourage the new Board to appoint Mike Bradford as the fifth member. Director Johnson pointed out that, as the owner and operator of a longstanding business in Stateline and the Chairman of the DCSID Board for the past several years, Mr. Bradford is the ideal person to create the continuity necessary for a smooth transition. Director Johnson praised Mr. Bradford for all that he does for the community and stated that he has done a phenomenal job leading the DCSID Board.

Director Koster expressed his agreement with Director Johnson and described Mr. Bradford as the quasi-mayor of the Stateline community. Director Koster added that Mr. Bradford has been the driving force behind much of the progress that has taken place in the area and that Mr. Bradford has the vision and commitment necessary to provide for the optimal transition.

Chairman Bradford thanked the other Directors for their comments and indicated his willingness to serve on the new board for one year in order to provide for a smooth transition. Chairman Bradford stressed the importance of the services provided by DCSID and the importance of control of the District being retained by the ratepayers. Chairman Bradford also stressed the importance of completing the ongoing projects to have redundancy in operations to protect the environment.

Director Johnson stressed that Mr. Bradford understands the responsibility in terms of protecting the environment and maintaining a positive relationship among all of the groups at Lake Tahoe, including ratepayers, the business community and the County as a whole. Director Koster stressed the District's history of pushing for redundancy while keeping rates low through operating the District like a business. Chairman Bradford agreed with the other Directors and indicated that his focus would continue to be on doing what is best for the ratepayers and Douglas County as a whole.

Chairman Bradford opened the floor to public comment regarding the matter. Cam McKay of the KGID thanked the Board on behalf of KGID for its good work in the face of some adversity and doing what is best for the community as a whole. Greg Reed of RHGID also expressed his

gratitude for the Board's work and the good relationship that the District has had with RHGID. Wes Rice, as a Trustee of RHGID as well as an appointee to the Board of Trustees for DCLTSA, expressed his admiration for the decisions of the District that were in the best interests of everyone at Lake Tahoe. Mr. Rice added that he had recently toured the District's facilities and that he was very impressed by the current operation and the built-in redundancy.

There was no further public comment.

DISTRICT MANAGER'S REPORT:

A. General Status Report

District Manager, Rob Hopkins presented the Board with a written summary of various general matters related to the District and briefly summarized each item in the written report.

Mr. Hopkins reported that he recently participated in a pre-construction meeting regarding the Sierra Colina project and indicated that the developer has been cooperative and District staff will be present when the project is tied-in to the sewer collection system. Mr. Hopkins also indicated that he attended the 2017 Lake Tahoe Summit with Bob Cook and that it is his impression that most federal money is focused on wildfire issues and the reduction of fuels at this time.

Mr. Hopkins explained in some detail how an electrical power substation near the plant suffered a catastrophic fire that cut-off power to the plant. Mr. Hopkins indicated that NV Energy was in the process of repairing the substation and replacing power poles near the plant. Since the substation has been out of service, Mr. Hopkins explained that NV Energy routed power to the plant from another source and as a result of the electrical load the District has suffered from brown-outs which have caused the District's effluent export pumps to go on and off very rapidly causing pressure waves in the export pipeline. These pressure waves caused a failure of the export line above Terrace View Drive which resulted in the spill of effluent until the pumps were shut down. Mr. Hopkins indicated that the spill was contained near the line failure and no effluent reached any active waterways or Lake Tahoe. Mr. Hopkins explained that a temporary clamp has been placed on the pipe where the leak occurred, allowing the export pipeline to be placed back in service. Mr. Hopkins added that a larger, permanent clamp was being manufactured for installation and that based upon the failure, a thorough inspection of the export pipeline is underway. Each of the Directors expressed their opinion that a claim against NV Energy for the District's costs associated with the electrical problems should be pursued.

Mr. Hopkins reported that the re-coating of the second effluent tank would begin soon and that replacement of the man-lift at the Main Pump Station would begin in early October. Mr. Hopkins stated that the Automated Sampling Project would likely be completed in January, 2018.

With regard to the Tahoe Beach Club, Mr. Hopkins indicated that dewatering was continuing at a cost to the property owner of $20,000 to $40,000 per month. Mr. Hopkins stated the District Engineer would have an update regarding the Emergency Underground Storage Tank during his report.

In response to a question from Chairman Bradford, Mr. Hopkins indicated that replacement of the effluent export pipeline was scheduled to take place in 2020 or 2021. Mr. Hopkins indicated that based upon the recent failure, a comprehensive inspection will be undertaken. The District Engineer, Rob Anderson, added that he would review the most recent inspection reports related to the export pipeline.

Chairman Bradford opened the floor to public comment regarding the matter. Cam McKay of KGID reported that it was his understanding that four additional wells had recently been completed at the Tahoe Beach Club to assist with dewatering. Director Koster expressed his appreciation for the work done by Mr. Hopkins and his opinion that the District was lucky to have Mr. Hopkins in his position at the District. Each of the other directors concurred with Director Koster. There was no additional public comment.

ENGINEER'S REPORT:

A. General Projects Status Report

In addition to his participation in the District Manager's Report, District Engineer, Rob Anderson presented correspondence dated September 18, 2017 summarizing four issues that R.O. Anderson Engineering has been involved with on behalf of the District. The four issues are 1) District Engineering Services; 2) Pump Station Storage Capacity; 3) DCSID/STPUD Intertie; and 4) Muller Lane Force Main Realignment. The September 18, 2017 correspondence is incorporated in these minutes by this reference.

Mr. Anderson reported that he recently met with a representative of Bently Agrodynamics and that the Bently effluent reservoir is scheduled to be drained in September at which time a transducer will be installed to measure the effluent level on an ongoing basis. Mr. Anderson indicated that there would be no cost to the District and it will only be necessary for the District to install its telemetry necessary to receive data.

Mr. Anderson stated the STPUD intertie was nearly complete with only some testing to be completed. The Muller Lane force main relocation has been put out for bid with bids expected in early October. The necessary easement was obtained from the property owner,

Finally, Mr. Anderson thanked the Board for their work with the District and Mr. Anderson indicated that he had learned a great deal from each of the Directors. Director Koster expressed his appreciation for his very efficient and pro-active work on behalf of the District.

Chairman Bradford opened the floor to public comment regarding the District Engineer's general report. There was no public comment.

B. Discussion and possible action regarding leak/warranty issue with Underground Emergency Storage Tanks

With regard to the Underground Storage Tank failure, Mr. Anderson explained that, in accordance with the contract documents, he issued his written decision approving the District's claim against the contractor and that the contractor now has until October 11th to respond by requesting mediation or some other form of dispute resolution. Director Johnson thanked Mr. Anderson for his analysis and complemented him on the thoroughness of the written decision.

