COUNCIL MINUTES
SEPTEMBER 11, 2024

The City Council held a meeting on Wednesday, September 11, 2024, at 5:30 p.m. in room 7 at Festival Hall, 96 North Main Street, Cedar City, Utah.

MEMBERS PRESENT: Mayor Garth O. Green; Councilmembers: Robert Cox; W. Tyler Melling; Ronald Riddle; Carter Wilkey.

EXCUSED: Councilmember R. Scott Phillips.

STAFF PRESENT: City Manager Paul Bittmenn; City Attorney Randall McUne; Executive Assistant Natasha Nava; Finance Director Jason Norris; City Engineer Kent Fugal; Police Chief Darin Adams; Superintendent Robbie Mitchell.

OTHERS PRESENT: Pastor Michael Radebaugh; Wendy Green; Ann Clark; Tom Jett; Deborah Leoni; Jean Cecelia Lewis; Sam Taylor; Kristen MacLeod; Pam Mitchell; Christian Simmons; Georgia Johnson; Cherie Serrano; Will Jones; Annette Smith.

CALL TO ORDER: Pastor Michael Radebaugh, Mt. View Baptist gave the invocation; the pledge was led by Randall McUne.

AGENDA ORDER APPROVAL: Councilmember Cox moved to approve the agenda order; second by Councilmember Melling; vote unanimous.

ADMINISTRATION AGENDA – MAYOR AND COUNCIL BUSINESS; STAFF COMMENTS: ■Daughters of the American Revolution Deborah Leoni proclamation. (Exhibit A) ■**Mayor Green** you will find documents regarding sales tax up to now. I found it interesting, we appear to be doing well. We are six months into the year, and we are at $6,378,000. All the food we buy is why the sales tax is at what it is. **Cox** all the inflation. **Mayor Green** as Tyler predicted, the rate increase from a few years ago has brought our rates more in line with our costs. This gives us the opportunity to purchase water and fill the void we have in the City by not having the late day water. We must have the acquisition of the fees for the water we hold in the bank to meet our obligation to our debt. We have $4,273,000 in operating expenses in the water department. Our payment is $1,800,000 which is $6,073, that puts us at about $6.4 million. We're well in excess, and that's a good deal. We made $1.4 million in collections in June in the sales of water. I hope it is not the intent of the City to sell the water we bought. I hope as we sell this, we continue to add more water to our bank. If we're buying water at $12.500 and we're selling at $25,000 per acer-foot. For every acer-foot we sell, we can purchase an acer-foot to sell and an acer-foot to put in the bank. Next week I will ask to open the budget again regarding the building in the canyon. What information do you need from me? Ten months ago, we were given the ultimatum to start filtering our water. It's extremely expensive, 7 million to 8 million. We found a membrane filter system with 10-inch PVC can pipes with 10,000 fibers inside of it. Ryan Marshall and I went to the AWWA convention with the sole purpose of figuring this out. We've had three or four manufacturers pitch their products all in the membranes. One of those manufacturers pitched their cartridge, and we are pursuing the cartridge. We met last Monday with the kickoff of this Canyon Spring Filter pilot program. It was fascinating. We had three members of the state on the line with us, plus the manufacturer. We're going to filter out giardia and crypto. The manufacturer has certified that we will filter out giardia and crypto. The pilot test is going to measure our turbidity coming out of the canyon and springs. We will measure the turbidity daily. We currently measure it monthly. We have low turbidity. We have 18 months to fix this. It's taken 10 months to get to this point. We know the products and size, and we believe it will do the job. **Cox** we have 8 months to get it installed? **Mayor Green** yes. Or we will be placed on a boiler order in the canyon. **Wilkey** or we turn out the water, which we're already doing. **Paul** we have options. A stipulation order will come down from the State of Utah to give us more time for two projects. We are required to chlorinate all our wells; it's taken us some time to find the right

equipment due to the high pressure we have coming out of our wells. We've asked the state for more time on that project. They can see we are making progress and are willing to enter this order to give us more time. It would also give us more time on getting the filtration up and running. **Cox** how much time do they usually give? **Paul** in the conference call this morning, Jonathan and I, and the division of drinking water advised us that it varies from three to six months, or even a year. If we're making progress towards the end goal. The state's goal is to get us to where our water system is back in compliance with their regulations. **Wilkey** the filter is for the springs up the canyon. **Mayor Green** yes. **Wilkey** are all the springs turned out? Or are they in our system? **Mayor Green** some are, and some aren't. **Paul** they are on for testing. If they have a bad test, they are turned out. **Wilkey** they might give us an extension on the March deadline if they see progress. **Mayor Green** correct. **Cox** what's the estimated build time? After January you don't have much building till March. **Mayor Green** that's why I'm trying to get foundation and footings in, and they can build the structure in the winter. **Cox** we should get started now, instead of putting it off. Four of those months has weather that isn't conducive for construction. **Mayor Green** it's a metal building, it can be built in the winter. It's the concrete. **Cox** are you only asking for the concrete. **Mayor Green** I'm asking for the building. Get it up and ready to go. We won't do the flooring, just the building. I can have a diagram with the specs at next weeks meeting. **Wilkey** please bring as much information as possible for next weeks meeting. You know what gadget we need, however the council has never seen it. I want to make sure we build the correct building for the correct gadget. **Mayor Green** we can move money from another account. We must notice this, so it will be two weeks before it can be discussed. **Cox** it would be easier to make a decision with more information. **Wilkey** a bid on the building would be helpful. **Mayor Green** a building like this with would be $100,000, with the concrete about $200,000. It won't have a foundation, it will be on posts, with a slab floor. It will have an insulation blanket. The filter will be here in a week. ■**Cox** We just had our Junior Livestock Show, we had kids and hundreds of animals. Projects and agriculture, there is a scholarship fund, Cache Valley Bank was a good supporter. I love how the community comes together for that event. It's wonderful for our youth. ■**Riddle** all public streets are for parking. I've had a lot of complaints from the residents living near SUU regarding parking. SUU is closing off more parking lots and building structures on them. **Paul** I had an email from a concerned mom, and I copied Tyger Funk so he can give her more accurate information. There is a new parking lot coming soon on the corner of 800 West 200 South. It will be about 140 parking spaces. They are constructing another parking lot on 300 West, north of the SUU Police Station. That has over 200 spots to offset the parking taken for the music building. **Melling** we are the only college town in Utah that does not have civil parking enforcement outside of law enforcement. We budgeted for civil parking enforcement software. If we decide to civilly enforce the parking near SUU, that can be an option with that program. We can enforce that area at a much lower cost than with our law enforcement. **Wilkey** does our ordinance specify vehicles listed for sales versus normal vehicle parking? Their concern is the vehicles along Cross Hollow. **Paul** there is an ordinance that limits the publics ability to sell a vehicle on public roads. **Chief Adams** the ordinance allows parking for 12 hours for the sale of a vehicle. If it has a for sale sign it must be moved every 12 hours. **Wilkey** even in front of your home? **Chief Adams** yes. If it has a for sale sign it must be moved every 12 hours. **Wilkey** can we put signage up with the 12 hour limit? **Paul** they continuously move to different locations. It's a never-ending problem. **Chief Adams** it's very hard to enforce this. Paul and I have discussed disallowing vehicle sales on public roads. Trying to find a balance is difficult. **Riddle** think about Walmart and Home Depot, it is very specific about what can be parked and for how long. You will find them violating it right in front of the sign. ■**Wilkey** we spent last week at the League of Cities and Towns; we learned information from other cities. We attended classes on budgets, ADU's, and parks. We met with the Governor; in his opinion we have a housing shortage. Most of the council, the Mayor, and Paul attended. ■ Discussion of License Plate Reader technology and trial implementation. Chief Darin Adams – (Exhibit B) we've been looking into this project for a long time. With our drug taskforce and detectives, we have an element sneaking into our town and they do not belong. It helped with the Cal Ranch burglaries; we used technology to solve that. Automated License Plate Reader technology is very narrow in scope. It focuses on plates and vehicles. We have a handful of agencies that use this with success. We will have a trail run to see

what value this adds to our agency. **Cox** privacy is always a concern, the data this reader collects is already public. So, there is no more information going to you than what is already there. This technology would collect the information faster than an officer can. **Chief Phillips** correct. Once the agreement before you has been signed, we would begin Project Prove It. The trial is 60 to 90 days to test the system, and then we would make our final decision. **Wilkey** should we be vocal with the public about this technology, or keep it quiet? **Kristen** we believe in transparency and sharing information with the public. Often, if our cameras go up in a community and the information has not been shared, it creates concerns from the public. **Wilkey** I can see how this can help with vehicle theft; trailer theft is a concern in Cedar. Can this technology work with trailers? Trailers can have their license plates mounted at various heights. **Kristen** yes, there is a filter for trailers in the system. **Wilkey** can the system assist with expired tags? Can it alert an officer about expired tags? **Kristen** no. The system excludes all traffic violations. **Melling** the freeway has been a huge blessing to this community, and a curse. We've always had crime. I would like to see a large sign on every off-ramp broadcasting that our community is protected by vehicle recognition technology. This technology could have prevented my great-grandmother's murder in 1963, he was driving a stolen vehicle.