Chairman Bradford opened the floor to public comment regarding the District Engineer's general report. There was no public comment.

ATTORNEY'S REPORT:

A. General Status Report

Other that what he had contributed earlier in the meeting, the District's Attorney, Jim Cavilia had nothing additional to report. Chairman Bradford opened the floor to public comment regarding the matter. There was no public comment.

DISTRICT CONTROLLER'S REPORT:

A. General Status Report

District Controller Paula East-Janicki presented the board with a spreadsheet showing actual expenses compared to budget for the current fiscal year. Ms. East-Janicki stated that operating expenses for the first month of the fiscal year were slightly over budget. Ms. East-Janicki reported that three auditors have been in the office working on the District's annual audit and to this point she is unaware of any issues. Finally, Ms. East-Janicki reported that the District's banks and others have acknowledged the transition to DCLTSA as of October 1.

Chairman Bradford thanked Ms. East-Janicki for the information and opened the floor to public comment. There was no public comment.

B. Discussion, report of funds transferred and possible action to transfer additional money from the General Fund to the Construction Fund for payments toward the South Tahoe Public Utility District Intertie project.

Ms. East-Janicki explained that the District's Construction Fund balance is currently $286,000 with anticipated expenses of approximately $155,000 for the STPUD Intertie Project. Based upon the current balance and anticipated expenses, Ms. East-Janicki indicated that it was not necessary to transfer any funds at this time.

Finally, Ms. East-Janicki thanked the Directors for their support for her work on behalf of the District. Director Koster thanked Ms. East-Janicki and complemented her on her good work over the years. Mr. Hopkins thanked Ms. East-Janicki as well, pointing out that he had never worked with someone with such an attention to detail.

Chairman Bradford opened the floor to public comment regarding the matter. There was no public comment.

Investment Report

Ms. East-Janicki presented the Board with a summary of the District's investments, totaling approximately $9,280,000 in Certificates of Deposit and savings.

Chairman Bradford opened the floor to public comment regarding the matter. There was no public comment.

APPROVAL OF CLAIMS:

The claims presented were reviewed and approved by Director Koster on behalf of the Board.

District Manager's Comments at Final Meeting of the Douglas County Sewer Improvement District Board of Directors

Mr. Hopkins expressed his appreciation for all of the individuals that were responsible for building the plant and operating the District over the years. Mr. Hopkins read a prepared statement that he asked to be included in the minutes of the meeting as follows:

> As manager of the Douglas County Sewer Improvement District, I would like to offer a few words and thoughts at this the final meeting of this unique organization.
>
> Over 60 years ago, several local businessmen had a vision of what this area could become, and what kind of infrastructure would be needed to both support the growth of the region and protect the fragile environment of Lake Tahoe.
>
> The individuals who conceived of the project that would become DCSID created an organization and an operational model unique in Nevada history. These men put their

finances and reputations on the line by building and operating an entire wastewater infrastructure system initially at their own expense.

The founders of DCSID structured the district to provide a public wastewater service, and chose to run the operation like a business, focusing on delivering quality results at the best possible cost. They created a powerful statement of what can be done in a public agency with creative thought and determination.

As the Douglas County Sewer Improvement District moves on to become the Douglas County Lake Tahoe Sewer Authority, it is with recognition that we are building on the foundation of the great visionaries who came before us. It is a proud legacy, and one in which I have been honored to be entrusted with. Thank you all for giving me the opportunity to serve this historic organization.

ROB HOPKINS

Mr. Hopkins then presented plaques to the Directors, the District Engineer, the District's legal counsel and Bob Cook for their years of service on behalf of the District. Each of the individuals and the Directors thanked Mr. Hopkins. Chairman Bradford described his time with the District as one of the most challenging and fulfilling experiences of his life. Director Koster agreed and expressed his appreciation to Chairman Bradford for his willingness to stay on with the new Board of Trustees of DCLTSA, if so appointed.

Mr. Cavilia thanked all for their efforts over the years and asked that everyone specially recognize the many years of service of John Fults, who, in Mr. Cavilia's opinion, is largely responsible for the success of the District over the years of its existence.

Chairman Bradford then expressed his appreciation for the efforts of Assemblyman Wheeler and Senator Settlemeyer for their efforts in ensuring that control of the wastewater plant was maintained with the ratepayers at Lake Tahoe.

Chairman Bradford opened the floor to public comment regarding the matter.

Greg Reed of RHGID thanked the District and suggested that Mr. Hopkins comments be read at the first meeting of the Board of Trustees of DCLTSA.

Darya Vogt of KGID asked the Directors and the District staff about the length of time they had worked with the District.

Janet Murphy of TDD expressed her appreciation for the recognition of the former members of the DCSID Board that she worked with over the years.

PUBLIC COMMENT:

None

ADJOURNMENT:

There being no further business, the meeting was adjourned at 11:00 a.m.

John Koster, Member

APPROVED

Steve Johnson, Member
4852-7805-7297, v. 1

Meeting Date: September 20th, 2017

DOUGLAS COUNTY SEWER IMPROVEMENT DISTRICT #1
Staff Report

Subject / Title:

District Manager's Monthly Report – September, 2017
A. General Status Report

Staff Recommendation:

None. This is an informational item only.

Discussion/Report:

This item is regularly agendized to afford the District Manager the opportunity to update the DCSID Board of Directors on select activities over the previous month.

1. On August 21st, 2017 staff from District Engineer R.O. Anderson and District Manager Hopkins attended the pre-construction meeting for the upcoming Sierra Colina Housing Development Project. Sierra Colina construction contractors confirmed at this meeting that they will provide timely notice to District staff so that our personnel are on hand to witness any tie-in work to existing District sewer facilities.

2. District Manager Hopkins and District Special Projects Coordinator Bob Cook attended the 2017 Lake Tahoe Summit, held at Valhalla Tahoe, South Lake Tahoe this year. It appears that forest / fuels management, fire prevention and suppression, and aquatic invasive species management will continue to be the primary focus of Federal funding over the next several years.

3. At 08:03 on Monday, August 28th, the NV Energy sub-station adjacent to the Treatment Plant suffered a catastrophic electrical fire. Due to a failure of the NV Energy SCADA system to successfully shut down power to the sub-station, a very high voltage fire was sustained for several minutes until all the wiring to the transformers had burned away sufficiently to break the connection. NV Energy staff and local emergency first responders were all on-site within minutes. No injuries were reported. NV Energy then tied the DCSID Treatment Plant into a shunt, rerouting power and feeding the Plant off of another grid as a temporary measure to get the District back on line-power. Unfortunately, this temporary connection was having a difficult time supporting the additional load of the Treatment Plant and we have suffered several brown-outs which have caused issues with District pumps tripping out etc. Staff feels that these brown-out events likely contributed to several on-off start cycles on the District effluent export pumps, which led to the export pipeline becoming over-pressured and failing on Wednesday, September 6th. This event will be covered later in this report.

4. District Manager Hopkins has given District tours to new Douglas County Lake Tahoe Sewer Authority Directors Vogt, Rice, and Thompson. Director McDermid could not attend and will be rescheduled for a tour at her convenience. A "Facility and Projects-In-Progress Reference Handbook" has been provided for all the incoming DCLTSA Directors. Additional copies are available on request.

5. Between 4:15 and 4:30 a.m. on Wednesday, September 6th, 2017, the District suffered between 15 and 20 power "brown-outs" while two of our large 350 horsepower Export Pumps were running at full power.

   The repeated dips in power caused the pumps to stop and try to immediately restart and then trip again. These rapidly repeating start attempts are believed to have created pressure waves in the export pipeline that the export pipeline surge anticipation system could not keep up with. This led to a 3 inch diameter rupture in the export pipeline above Terrace View Drive at the 6,800 foot level.

   The spill was contained by diverting the downhill flow to a KGID manhole on Sunset Court and further flow was stopped by an impoundment dam constructed by District staff near the Bike Path where it terminates on Pine Ridge Drive. No treated wastewater effluent reached any active waterways and no flow reached Lake Tahoe.

   District personnel and staff from District Engineer R.O. Anderson are working on a volume calculation for the spill, which is not available at the time of this writing. Nevada Division of Environmental Protection and United States Forest Service personnel were notified early in the event and were on site to witness the effluent recovery efforts. Spill reports have been issued to both NDEP and USFS.

   A temporary high-pressure repair clamp was installed and the export force main returned to service on Friday, September 8th. The District will perform final repairs when we receive a larger repair clamp, which is being custom-made for the District.

   The treated wastewater effluent is chlorinated to remove pathogens. The spill posed no threat to public health at any time. (Photos attached)

6. Effluent Tank 1 has been taken off-line and cleaned in preparation for warranty re-coating of the interior, expected to begin on September 18th. The work is to be performed by the same contractor, RDC, which re-coated Effluent Tank 2 last fall.

7. Replacement of the man-lift at the Main Pump Station is expected to begin the week of September 18th, and be completed by mid-October, 2017.

8. Potholing and earthwork related to the Treatment Plant Automation (Automatic Sampling) Project began the week of September 11th, 2017. Earthwork is anticipated to be complete prior to the end of the TRPA Construction Season on October 15th.

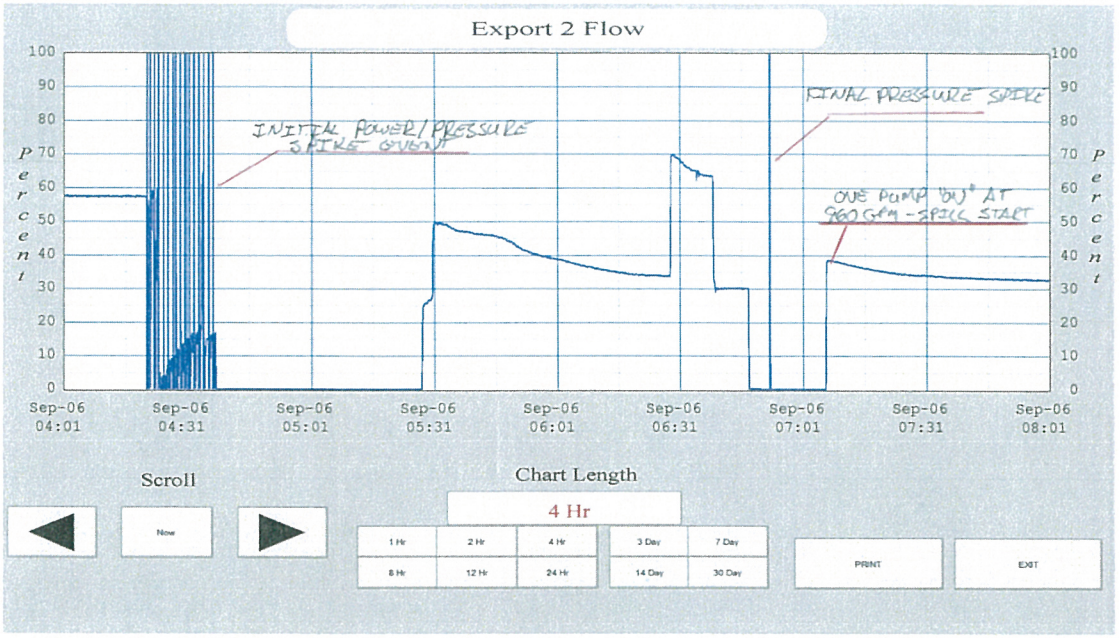
9. Dewatering at the Tahoe Beach Club construction site continues.

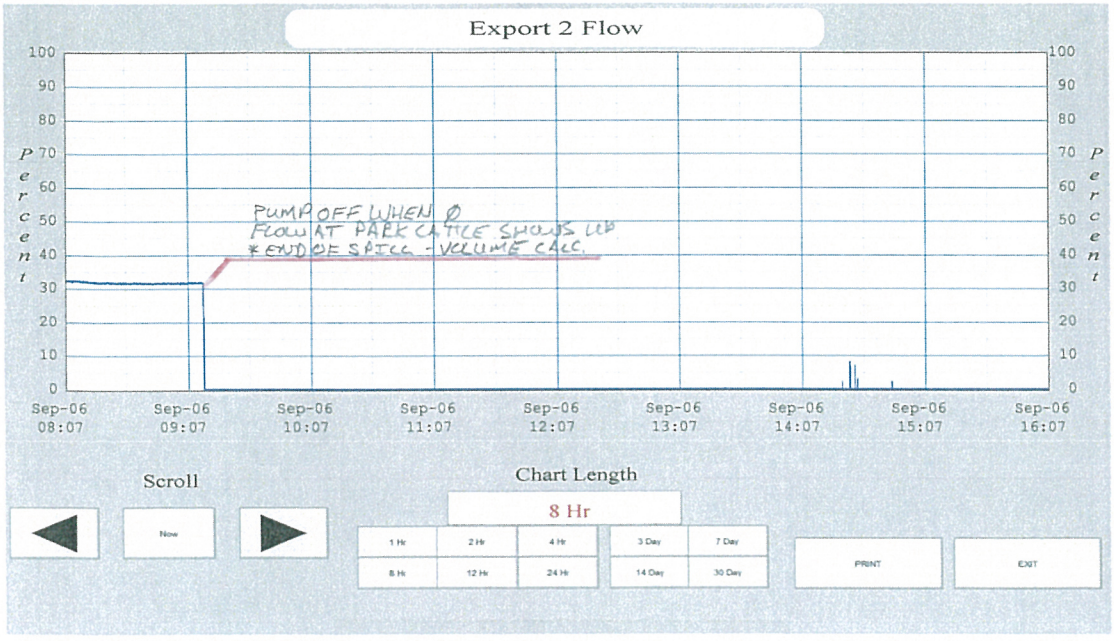
10. District Engineer R.O. Anderson has rendered a decision on the DCSID warranty claim related to the Main Pump Station Emergency Storage Project. Details are covered in the Engineers Report.