PUBLIC COMMENTS: ■Cache Valley Bank. Annette Smith, Branch Manager/Operations Manager; Will Jones, Regional President - **Will** Annette is a Cedar resident and will be our branch manager. We are close to finishing our construction. We chose downtown intentionally; we want to restore older buildings in the downtown area. We want to invite everyone to a first look at the bank September 18, from noon to 1:00pm. We will provide lunch and a chance to show you the efforts we've made to restore the building. Our contractor Shawn Ekker will take a small group on a tour of the building. We've worked with, and invited, the Historic Preservation Commission, and the Historic Downtown Economic Committee to attend. You will also receive an invitation to our reception October 2, from 4:00pm to 6:00pm. The ribbon cutting is October 3, at 10:00am, in conjunction with the Chamber of Commerce. ■**Ann Clark** I've thought a lot about the meeting two weeks ago, and the comments made regarding Laura Henderson's property on Dewey Street. She fought for her neighborhood. Until the city came and overlaid the SHD zone on top of her neighborhood, which altered everything for her. It's so interesting to me, because I hear from so many people in the city how the government should stay out of people's lives. Yet the government came in and changed hers. She didn't want to move. She said to me, she could live there until they built a 50-foot building across the street. When I must walk out the door to look up to see the blue sky, I must leave. So, she sold. Some people thought that she could have sold to a little family. Families won't want to live across from a 50-foot building. She needed the money, so she sold. Now her house is becoming a parking lot. Sometimes I think it's just a vote, but for her, it was her house, her neighborhood, and her lifestyle. Not just a vote. I looked up the ordinance for the parking across the street it's section 26-V-13 and I wanted to see when that was passed, because it doesn't have a date. Was that made an ordinance when the Velocity building on 200 North needed a parking lot across the street? **Melling** no. Not everything is a conspiracy. Not everything revolves around Mr. Jones, or someone manipulating the system. This ordinance was on the books long before I was on the council. It's a simple off-premises parking ordinance. Every single time you bring this up, there are good people in local government, and their reputation gets questioned. Every single time they make any kind of decision, it eventually escalates and sometimes turns into violence. We just saw a former president shot, in large part because the media can't keep their mouth shut. People pile on because they're misinformed. When you pile on to people over and over again, and make everything a conspiracy, you contribute to that. There are so many families that would love to live in that house across the street from that apartment. Some people don't mind being near apartments. I don't mind living next to a taxi business and a preschool. I've got people parking in front of my house all the time. Everyone has different preferences. But ultimately that property owner sold out and made the best economic decision for them. Not every economic decision, and not every policy is a conspiracy. **Ann** we are citizens, and we have the right to come here. You represent us. When we see decisions being made over and over again for the developer, against regular citizens, and their neighborhood. We must question it. When I hear things and it doesn't sound right, I think we have the right to question it. We

should question it. **Wilkey** the SHD is probably the biggest example in the last few years, but I think it was passed many years ago. **Paul** I've been tracking the date of passage for different ordinances that have been amended. Particularly our zoning ordinance regulations since I started working here. I'm confident this has been on the books for 22-years. **Ann** that makes me happy. **Cox** why do you make everything a conspiracy? You can ask the question civilly and get your answer. We're tired of being disparaged. We're tired of being demeaned at every council meeting. ■**Jean Cecelia Lewis** my heart is afraid for the little children running in the road unsupervised at the soccer ball field at 655 South 300 West. Getting their balls, not looking to make sure the road is clear. I would like a sign installed that notifies motorists to slow down, children at play. Or reduce the speed in that area. I would like another sign across the street at South Gate Apartments where I live. The motorists zoom by and it's not safe. I don't want children to get hit. **Melling** that's where my daughter has soccer practice. It is tricky, especially 600 South. I know we've had a few fatalities there. **Paul** the speed limit is 25. **Jean** there aren't any speed limit signs there. **Melling** that area could benefit from restriping where the lanes are. ■**Christian Simmons** how do we fix the issue of slowing down the road of arguments? Theres a lot of back and forth going on. **Cox** there is a lot of divisiveness in the world. Most of it is based on misunderstanding and not actual knowledge. **Christian** I have seen it. This is bizarre. ■**Georgia Johnson** I'm with the Wood Family Legacy Project. The statue for George A. Wood is finished and paid for. **Mayor Green** it is beautiful. **Georgia** the Wood Family Legacy would like to have the statue placed in Main Street Park. The Wood family donated the park to the city. It was deeded to maintain that it will always be a park. We would like a pavilion over it to protect it. Frank Nichols has donated substantially to the pavilion. If we are denied, we have other options. We've worked with the Historic Preservation Commission. **Wilkey** how big would the pavilion be? **Georgia** 4x4 or 5x5. Just to cover the statue. We have a plaque ready, and we are considering doing additional plaques in the future. **Paul** this may need to be moved to a work meeting with a formal vote. I know of another party that would like a memorial in the park for someone they love as well. You might consider the broader scope. **Wilkey** it would be nice to hear from Ken Nielson in our parks department as well. **Melling** do you have a location in mind. **Georgia** yes, on Main and near Hermies, near the new announcement of the park. He would be facing the Depot. **Wilkey** how did we acquire the park, is there a deed restriction? **Georgia** yes there is, it's in my book. **Wilkey** I think that's important to know. ■**Sam Taylor** we have a house behind Lin's and we have another house up on the hill. The water, sewer, and trash bill changed. It used to be Xpress Bill Pay, then it went to Cedar, and then it went back to Xpress. None of the autopay transferred over when the billing went back to Xpress. I had some struggles with the autopay. I made a manual payment and then after that it said auto pay is active. I didn't worry about it after that. My wife's parents are living in the house up on the hill, and they get some of the bills. We got to looking at the bills and there's a bunch of penalties. I guess I picked the wrong date, I picked the first of the month. **Melling** it's usually due the 25th of the month. **Sam** I called and spoke with Coty and was told to come here to talk about the fees. I felt it was kind of unjust because when I received emails it doesn't say I have late charges, or anything about the bill. **Wilkey** the bill was getting paid every month, it was getting paid five days late. **Sam** yes. I have $64 in fees on one house, and about $30 on the other house. **Cox** you never occurred more than one months balance. **Sam** no. **Paul** the due date is fixed by ordinance. We don't have control over that. The ability to waive the fees is controlled by ordinance. Staff have some flexibility if there's a leak. Or certain circumstance. **Wilkey** so you've been accruing a late fee every month. **Sam** yes, but I didn't realize that because it was coming out automatically. You have autopay so you don't have to worry. Both accounts are on autopay. **Wilkey** does our system allow you to put the due date on something other than the actual due date? **Sam** I don't think I selected a date. I just put my information in and thought it was good. **Randall** it's a third party system. **Paul** council has the authority to waive the fees. Staff doesn't have that authority. **Melling** if there is a feature of our payment system that is misleading or misguiding our residents resulting in penalties, I would like to investigate this more. If there is a system issue I would be inclined to waive the fees. **Cox** I had the same thing happen to me when we switched back to Xpress. It's a common problem. **Mayor Green** it will be on the agenda next week. **Randall** can you go onto your autopay and change the date. **Sam** it's been changed by the billing department already. She changed it to the

5th to make sure the bill has been generated. **Randall** bills are not always generated by the 1st, so you were paying the previous month and not including the current month. **Paul** the bill is generated from when we read the meter. It's not a set date every month. **Cox** and it's a cycle of so many days. **Sam** we had a septic tank on the house on the hill, we came down and paid the impact fees to hook up the sewer because the septic tank was failing. Double S Plumbing called the City to locate the sewer line. They dug over half the day trying to locate the line. The Blue Stakes gentleman with the City came to help try and locate the line. The line ended up being 6-feet off from where it was marked. It ended up costing me much more money. **Melling** which part of the hill is this located? **Sam** Juniper Drive. **Melling** I had a friend on 1850 West with the same issue in the early 1990's, when a lot of that was developed. The builder ran a lot of the laterals across other properties. It's been a reoccurring issue that a lot of those laterals are not where they're supposed to be. **Sam** when I worked for a utility, if I located a power line like that I could have been killed. **Wilkey** yes. **Melling** who marks our lines? **Paul** we have a Blue Stakes employee that marks the water, sewer, and storm drain. Sometimes the storm drains doubles as an irrigation ditch. **Wilkey** how are the lines found, from deeded records? **Robbie Mitchell** we have some maps, usually they go manhole to manhole. The City is responsible for the main sewer line in the street. We don't mark laterals. Sometimes they can call Randy and he may have video from the manhole, and can tell them how many feet to the lateral. **Wilkey** Sir, is this in the street or in the rear of your property? **Sam** it's between two properties to the rear. **Wilkey** Robbie, in this case if there's not two manholes to draw a line in between, we have no idea where the lateral would be? **Robbie** unless we had video, we would have no idea where the line is. **Sam** I had to pay for them to snake the line to find it. Can the City help me out with that bill at all? It's frustrating that the line was not marked better. **Wilkey** come back next week you will be on the agenda to talk about the fees.

CONSENT AGENDA: (1) APPROVAL OF MINUTES DATED AUGUST 21 & 28 (ACTION) 2024; (2) RATIFY BILLS DATED AUGUST 30, 2024 ; (3) APPROVE A SINGLE EVENT ALCOHOL PERMIT WAREHOUSE BAR & KITCHEN TO HAVE A PARKING LOT PARTY ON SEPTEMBER 21ST. PEYTEN CRAWFORD/CHIEF DARIN ADAMS; (4) APPROVE A LOCAL CONSENT ALCOHOL LICENSE FOR SHOKU INC. DBA KABUTO SUSHI, 927 S. MAIN STREET. ALEX LIGNELL/CHIEF DARIN ADAMS; (5) APPROVE AN ACCESS EASEMENT FOR PROPERTY LOCATED AT APPROXIMATELY 725 NORTH 1300 WEST. COREY CHILDS/PAUL BITTMENN; (6) APPROVE A CHANGE ORDER TO AIP-049 FOR ELECTRICAL CHANGES TO THE AIRPORT TERMINAL PROJECT. TYLER GALETKA; (7) APPROVE DECLARING ITEMS AS SURPLUS PROPERTY. COREY CHILDS; (8) APPROVE PARTICIPATION IN THE 2400 N / I-15 INTERCHANGE / MAIN ST / I-15 UNDERPASS FEASIBILITY STUDY. KENT FUGAL: Councilmember Wilkey moved to approve the consent agenda items 1 through 8 as written above; second by Councilmember Melling; vote unanimous.