Proximity map of spill flow path and recovery points – with GPS coordinates.

Export 2 Flow Graph attached as Exhibit 1





SCADA report showing the start-stop events related to the power problems. The peaks represent both pumps receiving "start" commands repeatedly due to brown-outs in the line-power side of the Plant.



Pine Ridge Bike Path Bridge – Photo of the dry wash just prior to construction of impoundment area for vacuum truck recovery of effluent flowing down slope from Sunset Circle to this location.



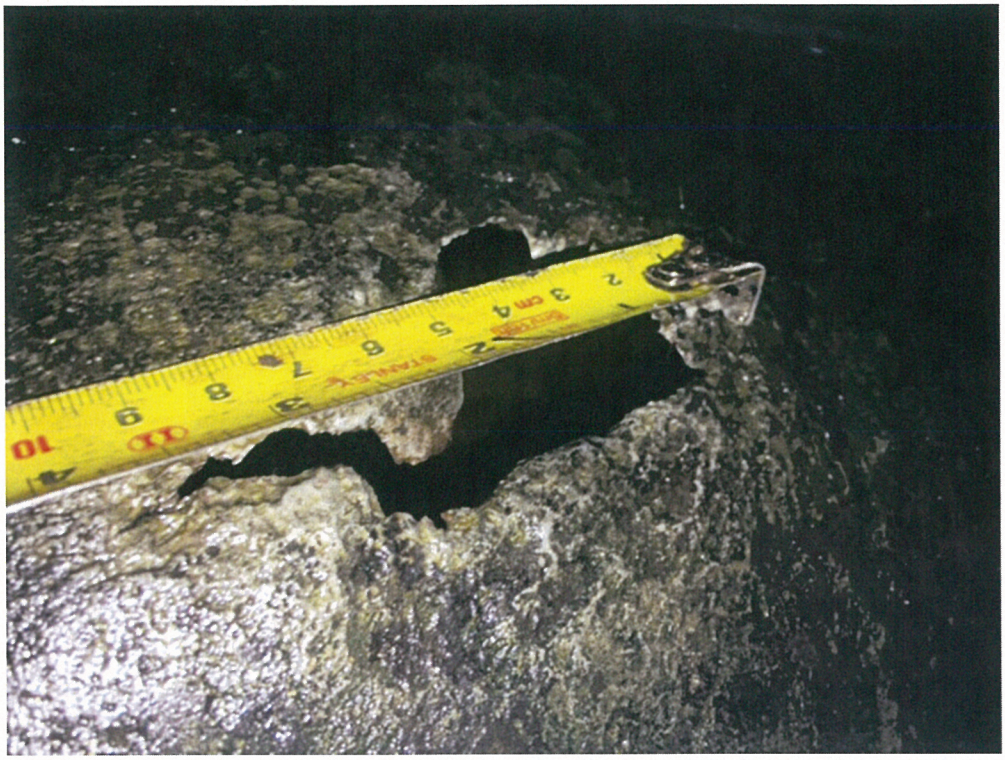
Detail of the initial impoundment of effluent flow at the Pine Ridge impoundment site.



Detail of sandbag and wattle impound structures at the Pine Ridge Bike Path Impoundment site.



Detail of diversion of effluent at Sunset Circle to KGID manhole and vacuum truck recovery of effluent.



Detail of the dimension of the hole in the effluent export force main.



Detail highlighting corrosion on exterior of pipe. There may have been a defect in the pipe coating when it was installed in the 1960's, and over time the pipe was weakened at this location by corrosion.



Detail of first repair clamp installed the night of the spill – September 6th, 2017.



Detail of high pressure clamp - second installation on September 8th 2017.



Summit installing the second, high-pressure repair clamp Friday, September 8th, 2017. This will be replaced with a 24 inch wide clamp, rather than the 8 inch clamp in the picture for added reliability.

DOUGLAS COUNTY SEWER IMPROVEMENT DISTRICT NO. 1
OPERATOR'S DAILY LOG

DATE
9.6.17
12am - 12am

OPERATORS ON DUTY
Graveyard Dan/Tim Swing Doug/Brad
Day Merle/Charli

FLOW READINGS

Beach	835,114
Round Hill	480,000
Kingsbury	285,197
Tahoe Douglas	322,415
Influent	1,226,000
Export #2	1,059,946
Recirculation	21,203
Bently	0
Settlemeyer	0
Parks	1,751,879
WRS In	0
WRS Out	0
RAS #2	350,736
RAS #4	329,178
Waste	55,544
Tank/Reservoir	1,581,000
RAS #2 + #4	679,914

158

STATUS

Export Pumps On 1 2 3 [4]
Lead RESV Pump [1] 2 3

Time on/off	HCL	RAS/SEC	EXP	RESV
X	X	X	X	X
X	X	X	X	X

HCL Export

	HCL Residual (mg/L)	Dose (gph)
0100	1.2	1.54
0500	off	X
0900	.8	.83
1300	off	X
1700	off	X
2100	1.2	.82
	Avg	Avg

1.06

HCL (gal)	Tank 1	Tank 2
Start	7.6	2.5
End	X	X
Total	X	X

Print: Previous Day Log | Day Log
View: Flow Issue/Day/Date | Day Log | Time | Exit

Lab Controls:

MLSS (mg/L) 1382 30 MIN. SET. 765
Remarks X

RAS (mg/L) 4468 SVI 554
Remarks X

Clarifier Depth (ft)

	Primary #1 Graveyard	Primary #1 Day	Primary #2 Graveyard	Primary #2 Day
Time:	0730	1300	0730	1300
Reading:	1'	1'	1'	8"
	Secondary #2 Graveyard	**Secondary #2 Day**	**Secondary #4 Graveyard**	**Secondary #4 Day**
Time:	0800	1300	0800	1300
Reading:	2"	2"	0"	1"

Thickener Depth (ft)

	#1 Graveyard	#1 Day	#2 Graveyard	#2 Day
Time:	0730	1300	X	X
Reading:	7'	9'4"	X	X

Dissolved Oxygen (Aerator #4 or Aerator #8)

Time	0100	0300	0830	1300	1830	2100
D.O. (mg/L)	1.21	2.49	2.19	.72	.67	1.02
Temp (°C)	20.8	20.6	20.9	20.9	20.9	20.9

1.37

Remarks:

The Plant Operators Daily Log showing Chlorine Residual at the Export Force Main on the day of the spill.

R O Anderson

September 18, 2017

Via E-mail

Board of Directors
DOUGLAS COUNTY SEWER IMPROVEMENT DISTRICT NO. 1
P.O. Box 578
Zephyr Cove, NV 89448

District Engineer's Monthly Report – September 2017

Dear Members of the Board:

The following report presents a summary of activities undertaken on behalf of the District since our last meeting on August 16, 2017. During this period, we participated with District personnel in the following areas:

1) District Engineering Services
2) Pump Station Storage Capacity
3) DCSID/STPUD Intertie
4) Muller Lane Force Main Realignment

The following paragraphs provide a brief description of these efforts and progress related to each of these specific assignments.

District Engineering Services: R.O. Anderson Engineering, Inc. (ROA) assisted and participated with District personnel on various engineering-related assignments including: participation in project coordination meetings and phone calls with District staff, legal counsel, and Board members on an as-requested basis. In addition to these activities, we have actively participated in the following specific tasks:

- Bently Reservoir Water Level Gage: After the prompting by Chairman Bradford at last month's meeting, I immediately contacted Matt McKinney, the Ranch Manager for Bently. Mr. McKinney confirmed then (mid-August) that they intended to drain their reservoir in September, make the necessary repairs and install the transducer and cabling at that time. I saw Mr. McKinney at recent public meeting (September 7th County Commissioners' meeting) and we discussed their progress on making the lining modifications. He informed me then that the repairs are nearly complete and that they will soon proceed to install the level transducer at their expense. From his remarks, I understand that they will extend the data cables from the transducer to an existing control panel from which the District can install the needed telemetry equipment. He explained that he will contact me again once they are complete with their work so that the District can initiate its components needed to send and receive the data from the point of connection.

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Reno, Nevada
South Lake Tahoe, California

- Export Force Main Breach: We provided engineering analysis to assist Mr. Hopkins with with his formal report, specifically calculating the estimated volume of effluent released and meeting with NDEP. Mr. Hopkins will be speaking further to this item.

- Sierra Colina Plan Review: This project is moving forward to construction. We attended the project's Pre-construction Meeting and reviewed the proposed bypass pumping process and schedule. Paradigm 8 is the General Contractor and Joy Engineering is installing the sewer. We have initiated and will be monitoring and observing the construction of sewer mains and manholes and we will be present for testing when the contractor is ready.

- Edgewood Lodge: We reviewed and discussed the results of the TV inspection of the constructed mains with Mr. Hopkins and concluded the sewer infrastructure as constructed was acceptable. This project is now complete.

- Effluent Tank Re-coating: The Contractor (RDC) and the District mutually agreed to delay the start of work on Tank 1 to September 18, 2017. ROA conducted a pre-construction meeting on site to review Owner, Contractor, and Engineer responsibilities. The timeframe, RDC crew, and proposed materials are the same as the previous re-coating work, therefore, we anticipate the project will progress smoothly. The one-year warranty inspection of Tank 2 was mutually agreed to be scheduled immediately after Tank 1 gets put back into service.

Pump Station Storage Capacity: On September 11th, we issued our formal decision approving the District's claim against the Contractor. Due to the file size, I have only attached a copy of the decision excluding the referenced exhibits. I will be pleased to provide a full copy of the decision, complete with all referenced exhibits upon request. The District Manager and District Counsel both received complete copies of the decision.

Based on the terms of the Contract Documents, the Contractor has 30 days, or until October 11th, to consider the decision and invoke the dispute resolution procedure provided for in the Contract (mediation). If the Contractor does not request mediation within the allotted time, the decision becomes final and binding. If the decision is submitted for mediation, the process must be undertaken in good faith by both parties and concluded within 60 days of submission. If mediation is unsuccessful, the parties can pursue alternate resolution techniques including submitting the matter to District Court.

DCSID/STPUD Intertie: We are continuing to administer the construction contract, which during this period has mainly consisted of coordinating with and overseeing the Tesco communication work. The Tesco work is now mostly complete; flow testing and start-up have, therefore, been scheduled for September 21, 2017. In addition to those efforts we have also continued to coordinate with District personnel, Edgewood Companies, and White Rock Construction; and, reviewed material submittals. Work remaining includes valve actuator modification and/or replacement if necessary, revegetation, and contract closeout. We are anticipating one additional change order for the valve actuator work necessitated by actual power voltage available at the site.

No additional Change Orders or Applications for Payment were received or processed during the period. The project's current financial status remains the same as last month at:

Original Contract Price	$ 915,600.00
Net Change by Change Orders	$ 89,082.00 (9.7%)
Current Contract Price	$ 1,004,682.00
Work Completed and Stored to Date	$ 949,782.00 (95%)
Remaining Work to be Completed	$ 54,900.00

This project was approximately 95% complete as of the date of the last application for payment. As allowed by the contract, the District has retained 5% of the completed work, $47,489.10, from the payments to the Contractor. This amount will be released upon satisfactory completion and testing of the valve actuator.

Muller Lane Effluent Force Main Relocation: The contract documents are being finalized inclusive of comments received from District personnel and NDEP. The documents will be ready for issuance on Wednesday, September 20, 2017, which is the date of Advertisement and the beginning of the bidding period. The Pre-bid Meeting is scheduled for Monday September 25, 2017, and the bids are due on October 11, 2017. We anticipate that construction will start at the end of October and continue through the end of the year.

We continue to coordinate with NDEP and State Lands, and will be formally submitting the final documents on September 20, 2017, at which time we will also be resubmitting to Douglas County. The NDOT encroachment permit application was already submitted earlier this month. The conditions of the NDEP temporary discharge permit allow the effluent in the pipe to be discharged to Park Ranch outside of the standard irrigation season, with some conditions. Those conditions that potentially affect the Bidders have been incorporated into the contract documents.