CONSIDER AN ORDINANCE CHANGING THE ZONE FROM RESIDENTIAL MULTIPLE UNIT (R-3-M) TO STUDENT HOUSING DISTRICT (SHD) FOR PROPERTY LOCATED AT APPROXIMATELY 350 S. DEWEY AVE. DAVID MINEER/PAUL BITTMENN:

Wilkey does the piece across the street have to be zoned the same as the apartment? Or can he leave it as R3M? **Randall** he can leave it as R3M, and the parking will be based on the use. **Wilkey** is he aware of that? **Melling** it's not a zoning issue, it's a financing issue. **Wilkey** he hasn't changed anything so the request is still to rezone that piece as well. I'm in favor of this. We have an SHD zone and I believe in following the plans that we've put together. I don't love off-premise parking, but that's a whole different discussion.

Councilmember Wilkey moved to approve the ordinance changing the one from R-3-M to SHD for property located at approximately 350 S. Dewey Ave; second by Councilmember Cox; roll call vote as follows:

Robert Cox	-	AYE
Tyler Melling	-	AYE
Ronald Riddle	-	AYE
Carter Wilkey	-	AYE

CONSIDER A RESOLUTION REVISING SECTION 4.2.1, DETAIL W1A, AND DETAIL W2 OF THE CITY ENGINEERING STANDARDS REGARDING HDPE PIPE. JONATHAN STATHIS: **Jonathan Stathis,** Senior Engineer – (Exhibit C) this was brought to city council, some meetings have been held since then. Several items came to light from those discussions. If we're going to propose three different materials, they need to be equitable. Those three pipes are ductal iron, PVC, and HDP. Ductal iron pipe, currently we only allow class 50. It's proposed that we add class 51 and 52. Those pipes have thicker walls, so it's a stouter pipe, and more expensive. Sometimes contractors can't get the class 50, this provides an opportunity to get a different class and still meet city specs. **Cox** the OD fittings are still the same, it's just the inside diameter that's different. **Jonathan** yes. The OD stays the same. PVC, in talking to the local contractors, was the trench conditions when the standard was written for PVC we were pretty conservative in how it was written. We wanted to make sure that we were getting the product that we want. We've had PVC installed in the city, and we've had good luck with it. The trench conditions can meet what's required for all other pipes, if it's in rocky soil then you have to dig down four inches below the pipe put in the bedding and then you can use your pipe's own material going up over the pipe. We feel like we can relax the bedding using three rather than four inches. Requiring straight sand, we can use 3/4 inch minus material which is what we allow for sewer pipe, so feel like that's that'll be a good change, to be consistent with all pipe having the same trench conditions. We're also looking at another proposal to increase the working pressure of C900 from 150 to 200 PSI which would be the same working pressure of HTP. This would open it up to allow PVC in more areas of the city. We tend to have high pressure in the northern part of the city, but it's typically less than 200 PSI. This would open up some of that area to allow PVC. We have some areas going west along Highway 56 that are very high pressure above 200 PSI, even some areas above 250 PSI. So, there may be some areas where it still won't be able to be used. We're proposing to increase the pipe diameter of C900 to 12-inch. We had some discussion about tracer wire, there was some talk about eliminating the caution tape. Talking to Robbie, he really feels like the caution tape is important, with the plastic pipe simply because it's a little bit more difficult to mark. **Wilkey** so, you would wrap and run a piece of caution tape along the top of the pipe so if somebody's digging hopefully they'll find the tape before they hit the pipe. **Jonathan** yes, usually the caution tape is above the pipe about 12 to 18-inches. **Wilkey** you back fill the first foot of the pipe; you hit the tape and realize the pipe is down there. **Cox** if we're going to do that, why not just use tracer wire? It's inexpensive and saves thousands of dollars. **Melling** you do both. **Mayor Green** we do both. One is on the pipe and the other is a foot higher, so you see it before you break it. **Jonathan** The only change we're proposing here is that the tracer wire gets attached to the pipe. We're proposing to change it from being attached every 10-feet to every 20-feet which. We looked at the storage of C900, the one thing you worry about with PVC pipe is having it sit out in the sun. It can get sunburned and lose its strength. We had in there that it had to be a climate-controlled building which we felt like was maybe a little too much. If it is stored out of the sun, we feel like that's enough to protect the pipe. We have some strict inspection requirements, we felt like we should leave those in there because we need to have that oversight. There was some discussion about if a piece of PVC or HTP gets a scratch or a gouge in it, what's the tolerance. In the literature it says, if it's more than 10% of the wall thickness then it should be rejected or cut out and replaced. So, that's what we're proposing. **Riddle** there are some measurable criteria for rejecting a piece of pipe. **Jonathan** we want to make sure that the pipe going in is going to last for a very long time. We looked at contractor education and certification. We currently have some requirements for certification for PVC, it's been somewhat difficult to enforce. PVC is so similar to ductal iron in terms of how it gets installed, we feel it's not something that we have to require. We can certainly encourage it. HDPE is a different story, because it's a very different process in terms of how it's installed with the fusing that's required.

We feel like that should require the certification to make sure it's fused properly. With HDPE we're proposing the same trench conditions for PVC which would be across the board. The working pressure would be 200 PSI, which would be the same as PVC. **Melling** isn't HDPE more tolerant of higher pressure. Couldn't you allow it for transmission lines that had 300 PSI? What's it rated for? **Mayor Green** it's not. We're specifying DR11 for this pipe and it's 200 PSI rating. The bursting point on that pipe is three times its rating. If you were to load it up till it bursts, it bursts at about 600 pounds. It doesn't burst on the joint, it bursts in the pipe. The joint's stronger than the pipe. The DR11 is a good call. **Jonathan** The inspection of the HDPE, if it gets a scratch or a gouge that's more than 10% of the wall thickness, it would be rejected. You can use mechanical joints with HDPE, we found out from Jeff Green that you have to put a stiffener into the end of the HDPE pipe to make sure that it holds its shape. the restraining device, the claws that hold it, when you're transitioning from HDPE to something else. **Jonathan** the stiffener goes on the inside. Pipeline identification, HDPE comes with, or without a stripe. We're calling out a blue stripe for culinary water, and purple for reclaimed or affluent water. **Wilkey** when the pipe is ordered, it will need to be ordered with the correct color striping? **Jonathan** yes. I removed the striping width because it varies based on the size of the pipe. I removed the requirement to store HDPE pipe in a shaded area because it's not subject to sunburn like PVC. Pressure testing, sometimes when pipelines are pressure tested, the chlorination is also done at the same time as the pressure test. It's not recommended to do that with HDPE pipe where it is subject to chlorine. I'm recommending that the pressure testing not be allowed at the same time the chlorination is done with HDPE pipe. It would be two separate things that the contractor needs to do. We are proposing contractor education for HDPE pipe. **Riddle** couldn't an excavation plumbing contractor use that as their two-year education. **Jonathan** yes. The continued education. **Mayor Green** other cities do that they give them a card that certifies them. It doesn't mean somebody can't do the work; it just means that we're going to have to inspect it. I think it's valuable to us to set up that training. **Jonathan** polypipe water laterals, the city has required copper for a long time, a few years ago when the revisions were made the council voted to allow poly water laterals. Poly laterals can be used with ductal iron pipe up to 250 PSI. It can be used in slightly higher pressure areas and you can use it with all the pipes. **Mayor Green** we shouldn't be using coper. **Wilkey** Robbie, are you good with all this? **Robbie** yes. **Mayor Green** I'm also good with this.

Councilmember Wilkey moved to approve the resolution revising Section 4.2.1, Detail W1A and Detail W2 of the City Engineering Standards regarding HDPE pipe; second by Councilmember Cox; vote as follows:

AYE: 4
NAY: 0
ABSTAINED: 0

ADJOURN: Councilmember Wilkey moved to adjourn at 7:15 p.m.; second by Councilmember Riddle; vote unanimous.

Natasha Nava

Natasha Nava, Executive Assistant

EXHIBIT "A"
CITY COUNCIL – SEPTEMBER 11, 2024

Proclamation

WHEREAS: *The Constitution of the United States of America, the guardian of our liberties, embodies the principles of limited government in a Republic dedicated to rule by law; and*

WHEREAS: *September 17, 2024, marks the two hundred and thirty-seventh anniversary of the framing of the Constitution of the United States of America by the Constitutional Convention; and*

WHEREAS: *It is fitting and proper to accord official recognition to this magnificent document and its memorable anniversary, and to the patriotic celebrations which will commemorate it; and*

WHEREAS: *Public Law 915 guarantees the issuing of a proclamation each year by the President of the United States of America designating September 17 through 23 as Constitution Week,*

NOW, THEREFORE I, *_____Garth Green_____ by virtue of the authority vested in me as (Mayor) of the City of Cedar City do hereby proclaim the week of September 17 through 23 as:*

CONSTITUTION WEEK

and ask our citizens to reaffirm the ideals the Framers of the Constitution had in 1787 by vigilantly protecting the freedoms guaranteed to us through this guardian of our liberties.