R|O|Anderson

During the past 30 days, with the assistance of District Counsel, we have completed the discussions with the land owner, Mrs. Gail Teig, to obtain the required easement over and across that portion of her property where the work is to be constructed. We are pleased to report that the easement Agreement and Deed were finalized, and the Deed was recorded on September 15, 2017. The original, fully executed Agreement together with a copy of the recorded deed have been submitted to Ms. East-Janicki for safe keeping.

I will be present at the Board meeting and available then to review this information in greater detail, as well as address any specific questions or concerns Board members might have relative to these subjects. Thank you for your continued confidence.

Yours faithfully,

R.O. ANDERSON ENGINEERING, INC.

Robert O. Anderson, P.E., W.R.S., CFM
Principal Engineer

Attachments

cc: Jim Cavilia, Esq.
Paula East-Janicki
Rob Hopkins

R O Anderson

September 11, 2017

Via E-mail and U.S. Mail, Certified

Robert Hopkins, Manager
DOUGLAS COUNTY SEWER IMPROVEMENT DISTRICT #1
P.O. Box 578
Zephyr Cove, NV 89448

Jon Winfield, Project Manager
ASPEN DEVELOPERS CORP.
2340 E. 5th Street
Reno, NV 89512

DCSID: Main Pump Station Emergency Storage Project, PWP DO-2016-052
Review and Evaluation of DCSID's Claim dated April 27, 2017
Engineer's Decision

Dear Mr. Hopkins and Mr. Winfield,

Pursuant to various provisions of the Contract Documents, attached please find our analysis and final decision on the subject claim.

During your review, should you have any questions or require any clarifications, please do not hesitate to contact me.

Yours faithfully,

R.O. ANDERSON ENGINEERING, INC.

Robert O. Anderson, P.E., W.R.S., CFM
Principal Engineer

Attachments

cc. Jim Cavilia, Esq., Allison-MacKenzie
Mark Cesar, Contech Engineering Solutions
Mark Croom, Travelers
Jason Peak, Esq., Laxalt & Nomura, Ltd.

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DOUGLAS COUNTY SEWER IMPROVEMENT DISTRICT #1
MAIN PUMP STATION EMERGENCY STORAGE PROJECT, PWP DO-2016-052

RE: Evaluation of DCSID's Claim, dated April 27, 2017
Date: September 11, 2017

1.0 BACKGROUND

Douglas County Sewer Improvement District No. 1 (DCSID or Owner) requires additional storage capacity for its Main Pump Station, which is located near the intersection of Elks Point Road and U.S. Highway 50, near Zephyr Cove, NV. The additional storage capacity affords DCSID additional time to respond to an emergency prior to having raw, untreated sewage spill onto the ground at this location, which is located upstream and in relative proximity to Lake Tahoe.

DCSID retained R.O. Anderson Engineering, Inc. (R.O. Anderson, or Engineer) to design and permit the required storage improvements. Black Eagle Consulting, Inc. (Black Eagle), as a sub-consultant to R.O. Anderson, performed the geotechnical investigation of the site and provided design recommendations. The results and findings of the Geotechnical Investigation were summarized in their report dated May 30, 2014.

As part of the design and permitting efforts, the proposed storage facility was located on property managed by US Forest Service (USFS). In addition to USFS, the design was reviewed and approved by Nevada Department of Transportation (NDOT), Nevada Division of Environmental Protection – Bureau of Water Pollution Control (NDEP-BWPC), Tahoe Regional Planning Agency (TRPA), and Douglas County. The project was entitled: *Main Pump Station Emergency Storage, PWP DO-2016-052*.

The approved design included four, 120-inch diameter Duromaxx (Steel Reinforced Polyethylene Pipe (SRPE)) Detention System designed and manufactured by Contech, constructed in parallel and connected at each end by 120" diameter manifolds. The overall length of the system was 164 feet and the width was 54 feet. The system was estimated to have a total storage capacity of more than 384,000 gallons. For evacuation of detained liquids, the detention system is equipped with a submersible pump.[1] DCSID formally solicited construction proposals for the work and received bids from qualified contractors on March 8, 2016. Aspen Developers Corp. (Aspen or Contractor) was the low bidder and was subsequently awarded a construction contract in the amount of $1,234,567.89. The Notice to Proceed was issued May 9, 2016.

During backfill operations, a representative of the Engineer observed excessive deflection around one of the manifolds. The amount of deflection was then measured and found to be more than 5%, which is more than the maximum allowed under the project's specifications. On July 13, 2016, the Engineer notified the Contractor of this finding and required the Contractor to provide a solution to mitigate the excessive deflection.

Between July 21, 2016 and August 16, 2016, the Contractor submitted several pieces of correspondence related to the required repair of the deflected pipe manifold including at least three requests for change

[1] A copy of the approved design drawings is attached as Exhibit A.

orders, later numbered 7, 8 and 10. In correspondence dated August 11, 2016 and August 16, 2016, the Contractor asserted a formal claim in the amount of $188,743.65. There were four elements to the Contractor's claim:

a) "within the plans and specifications, the engineer has called out specific product, techniques of backfill, and sequence of backfill" and quoted from that section of the contract documents that establish that the Contractor is not responsible for the negligence of the Owner or the Engineer in specifying the elements of the project.
b) The Engineer had "delayed the project, directed decisions, methods and means, and harmed the avenues" of the Contractor.
c) "...RO Anderson never gave Aspen Developers due process with the submittals." And, "RO Anderson is the only one that has "Taken no Exception", and against manufacturers recommendations"
d) "RO Anderson "Took no Exception" rather than follow the contract documents, "review and approve"...We all know that the system was called out by engineer, and directed backfill method was called out by engineer."

On August 27, 2016, R.O. Anderson responded to the Contractor's correspondence including acknowledging the Contractor's claim. The Contractor was given until October 10, 2016, to substantiate its claim. Prior to October 10th, the Owner and Contractor initiated discussions toward a settlement of the Contractor's claim.

One of the several pieces of correspondence during that period was an e-mail from the Contractor dated August 4, 2016, submitting the formal design of a 16-foot wide, 6" thick reinforced concrete cap with thickened edges intended as the repair to the deflection occurring within the manifold[2]. On August 9, 2016, without approval of the submitted design, the Contractor proceeded to implement the proposed repair. On August 15, 2016, the Contractor had stripped the concrete forms and re-initiated backfill operations.

After testing of the completed detention system, the Notice of Substantial Completion was issued September 20, 2016.

Upon completion of the various punch list items, the Notice of Final Completion was issued October 12, 2016.