IN WITNESS WHEREOF*, I have hereunto set my hand and caused the Seal of Cedar City to be affixed this ____9th____ day of September in the year of our Lord two thousand twenty four.*

Signed Garth Green

SEAL Attest _____

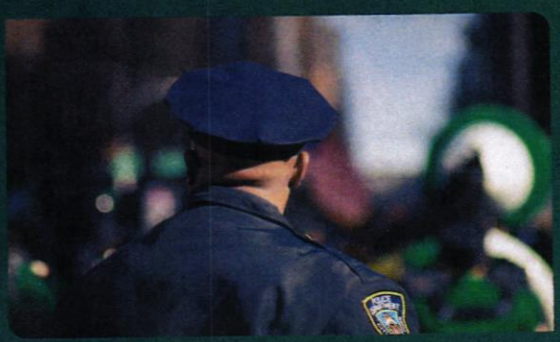
flock safety

Shape a safer future, together

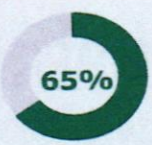
2024 | CEDAR CITY, UT

flock safety

The policing paradox: fewer resources, higher stakes



Agencies reporting more resignations in 2022 than 2019



Agencies report having too few sworn officer candidates[2]

↑ 29%

Motor Vehicle Thefts are up YoY □ 2022□ 2023□[3]

↓ 8.8%

Violent crime clearance rates down since 2019[4]

Sources: 1 2 3 4

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What we observe
The current reality

- Limited police resources
- Crime continues to hurt communities
- Trust is needed more than ever

What we believe
The opportunity

- Technology multiplies the force
- Protect first responders and the community using technology
- Collect and distribute objective evidence to the right user
- Engage community to support and grow

The Flock Safety Platform

Detect


· Falcon®


· Raven®


· Condor


· Wing®

Capture evidence with Flock Safety devices and third-party infrastructure

Decode

- Real-Time Routing
- Vehicle Fingerprint® Search
- Convoy Analysis
- Visual Search
- Gunshot Localization
- Fireworks
- Multi-Geo Search

Make sense of mountains of evidence instantly with AI

Deliver

- Search
- Mobile App
- Actionable Insights
- Situational Awareness
- Map
- Real-time Alerts
- License Plate Lookup

Get the right evidence into the right hands at the right time with FlockOS®

Capture more evidence. Solve more crime.

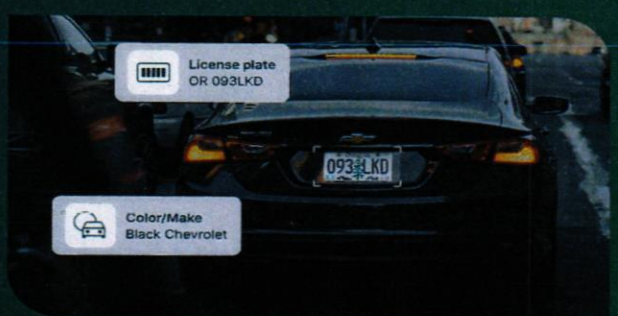
LPR

Falcon

flock safety

With Flock Safety, you get:

Flock Safety provides your police department with indiscriminate evidence from fixed locations. We provide all of the maintenance so that your police department and city staff can focus on keeping your city safe and prosperous.



INFRASTRUCTURE-FREE

Reduce time to value and utility costs with full-service deployment.

24/7 COVERAGE

Capture objective vehicle data around the clock to multiply your force.

REAL-TIME ALERTS

- NCIC
- NCMEC (AmberAlert)
- Custom Hot Lists

ETHICALLY BUILT

- No people
- No facial recognition
- No speed tracking
- Indiscriminate evidence

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Proactive policing with real-time alerts

Your police officers can receive SMS, email, and in-app alerts when vehicles entered into the FBI's NCIC, NCMEC (Amber Alerts), or custom Hot Lists pass by a Flock Safety camera in your community.

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What Vehicle Fingerprint® technology identifies

Flock's machine learning technology allows officers to search vehicles based on unique vehicle criteria, time, and location — objective, investigative evidence.

INCLUDING

- Vehicle make
- Body type
- Color
- Back racks
- Top racks
- License plates
  - Temporary tags
  - State recognition

flock safety

What this is:

- License Plate Recognition (LPR)
- Gathers objective evidence and facts about vehicles, not people
- Alerts police of wanted vehicles
- Used to solve crime
- Adheres to all state laws

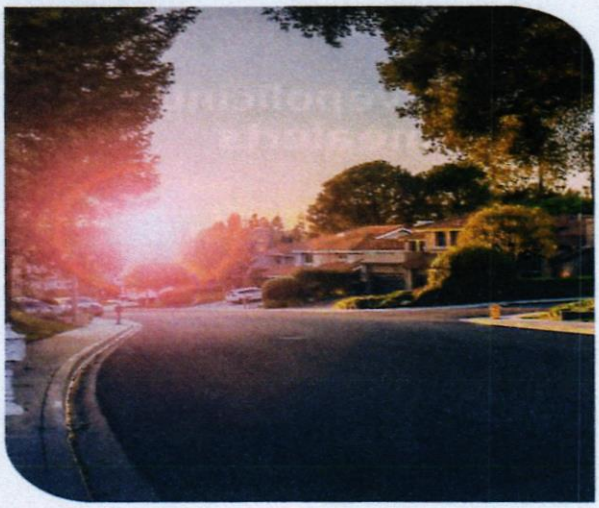
What this is not:

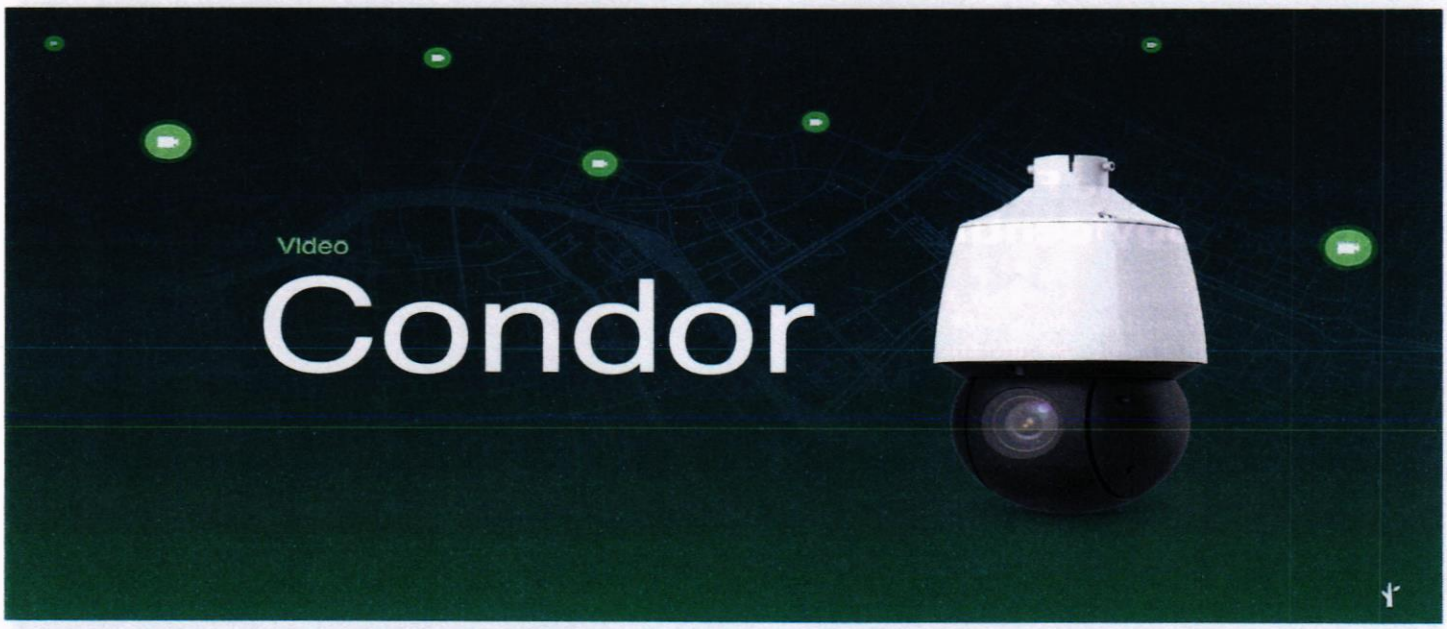
- Not facial recognition
- Not collection of biometric or sensitive information
- Not used for tracking speed or parking violations
- Data automatically deletes every 30 days

How does this technology deter and eliminate crime?

- **Proactive:** Real-Time Alerts when stolen or wanted vehicles enter your city
- **Investigative:** As clearance rates increase, overall crime often decreases
- Flock cameras serve as a **deterrent**

flock safety





flock safety

Instant eyes on the scene for better response and officer safety

Improve situational awareness and case clearance without procuring, installing, or maintaining your own live and recorded cameras.

NO IT REQUIRED
100% cloud-based, so no IT or servers needed.

BE PROACTIVE
Proactive camera monitoring + service. No more reactive fixes.

SOFTWARE INCLUDED
Hardware, cellular, and VMS software included via FlockOS®.

REMOTE CONTROL
Remote PTZ controls for situational awareness from a safe distance.

Flock Safety Condor™

Condor PTZ

Turnkey live and recorded video with remote PTZ controls. Ideal for open areas like intersections and parks.

Flock Safety Condor cameras include:

- ✓ Cellular Backhaul
- ✓ 25X Optical Zoom
- ✓ High-Quality Night Imagery
- ✓ Edge Storage
- ✓ Procurement
- ✓ Permitting
- ✓ Installation
- ✓ Maintenance
- ✓ Data Storage + Retention

Condor Fixed

Turnkey live and recorded video with remote zoom controls. Ideal for buildings, city streets, and areas that require constant recording.

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What this is:

- Situational awareness through objective video evidence
- Encrypted data stored on device and in the cloud
- Accessible via auditable search
- Used to solve crime and maintain officer / citizen safety

What this is not:

- Not facial recognition
- Not collection of biometric or sensitive information
- Data automatically deletes every 30 days
- Not unlimited, continuous monitoring

A Trusted Partner

flock safety

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Protectingprivacy

- Footage owned by Agency/Cityand will never be sold to private third parties by Flock
- 30-day data retention,then automaticallyhard deleted
- Takes human bias out of crime-solving by detecting only objective data
- All data is stored securely with end to end encryption of all data

Accountabilitymechanisms

- Search reason and user number saved in indefinitely-available audit trail
- NOT facial recognitionsoftware, NOT collecting biometric information
- NOT used for parking enforcement or tolls
- Not connected to registrationdata or 3rd party databases □ Carfax,DMV□
- Transparency Portal (free and optional)

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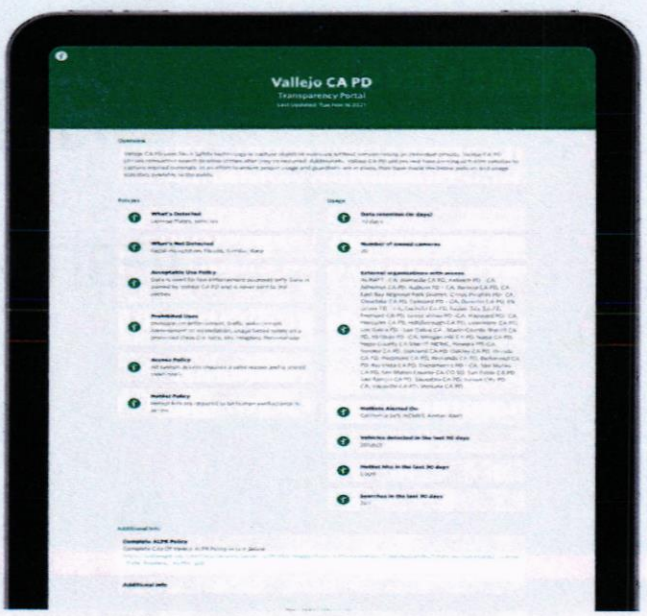
Transparency & Insights

Measure ROI and promote the ethical use of public safety technology

TransparencyPortal
- Customizablefor each agency
- Display technologypolicies
- Publish usage metrics

InsightsDashboard
- Measure crime patternsand ROI
- Audit Search history

Examples
- [redacted]
- [redacted]



Solve crime, we'llhandlethe rest

Our dedicated team provides rapid, full-service deployment.Your police officers focus on solving crime and protectingthe community.

Withinthe Flock Safety annualsubscription:

- Solar power
- Installation + Ongoing Maintenance
- Hardware Procurement + Permitting
- User Training
- Data storage
- Software Updates

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Already solving and preventingcrime

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Flock Safety InUtah

30+ law enforcementagencies, including:

- South Salt Lake City PD
- Ogden PD
- Provo PD
- Brigham Young University PD

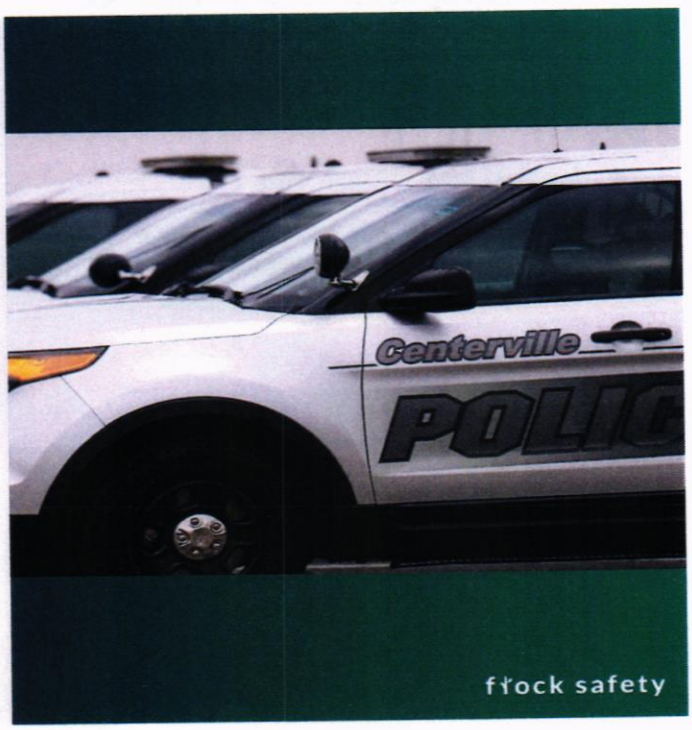
NEWS > CRIME

Registered sex offender attempted to kidnap 3-year-old in South Salt Lake, police say

Case Study - DomesticViolence

Centerville PD □ Centerville, UT

- → Officers responded to reports from a woman stating that she had been choked and attacked inside a vehicle.
- → The victim gave a officers a descriptionof the suspect's vehicle, which officers entered into their Flock Safety LPRs.
- → Officers soon received an alert that the vehicle had been detected in Ogden.
- → Weber County Sheriff's deputies then located and arrested the suspect, who was charged with domestic violence and aggravated assault.



Case Study - Connected Burglaries

Centerville PD □ Centerville, UT

- Officers received an alert that a vehicle stolen from the University of Utah campus had been detected in the area.
- Authorities knew that same vehicle was allegedly involved in five separate business burglaries across multiple jurisdictions.
- Officers responded to a nearby motel where they arrested one suspect and recovered stolen property.
- A short time later Summit County Sheriff's Deputies located the vehicle, arrested the driver, and recovered stolen property inside the vehicle.
- Both suspects are facing multiple charges including theft and check fraud.

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Case Study - Hit-and-Run

Centerville PD □ Centerville, UT

- Officers responded to reports of a hit-and-run. They reviewed nearby surveillance camera footage and developed a suspect vehicle description.
- After entering the description into their Flock Safety LPRs, officers received an alert that the vehicle had been detected in North Salt Lake on the same road as and minutes before the accident occured.
- Suspects were charged with:
  - Driving a vehicle without insurance
  - Driving on a suspended driver's license
  - Leaving the scene of an accident

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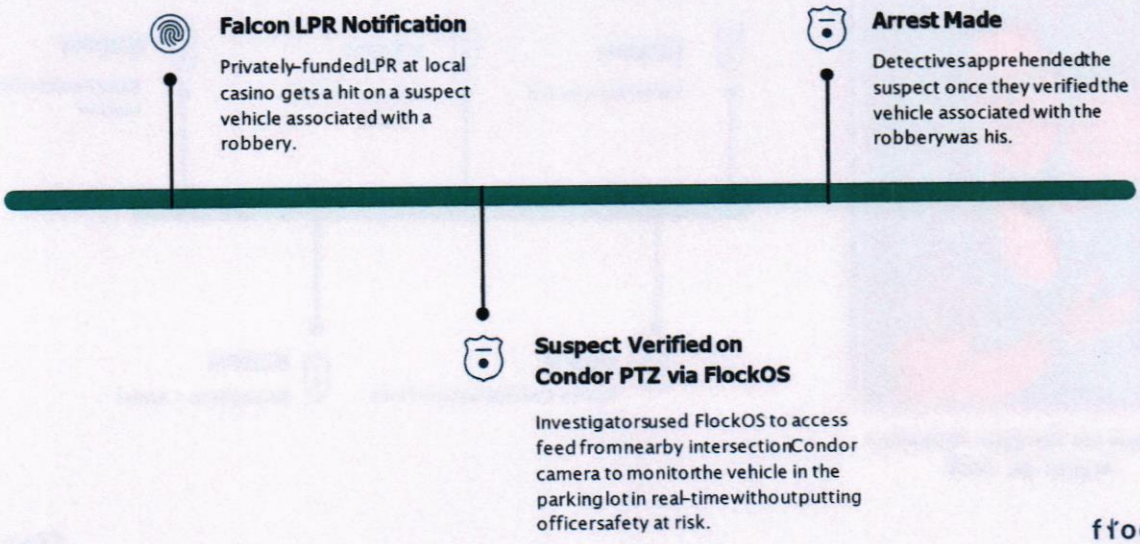
Citrus Heights PD solves serial bank robbery and protects officers with privately-funded cameras and FlockOS®



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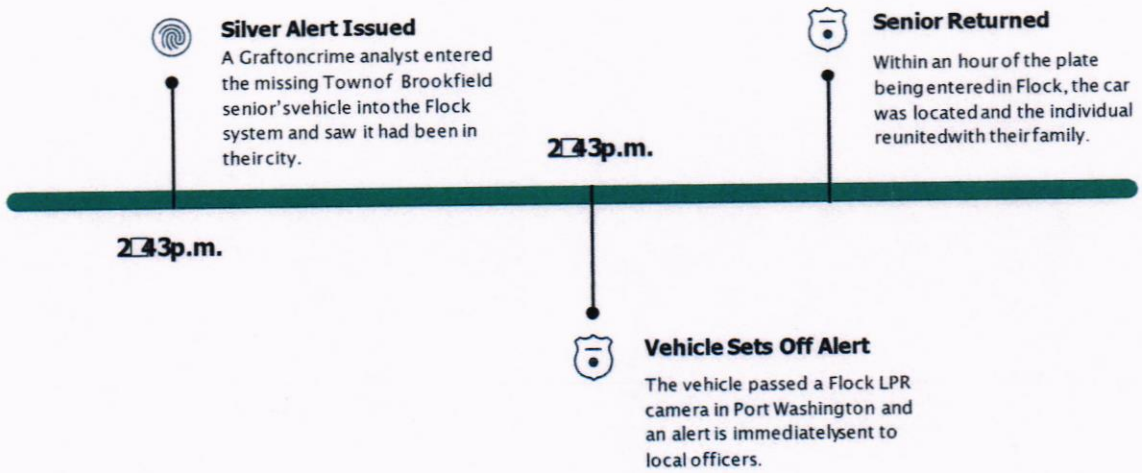
Missing, Endangered Senior Found in 15 Minutes