On December 29, 2016, DCSID and Aspen entered into a Settlement Agreement and Release relative to this claim, which included the payment of $85,317.82 to Aspen to resolve the matters asserted within the claim including the cost of implementing the concrete cap repair. The terms of the Settlement Agreement and Release include a mutual release provision that completely and forever released both parties from all past, present and future actions related in any way connected with, arising out of, concerning or related to Aspen's claim. This same release specifically excluded any warranty claims.[3]

Sometime in January 2017, DCSID's maintenance personnel noticed that the evacuation pump for the detention system had been operating despite there being no overflow to the detention system. Upon further investigation, DCSID's personnel found that ground water was leaking into the system and accumulating to a depth sufficient to cause the automated pump controls to initiate the pump's

[2] See design by Summit Engineering, dated August 4, 2016, Exhibit B.
[3] See Settlement Agreement and Release dated December 29, 2016, Exhibit C.

operation. The Contractor was notified of this finding and a facility inspection was arranged for February 27, 2017.

2.0 DCSID's CLAIM

Based on the observations made during the facility inspection and subsequent investigations, on April 27, 2017, DCSID filed a formal claim against the Contractor. The specific elements of DCSIDs claim includes:

a. The joints are not water tight as required by the specifications.
b. At least one pipe joint has deformed and deflected in excess of the maximum allowed long-term deflection.

Pursuant to the terms of the Contract, the Owner was given until June 26, 2017, to substantiate its claim.

On June 26, 2017, DCSID submitted its letter and supporting materials substantiating their claim. The amount claimed included estimated costs to repair ranging from $547,900 to $788,000, and costs (dewatering, legal, and engineering) expended through that date of $90,088. The total amount claimed as of that date was, therefore, $637,988 to $878,088.[4]

The documentation provided by DCSID was immediately reported to Aspen. Pursuant to the terms of the Contract, Aspen was afforded 30 days to respond to DCSID's claim, which response was due on or before July 26, 2017

Immediately prior to July 26, 2017, a representative of Travelers Insurance, which is the Contractor's insurance company, contacted the Engineer and requested additional time within which to respond to the claim. Their request for additional time also included a request to perform a site inspection. DCSID agreed to give the Contractor until August 11, 2017 to respond. As requested, the site inspection for Travelers' representative was arranged for and conducted on August 3, 2017.

On behalf of the Contractor, Travelers issued their response to DCSID's claim on August 10, 2017.

On August 11, 2017, the Engineer received correspondence directly from Aspen's legal counsel, Jason Peak, Esq., of Laxalt & Nomura, Ltd. In his letter, Mr. Peak advanced Aspen's position that it would be "inappropriate for RO Anderson to resolve the claim given the significant involvement of RO Anderson in the design of the system and the root cause of the problems." Mr. Peak's letter is the latest correspondence received from the Contractor by and through its various agents.

3.0 ASPEN'S RESPONSE

The Contractor, by and through its insurance agency, Travelers, responds to DCSID's claim by alleging design errors and omissions by the Engineer. Specifically, the Contractor states:

a. The manufacturer's specification requires a minimum of 5.5 feet of ground cover but the design only provided 4 feet.
b. The pipe bedding and backfill materials provided in the design drawings were not within the ASTM or the pipe manufacturer's specifications.

[4] See letter from Rob Hopkins, DCSID Manager, with attachments, Exhibit D.

c. Groundwater was not considered in the design to address the buoyancy forces created by the high ground water.

As noted above, in addition the Contractor, by and through its legal counsel, asserts that it would be inappropriate for the Engineer to resolve the claim due to its significant involvement and, allegedly, being the root cause of the problems.

The Contractor did not provide any other documentation or calculations, justifying its assertions.

4.0 ENGINEER'S AUTHORITY UNDER THE CONTRACT TO DECIDE CLAIMS

Section 10.05(A) of the Contract Documents requires that all Claims be referred to the Engineer for decision. This section further provides that a decision by the Engineer is required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and regulations.

Section 10.05(C) of the Contract Documents provide that: "Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. Deny the Claim, in whole or in part;
2. Approve the Claim; or
3. Notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For the purposes of further resolution of the Claim, such notice shall be deemed a denial."

5.0 ANALYSIS OF CLAIM AND RESPONSE

As noted above, the Owner has asserted its claim that the detention system as constructed does not meet the project's specifications. As construction is complete, the Owner's claim is essentially a warranty claim. The Owner's claim was filed within one year after completion of construction and is, therefore, timely under the terms of the contract.

5.1 Evaluation of Owner's Claim

In its claim, the Owner cited Section 333000 which in relevant part requires the joints to be water tight. As evidenced by two separate site investigations since completion of construction, numerous joints between the manifold sections and the pipe sections do in fact leak groundwater into the system. This fact is undisputed. The joints identified as leaking were made by and at the manufacturer; they are not, to the best of the Engineer's knowledge and belief, field welded joints. Additionally, during the site visits that included entry into the detention system post construction, no leaks have been identified within the pipe segments. That is, the only location where leaking has been identified is at the fitting joints of the manifold segment.



LEAKING PIPE

The Owner also claims that at least one joint has deformed and deflected more than the maximum allowed. Section 333000 of the specifications allows for no more than 5% deflection. For a 120"-diameter pipe segment, the maximum deflection allowed is limited to 6". During the site visits that included entry into the system, the portion of the manifold at the southeast corner of the detention system has buckled inward with a vertical displacement greater than 24". This fact is also undisputed. It is noteworthy that there are other areas, e.g. the bulkhead at the northeast corner of the system, where there is evidence of separation of the gussets from the inlet pipe. No deflection has been noted or observed within the pipe segments.



BUCKLED PIPE

In its letter substantiating the amount of its claim, the Owner asserts that it is incurring costs for dewatering the system. As noted above, this system was designed to allow for emergency storage of raw sewage at this localized low point in DCSID's collection system, immediately upstream of its Main Pump Station. For the system to function as intended, its capacity must be available for such emergency conditions and if it is substantially full of groundwater, it is not available for the Owner's planned purpose. During entry into the system post construction, water marks are observable on the sides of the pipe segments. The maximum depth of water observed is about 8 feet above the invert of the pipe. The cost of dewatering the system to keep its capacity available for emergency storage is, therefore, a legitimate element of this claim; the Contractor has not contended otherwise.

5.1 Evaluation of Contractor's Response to Claim

As noted above, the Contractor has made three specific assertions to support its defense that these defective conditions are a result of errors or omissions in design. Each is evaluated below.