Port Washington PD □ Port Washington, WI



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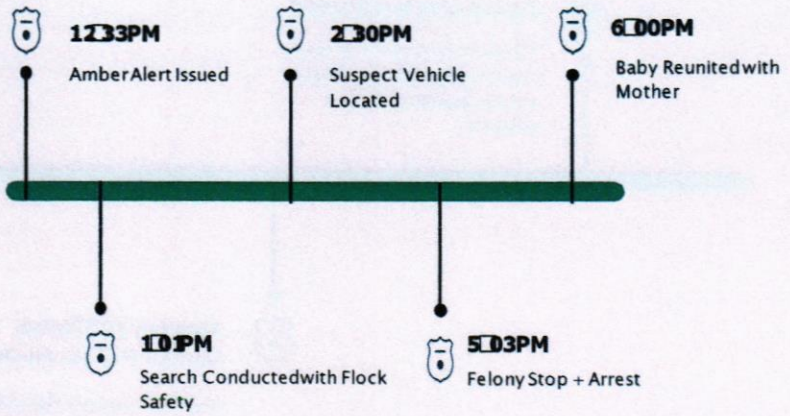
When Every Second Matters: Child Abduction

Chamblee PD □ Chamblee, GA

Stranger on Stranger Abduction
August 28, 2020



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CEDAR CITY

~~**ORDINANCE 23-1129-3**~~ Passed by Resolution on Sept. 11, 2024

NOW THEREFORE, be it ordained by the City Council of the Cedar City, in the State of Utah, as follows:

SECTION 1: **AMENDMENT** "4.2.1 MATERIALS" of the Cedar City Engineering Standards is hereby *amended* as follows:

AMENDMENT

4.2.1 MATERIALS

This section specifies acceptable pipe and accessories for public sanitary sewers, underground culverts, storm drains, and water pipe construction within Cedar City. The materials used for pipe and fittings shall be new and shall conform to the requirements for class, brand, size and material as specified.

(1) Sewer Pipe: Only those pipes listed below may be used in the construction of sanitary sewer lines in Cedar City.

a. P.V.C. Plastic Sewer Pipe: This Specification covers rigid polyvinyl chloride pipe and fittings, hereinafter called PVC fittings. PVC pipe and fittings from 4 inches to 15 inches in diameter shall meet or exceed all of the requirements of ASTM Specification D 3034 with a minimum wall thickness to diameter ratio of SDR-35. PVC pipe and fittings from 18 inches to 27 inches in diameter shall meet or exceed the requirements of ASTM F 679.

Each pipe used shall have a manufacturer's stamp on it indicating that it complies with the requirements of the appropriate specification. Any pipe not so stamped shall be rejected.

All pipe shall be homogeneous throughout and free from cracks, holes, foreign inclusions or other defects. All PVC sewer pipe shall be made from clean, virgin, Type 1, Grade 1, Polyvinyl Chloride conforming to ASTM Resin Specification D 1784.

All pipe joints shall be bell and spigot type with rubber ring gasket to permit expansion and contraction. Pipe and fittings shall be assembled with a non-toxic lubricant. Pipes of 4-inch and 6-inch diameter may be the solvent weld type. Pipe shall have the following minimum SDR-35 dimensions:

NOMINAL PIPE SIZE (INCHES)	OUTSIDE DIAMETER	MINIMUM WALL THICKNESS (INCHES)

	(INCHES)	
4	4.215	0.125
6	6.275	0.180
8	8.400	0.240
10	10.500	0.300
12	12.500	0.360

Spigot ends shall have a 15° tapered end with a memory mark around the diameter of the pipe to indicate proper insertion depth.

b. A.B.S. Composite and Solid Wall Sewer Pipe: This specification covers Acrylonitrile-Butadiene-Sturine (ABS) gravity sewer pipe. All ABS composite sewer pipe shall conform to the latest revision of ASTM Specification D 2680. The ABS material used shall be a virgin rigid plastic conforming to ASTM Specification D 1788 for rigid ABS plastics. The other component shall be Portland Cement, Perlite concrete, or other inert filler material exhibiting the same degree of performance.

   All solid wall ABS pipe shall conform to ASTM Specifications D 2751. Solid wall pipe used for laterals shall have a minimum wall thickness to diameter ratio of SDR-35. Fittings not described by these standards shall be shop fabricated or molded from materials listed in Paragraphs 4 and 5 of ASTM D 2680 and shall be of equivalent quality to those described.

   All field joints shall be chemically welded. Primer, then cement, shall be applied liberally to the outside of the spigot end and the inside of the coupling immediately prior to stabbing the pipe together. The pipe spigot end shall be supplied with home marks to assure proper jointing.

c. Ribbed PVC Pipe: Ribbed PVC sewer pipe (Ultra Rib by Uponor ETI or equal) may be used on all sanitary sewers and storm drains greater than 12-inch diameter when approved by the City Engineer. All ribbed pipe shall be seamless open profile and meet the requirements of ASTM F794 and Uni-Bell Uni-B-0. Pipe shall have a smooth interior with a solid cross-sectional rib exterior. Exterior ribs shall be perpendicular to the axis of the pipe to allow placement of the sealing gasket without additional cutting or machining. The pipe stiffness shall be a minimum of 46 psi when tested at 5% deflection in accordance with D2412. Pipe shall be green or white in color. The filler material used in the pipe (calcium carbonate) shall not exceed 10% by volume.

d. Sewer Pipe Fitting: All sewer and storm drain pipe fittings including service lateral connections, tees, repair couplings, etc., shall be of the same material and thickness class as the main pipe. Flexible couplings (i.e. Fernco Couplings) or cast in place concrete collars will not be allowed.

(2) Storm Drain Pipes: All pipes listed under section 4.2.1(1) "Sewer Pipes" of these

standards as well as the following pipes may be used in the construction of storm drain lines and culverts in Cedar City.

a. Non-Reinforced Concrete Pipe: Non-reinforced concrete sewer pipe may be used for storm drains up to and including 24-inch size unless otherwise specifically designated in these Standards or on the approved Drawings. Pipe shall be extra strength pipe manufactured to comply with the requirements as set forth in ASTM Designation C 14, Class 3 unless otherwise approved by the City Engineer. Joints shall be of the bell and spigot with rubber gasket design, and with joints and gaskets conforming to the requirements of ASTM Designation C 443. Pipe joints shall be so designed as to provide for self-centering, and when assembled, to compress the gasket to form a watertight seal. The gasket shall be confined in a groove on the spigot so that pipe movement or hydrostatic pressure will not displace the gasket.

b. Reinforced Concrete Pipe: Reinforced Concrete Pipe shall be used for all storm drains using concrete pipe greater than 24 inches in diameter. Reinforced concrete pipe shall comply with the requirements of ASTM C 76 (Class II) unless otherwise approved by the City Engineer. Joints shall be of the bell and spigot design with rubber gasket type joints for storm drains, with an alternate option of tongue and groove mortar joints for elliptical pipe when approved by the City Engineer.

c. Corrugated Polyethylene Pipe: Corrugated Polyethylene pipe shall be high-density polyethylene corrugated exterior/smooth interior pipe. 12 to 24-inch diameters shall conform to AASHTO M 294 Type S, or ASTM F 2306. Materials shall conform to ASTM D 3350. All pipe joints, gaskets, and fittings shall be water tight according to ASTM F2306, F477 and D 3212 and conform to AASHTO M294, and shall be approved by the City Engineer. Corrugated Polyethylene pipe shall not be used for any pipes larger than 24-inches. If cover over Corrugated Polyethylene pipe is less than 1 foot use flowable fill for backfill.

d. Corrugated Polypropylene Pipe: Corrugated Polypropylene pipe shall be ADS HP (High Performance) Storm Pipe corrugated exterior/smooth interior pipe, or approved equal. Corrugated Polypropylene pipe may be used for storm drain pipes greater than 24 inches in diameter as an alternative to Reinforced Concrete Pipe. The maximum allowable pipe diameter for Corrugated Polypropylene pipe is 60 inches. Corrugated Polypropylene (PP) pipe shall be smooth interior and annular exterior corrugated polypropylene (PP) pipe meeting the requirements of ASTM F2881 or AASHTO M330, Type S, for respective diameters. The pipe supplied shall be watertight as defined in the joint performance requirements of the manufacturer's specifications. Virgin material and fitting production shall be an impact modified copolymer meeting the material requirements of ASTM F2881 and AASHTO M330, for respective diameters. Watertight joints shall be bell-and-spigot meeting the watertight requirements of ASTM F2881. Gaskets shall be made of polyisoprene meeting the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to

ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly. Corrugated Polypropylene pipe shall be installed according to manufacturer's recommendations and Cedar City Engineering Standards.

(3) Sewer Manholes: This section covers the requirements for the materials used in sanitary sewer and storm water manholes. Manholes shall be watertight and be furnished complete with cast iron rings and covers as follows:

a. Concrete Bases: Manhole bases shall be pre-cast. Cast-in-place manhole bases will only be allowed if approved by the City Sewer Collections Division. The concrete shall conform to the requirements of Section 4.4 of these Standards.

Where sewer lines pass through or enter manholes, the invert channels shall be smooth and semi-circular in cross section. Changes of direction of flow within the manholes shall be made with a smooth curve with the longest radius possible. The depth of the channel in the manhole base shall be the full diameter of the sewer pipe being used at that manhole. The floor of the manhole outside the flow channels shall be smooth and slope toward the channel at not less than one-half inch per foot or more than one-inch per foot.

b. Wall and Cone Sections: All manholes shall be constructed of either 48-inch or 60-inch inside diameter pre-cast, sectional, reinforced concrete. Both cylindrical and taper sections shall conform to all requirements of ASTM Designation C 478 for pre-cast reinforced concrete manhole sections and shall have ladders according to the standard drawings. Throat sections of manholes shall be adjustable by use of appropriate diameter pipe sections up to 18 inches in height. The taper section shall be a maximum of 3 feet in height, shall be of eccentric conical design, and shall taper uniformly from 48 or 60 inches to 30 inches inside diameter. Cones shall be set on the manhole sections so that the top opening of the cone is centered over the centerline of the sewer. Sixty-inch inside diameter sewer manholes shall be required for all sewers greater than 18 inches in diameter or deeper than 12 feet, or where 3 or more 8-inch or greater lines converge in the manhole. The base section of the manhole shall be furnished in section lengths of 1, 2, 3, and 4 feet as required. All joint surfaces of pre-cast sections and the face of the manhole base shall be thoroughly cleaned prior to setting the sections. Joints shall be sealed with a one-inch flexible joint sealant, which shall conform to the requirements of ASTM C 923.

c. Water-Tightness: Water-tight concrete shall be required in all concrete manholes. Any cracks or imperfections developing at any point in the work shall be satisfactorily repaired. Materials and methods used shall be subject to approval of the City Engineer.

d. Iron Castings: All iron castings shall conform to the requirements of ASTM A 48 (Class 30) for gray iron castings. Frames and covers shall have a minimum combined weight of 402 pounds. The cover and ring seat shall be machined so that the entire area of the seat will be in contact with the cover, in any position of the cover on the seat. Frames and covers shall be so constructed

and machined that the parts are interchangeable. The tops of the cover and frames shall be flush, and the clearance between the frame and cover shall be 1/8 of an inch all around. The top surface of each cover shall be cast with a ribbless cross hatch design including the word "Sewer". Letters and design shall be recessed 1/4". Each cover shall be provided with not less than twelve ventilating holes of 3/4-inch diameter each. All manhole frames shall be carefully set to the finished grade or as directed by the City Engineer. Manhole frames shall be set in place on the manhole throat and shall be sealed with an approved flexible joint sealant that shall conform to the requirements of ASTM C 923. Frames or covers loosened from the manhole throat shall be reset and any frames, covers or throat sections damaged or broken, shall be replaced prior to acceptance by the City.

e. Manhole Steps: Manhole steps shall be constructed in accordance with the drawing "Manhole for Sanitary & Storm Sewer" as shown in the standard drawings of these standards and shall be similar in construction to the manhole step as manufactured by M.A. Industries, Inc., of Peachtree City, Georgia. The steps shall be constructed of number four (one-half-inch diameter) grade 60 reinforcing steel bars bent and embedded in Copolymer Polypropylene Plastic. The Copolymer Polypropylene Plastic, used to embed the reinforcing bars in, shall conform to the requirements of ASTM 214, Type II grade 43758, and the reinforcing bar shall conform to the requirements of ASTM A 615. Manhole steps shall be installed at intervals not to exceed 16 inches between steps, be firmly cast into the concrete wall and taper sections of all manholes to a minimum depth of 3-3/8 inches, as shown in the drawings, and form a solidly anchored step which will not pull out or break under repeated use.

(4) Water Pipe and Fittings: The materials used for pipe and fittings shall be all new and shall conform to the requirements for class, brand, size and material as specified. A copy of the manufacturer's installation recommendation for each kind of pipe shall be provided to each foreman prior to construction. These recommendations shall be followed during construction. All pipe materials are as follows:

a. General Pipe Requirements: Pipe materials shall conform to the following:

SIZE	TYPE
3/4" – 1"	Copper Type K or SDR-9 poly pipe CTS (copper tubing size) allowed under certain conditions
1 1/2" – 2"	Rigid Copper Type K (sweat fittings) or SDR-9 poly pipe CTS (copper tubing size) allowed under certain conditions
Over 2" – 8"	Ductile Iron Class 50 or PVC C900 DR-18 (Pressure Class 235 psi) allowed under certain conditions
4" - 8"	HDPE PE4710 DIPS DR-11 (Pressure Class 200 psi) allowed under certain conditions

Over 8"	Ductile Iron Class 50 or HDPE PE4710 DIPS DR-11 (Pressure Class 200 psi) allowed under certain conditions

b. Connection Water Meters: Only authorized employees of the City Water Department shall be allowed to connect or disconnect water meters. All boxes set in concrete shall be flanged to prevent settlement. **NOTE**: Where these Standards refer to AWWA Standards, a copy of these standards is available for review at the Cedar City Water Department

c. Ductile Iron Pipe: All ductile iron pipe shall be Class 50, 51, or 52 conforming to the latest edition of AWWA Specifications C-151 (ANSI A21.51). Pipe and accessories shall be gauged at sufficiently frequent intervals to insure that dimensions are in accordance with Table 51.3 and 51.4 of AWWA Specifications C-151-76 for the gauge in accordance with the Standard Dimensions. The inside diameters of the sockets and the outside diameters of the spigot ends shall be tested with circular gauges. Unless otherwise specified, all Ductile Iron Pipe furnished under these Standards shall be designed in accordance with AWWA Specification C-150-76 "American National Standard for the Thickness Design of Ductile Iron Pipe." The maximum allowable variation with the standard pipe thickness shall not be more than those shown in table 4.1 and note: **TABLE 4.1 DUCTILE IRON PIPE TOLERANCE**

PIPE DIAMETER (INCHES)	MINUS TOLERANCE (INCHES)
3-8	0.05
10-12	0.06
14-42	0.07
48	0.08

Note: An additional tolerance of 0.02 inches shall be permitted over areas not exceeding 8 inches in length.

1. Physical and Mechanical Properties: The Ductile Cast Iron Pipe shall conform to all requirements of the ANSI Specification A21.51. The physical properties shall not be less than 60-42-10.

   Each pipe shall be subjected to a hydrostatic test of not less than 500 psi. The test may be made either before or after the standard outside coating and bituminous inside coating have been applied, but shall be made before the application of a cement lining or of a special lining.

   The pipe shall be under the full test pressure for at least ten seconds. Any pipe that leaks shall be rejected.
2. Marking: Each pipe shall be legibly marked "Ductile". The weight, a

manufacturer's mark, and the year in which the pipe was produced shall be cast or marked on the pipe.

3. Inspection: The manufacturer shall establish the necessary quality control and inspection practice to assure compliance with these standards. The manufacturer shall, if required by the City Engineer, furnish a certified statement that the inspection and all the specified tests have been made and the results thereof comply with the requirements of these standards. When the City Engineer desires to inspect the pipe at the manufacturer's plant, the City Engineer will so specify and state the extent of the inspection. The City's inspector shall have free access to those parts of the manufacturer's plant that are necessary to assure compliance with these standards. The manufacturer shall provide the inspector with assistance to handle pipe as may be necessary.

4. Rejection of Pipe: At least one tensile and one impact sample shall be taken during each casting period of approximately three hours. Samples shall be selected to properly represent extremes of pipe diameters and thicknesses. If the results of any physical acceptance test fails to meet the requirements of these standards, all pipe cast in the same sampling period shall be rejected. The manufacturer may determine the extent of rejections by making similar additional tests of pipe until the rejected lot is bracketed (in order of manufacturer) by an acceptable test at each end of the period of question. When pipe of one size is rejected from a sampling period, the acceptability of pipe of different sizes from the same period may be established by making the routine acceptance test for these sizes.

5. Joints: Ductile Iron Pipe shall be either Mechanical Joints, Rubber Gasket Slip-on Joints, Flanged Joints, or a combination of the above as specified on the plans.

    i. Mechanical Joints: Mechanical joints and the rubber gaskets and lubricant for Ductile Iron Pipe shall comply with the requirements and be dimensioned in accordance with the latest edition of AWWA specifications C-104, C-110 and C-111.