A. *A minimum of 5.5 feet of ground cover is recommended by the manufacturer but only 4 feet was provided in the design.* Although not specifically articulated, it is assumed that the Contractor is contending that there is insufficient cover afforded by the design to resist buoyancy forces. In fact, the manufacturer's literature does recommend a minimum of 5.5 feet of cover over 120" diameter to resist potential buoyancy forces when the pipe is fully immersed. However, the note adjacent to the table specifying this depth of cover acknowledges "*...however, these contributions are conservatively neglected in establishing the values shown in this*

table. Due to these conservative assumptions, conditions may therefore allow for lesser heights of cover than what is shown in this table to prevent flotation."[5]

Please also take note that the manufacturer's recommendation for minimum cover for 120" diameter pipe when subjected to highway loads is 36" (3 feet). For temporary construction loads the minimum cover is 3.5 feet. The specified depth of cover is, therefore, within the manufacturer's recommendations and, as will be shown in the following points, sufficient to resist buoyancy forces.

B. *The pipe bedding and backfill materials provided in the design drawings were not within the ASTM or the pipe manufacturer specifications.* For locations with saturated soil conditions, the pipe manufacturer specifies the use of bedding and backfill conforming to ASTM D2321. This specification was reviewed by Black Eagle who found the materials naturally occurring at the site to be appropriate for bedding and backfill of flexible thermoplastic pipe.

   Please also note that the Contractor raised this issue in its change order requests that were eventually numbered 7, 8 & 10, and resolved per the Settlement Agreement and Release reached by the parties on December 29, 2016.

C. *Groundwater was not considered in the design to address the buoyancy forces created by the high ground water.* The effects of potential of groundwater at the site were calculated and considered during design. Buoyancy forces acting on the pipe have been re-calculated for a range of prospective groundwater conditions from 1-foot to a depth of 10-feet measured from the invert elevation of the pipe. In each instance, the force resisting buoyancy exceeds the calculated buoyancy force. In example, for a 5-foot depth of groundwater the resistance force exceeds the buoyancy force by a factor of 2.81:1. For an 8-foot depth of groundwater, which is the highest level observed within the system, the resistance force exceeds the buoyance force by a factor of 1.61:1.[6]

   Also, there is no evidence within the 140-foot pipe segments, particularly at the mid-point of the span, of upward buoyancy forces deforming the pipe section, which would be expected if buoyancy was in fact contributing to either the leaking joints or the deformed manifold segment that is the subject of this claim.

5.2 Analysis of Failed Joints and Pipe Buckling

In considering the Owner's claim, a detailed review of the pipe materials and fabrication methods have been considered to identify the cause of the leaking joints and ultimately the buckled manifold condition. In doing so, we have made the following observations that together likely explain the failed conditions.

A. While fabricating the fittings for the pipe manifold, the manufacturer cuts and removes a segment of the helical wound reinforcing bands of the SRPE pipe. From pictures of the manufacturing process, these cut sections lack sufficient strength to

[5] See Duromaxx Installation Guide May 7, 2014, page 5, Exhibit E.

[6] See RO Anderson Table, dated August 17, 2017 – In-Situ Buoyant Force Load Condition, Exhibit F.

support the weight of the remaining piece of the connection.[7] In the referenced picture, a 2x wood element is used to support the cut end of the pipe. The two cut segments are then welded together using HDPE materials to form the water tight fitting. The capacity of the fitting to resist imposed loads is then limited to the material properties of the HDPE materials, which are significantly less than an equivalent section of SRPE pipe. The manufacturer's own specifications, the project specifications and ASTM F2562 specifically require that fabricated fittings and couplings are to be fabricated to ensure no loss of structural integrity or water tightness at welded seams and joints for watertight applications. In this instance, under the loading conditions present at the site, the fabricated fittings have failed to maintain their structural integrity and water tightness.

B. Attempting to repair the fittings that were deflecting under the soil backfill, the Contractor unilaterally and without approval proceeded to design and install a concrete cap immediately on top of the manifold sections. Summit Engineering, a subcontractor to the Contractor, designed the concrete cap[8]. The design resulted in concrete being poured directly on top of the manifold sections imposing additional weight to be resisted by the manifold and each joint, and eliminating the potential benefits of soil arching that may have otherwise accrued if the concrete was properly separated from the pipe. Typically, soil arching helps to reduce the load applied on the pipe from the backfill. When a rigid concrete element is introduced directly on top of the pipe, it effectively eliminates the possibility of soil arching and additional weight of the concrete is transferred to the pipe/manifold. In this instance, a 16'w x 16'l segment of concrete cap adds approximately 56,700 pounds (over 28 tons) to each manifold joint.

   Additionally, because of the limited depth to which the thickened footings of the concrete slab were extended, 42", the Load Influence Zone of the concrete and soils above the concrete will extend into the bottom of the manifold. The applied load to the manifold could be as much as 50% of the load effectively transferred to the thickened edges.

   With the top and upper portions of the manifold physically constrained by the concrete cap, the additional imposed loads were required to be resisted by the bottom of manifold section, a portion of which had the reinforcing band cut and removed as part of the fitting manufacturing process. It is probable that the additional loads of the concrete cap when taken together with the method by which the fittings are fabricated (including cutting the helical reinforcement bands) caused the welded fittings to separate and lose water rightness, and buckled the lower portion of the pipe manifold.

6.0 DECISION

[7] See pictures from manufacturer's submittal, Exhibit G.

[8] See copy of Summit Engineering's Plan dated August 4, 2016, Exhibit B.

Based on the foregoing analysis, DCSID's claim is approved. The allowed costs will be determined in accordance with the Contract Documents upon completion of the required repair work.

R.O. ANDERSON ENGINEERING, INC.

Robert O. Anderson, P.E., CFM, WRS
Principal Engineer

Attachments



GENERAL STATUS REPORT – September 20, 2017

- **General Status Report**

  I have given you a Budget to Actual spreadsheet which shows that we finished July, the first month of the new fiscal year, slightly less than 1% over budget. I anticipate that will smooth as July is the highest power consumption month of the year, and all permit fees are paid up front at the beginning of the year.

  Grant Thornton had a minimum of 3 auditors here for 4 days during the first week of September. I have continued to work with them via email and the phone with a target date to have financials issued the last week in October.

  The bank accounts, investments and PERS have all acknowledged the name change of the District as of October 1, 2017. I still have a number of entities to contact, but the foundation has been laid for a smooth transition.

Transfer of Funds From the General Fund to the Construction Fund

At the current time, the Construction Fund has a balance of approximately $286,000. Expenses between now and the next Board meeting are expected to be approximately $155,000 for the final payments on the Intertie. Therefore, I don't anticipate needing to transfer additional funds between now and October 11, 2017.

Investment Report

The District's investments total a little more than $9,280,000. As I indicated before, those investments are spread out over investment accounts in LGIP and Wells Fargo, and laddered CD's.