    Bolts and rubber gaskets shall be furnished with mechanical joint pipe in sufficient quantity for the amount of pipe ordered.

    ii. Rubber Gasket Slip-On Joint: Rubber gasket slip-on joints, and the rubber gaskets and lubricant for Ductile Iron Pipe shall comply with the general requirements of AWWA C-151 and C-111. Rubber gasket slip-on joints shall be designed for assembly by pre-positioning of a single continuous molded rubber ring gasket in an annular recess in the pipe socket to form a positive seal. The plain end of the pipe shall be

suitably beveled to facilitate assembly. The design and shape of the gasket, and the annular recess therefore, shall be such that the gasket is locked in place against displacement as the joint is assembled. The gasket shall provide adequate compressive force between the plain pipe end and the socket after assembly to effect a positive seal under all combinations of joint and gasket tolerances. Details of the joint and rubber ring gasket design and assembly shall be in accordance with the pipe manufacturer's standard practice. The pipe supplier shall furnish the City Engineer detailed drawings in quadruplicate showing the design of the joint prior to casting said pipe. The design of the joint shall be subject to the approval of the City Engineer. The recess in the pipe socket for the rubber ring shall be free of all coating materials and sand pits. Rubber gaskets and lubricant shall be furnished with rubber gasket joint pipe in sufficient quantity for the amount of pipe ordered.

iii. Flanged Joints: Cast iron pipe flanges, and bolts and nuts therefore, shall be dimensioned in accordance with ANSI B-16.2 for Class 200. Threads for screw-on flange pipe shall comply with ANSI B-21. Flange bolts, nuts and gaskets shall be furnished with flange joint pipe in sufficient quantity to make each joint for the pipe ordered. Flanged fittings and spools shall conform to AWWA C-104, C-110 and C-115.

6. Lining and Coating: The waterway surfaces of all Ductile Iron water pipe and fittings shall be completely covered with a uniform thickness of cement-mortar which shall be further covered with a bituminous seal coat, all in accordance with AWWA C-104. The bituminous seal coat may be omitted if the cement lining is given a 7-day water cure during which the lining is kept consistently damp. Ductile Iron Pipe or Fittings lined in the field will not be accepted as conforming to AWWA C-104. The outside surface of all Ductile Iron Pipe for general use under all normal conditions shall have a bituminous coating of coal tar primer approximately 1 mil thick, unless otherwise specified. The finished coating shall be continuous and smooth. It shall be neither brittle when cold, not sticky when exposed to the sun, and shall strongly adhere to the pipe.
7. Polyethylene Wrapping: A polyethylene wrap will be required on all ductile iron pipe laid in corrosive soils. The polyethylene wrap tubing shall be cut to provide for a minimum of one foot of lap over both the adjoining pipes. The ends of the tubing shall be wrapped using three circumferential turns of plastic adhesive tape. The loose wrap on the barrel shall be pulled snugly around the barrel of the pipe and the excess folded over at the top. This fold shall be held in place by

means of six-inch strips of plastic tape placed at intervals of three feet along the pipe barrel. Bends, reducers, and offsets shall be wrapped in the same manner as the pipe. Valves shall be wrapped by bringing the tube wrap on the adjacent pipe over the bells of the valve and sealing with adhesive tape. The valve bodies shall then be wrapped with flat sheets passed under the valve bottom and brought up around the body to the stem and fastened with the tape

d. Polyvinyl Chloride (PVC) C900 DR-18 Pipe:
    1. DR Rating: All Polyvinyl Chloride (PVC) C900 Pipe shall be DR-18 (Pressure Class 235 psi) conforming to the latest applicable AWWA specifications.
    2. Sand Bedding and Trench Conditions: A minimum of foursix (46) inches of pipesand bedding material is required underneath the PVC waterline and poly service laterals per Cedar City Detail R1, unless the native material is free of rock 3/4-inch minus or above. It is required to backfill around the PVC waterline and poly service laterals, and to a height of at least one foot over the pipe with sand for all PVC and poly waterlines. As an alternative,nNative soil material can be used for the bedding and pipe zone if the native soil is fine-grained materialfree of rock 3/4- inch minus and above,and approved by the geotechnical engineer.
    3. Pipe Backfilled at End of Working Day: All PVC waterlines will need to be backfilled with at least 12 inches of cover over the pipe at the end of each working day. PVC pipe can be affected by temperature and cause problems with installation.
    4. Maximum Working Pressure of PVC C900 Set at 150 200 psi: The maximum working pressure for PVC waterlines is set at 150200 psi. Ductile iron pipe is required in all locations where the working pressure is above 150 200 psi. Also, PVC waterlines are not allowed in areas where the workingsystem pressure is controlled by a pressure reducing valve (PRV) where the working pressure upstream of the PRV is greater than 200 psi.reduced below 150 psi by means of pressure reducing valve (PRV). Ductile iron pipe is required in areas located downstream of a PRV- where the working pressure upstream of the PRV is greater than 200 psi.
    5. Joint Restraints: Mega-lug joint restraints and thrust blocks are required at all fittings and elbows on PVC waterlines. A special mega-lug thrust restraint is required for PVC fittings in order to prevent damage to the PVC pipe.
    6. Maximum Pipe Diameter of PVC C900 Set at 812-inch: The maximum allowable waterline diameter for PVC C900 is 812-inch diameter. All waterlines over 8-inch diameter must be Ductile Iron Class 50.
    7. Pipe Deflection and Pipe Bending is Not Allowed: During the installation of PVC pipe there must be no attempt to bend the pipe or

deflect the pipe at a joint. All changes in direction must be made by using fittings only. PVC pipe must be installed using a laser, similar to sewer pipe installation, to ensure that the pipe installation meets these requirements.

8. Tracer Wire and Caution Tape: All PVC waterlines and poly service laterals are required to have tracer wire installed along the pipeline. The tracer wire shall be 12 gauge type UF insulated copper locate wire. The tracer wire must be duct-taped or zip-tied to the waterline at maximum ~~1~~20-foot intervals along the pipe. After installation, the tracer wire must be tested for continuity between all access points. Any discontinuities in the tracer wire must be repaired to the satisfaction of the City. At all splices, the tracer wire must be connected with gel-filled wire connectors. Wire nuts will not be allowed. At locations where the pipe material transitions from ductile iron to PVC, the tracer wire must be cad-welded (fused) to the ductile iron pipe. Magnetic caution tape is required 12 inches above the PVC waterline along the full length of the trench.

9. Storage of PVC Pipe to Prevent Sun Exposure: PVC pipe must be stored in a ~~building~~ manner to prevent exposure to sunlight~~, and keep the pipe at ambient temperature.~~ PVC pipe showing evidence of sun burning shall not be installed.
10. Service Laterals (3/4" – 2" sizes): When using PVC C900 pipe, the service laterals can be installed as SDR-9 poly pipe CTS (copper tubing size), ASTM D2737, rated for 250 psi working pressure.
11. PVC Pipe Tapping: Tapping new service laterals into pressurized PVC pipe can be difficult. All workers who tap PVC pipe must be trained on proper tapping techniques. Workers need to be trained in doing taps and take all safety precautions to prevent damage to the pipe and to prevent injury.
12. Inspection of Pipe Prior to Installation: All PVC C900 pipe shall be carefully inspected by the City inspector prior to installation. Any pipe with scratches, cuts, or ~~,~~ gouges, ~~dents,~~ that reduce the wall thickness by more than 10% are not acceptable and will be rejected. In addition, pipe showing evidence of dents, cracks, or sun burning~~, or other imperfections~~ will be rejected.
13. Construction Inspection: All PVC waterlines and poly service laterals must be inspected by City inspectors in the trench prior to burying the pipe. The inspection will ensure that proper bedding has been installed underneath the pipe, there is proper clearance to the trench bank, that proper pipe zone material is being installed, the PVC pipe is inserted properly at each bell, and that there are no deflections or bends in the PVC pipe. PVC waterlines and poly service laterals must not be buried until a visual inspection has been conducted and approved for backfill by City inspectors. Regular compaction tests are

also required by a certified geotechnical testing firm.

14. Warranty: A standard 1-year warranty applies to PVC waterlines and poly service laterals.
15. Contractor Education and Certification: ~~The Uni-Bell PVC Pipe Association offers virtual training seminars regarding PVC pipe installation. All workers on crews installing PVC pipe are required to take the PVC pipe installation course. The standard installation course only needs to be taken once. However, if contractors have new workers on their crew that will be installing PVC C900, then those workers will need to take the course. All contractors will need to be certified in the installation of PVC pipe in order to work on Cedar City projects.~~ Contractors are encouraged, but not required, to receive education and certification regarding the proper installation of PVC C900 pipe.

16. As-built Drawings and Survey Coordinates: Accurate as-built drawings of PVC pipe are critical to ensure that the pipes can be located in the future. Mylars, PDF, and CAD as-built files are required. As-built survey points will be required at the following locations along PVC waterlines: - At all changes in pipe direction including elbows, tees, and crosses. - At every 200 feet of pipe length. - At all valves, air vacs, vaults, etc. - At all corp stops and meter barrels. - Other locations as directed by the City to ensure accurate as builts drawings.

e. High Density Polyethylene (HDPE) PE4710 DIPS DR-11 Pipe
   1. DR Rating: All High Density Polyethylene (HDPE) PE4710 DIPS Pipe shall be DR-11 (Pressure Class 200 psi) conforming to the latest applicable version of AWWA C906, material designation code of PE4710, all applicable ASTM standards and be listed on the PPI TR-4 HSB Listing of Hydrostatic Design Basis Listed Materials.
   2. Sand Bedding and Trench Conditions: A minimum of four (4) inches of pipe bedding material is required underneath the HDPE waterline per Cedar City Detail R1, unless the native material is free of rock ¾-inch minus or above. It is required to backfill around the HDPE waterline and to a height of at least one foot over the pipe with approved backfill material per Cedar City Detail R1 for all HDPE waterlines. Native soil material can be used for the bedding and pipe zone if the native soil is free of rock ¾-inch minus and above.
   3. Pipe Backfilled at End of Working Day: All HDPE waterlines will need to be backfilled with at least 12 inches of cover over the pipe at the end of each working day.
   4. Maximum Working Pressure of HDPE Pipe Set at 200 psi: The maximum working pressure for HDPE waterlines is set at 200 psi. Ductile iron pipe is required in all locations where the working pressure is above 200 psi. Also, HDPE waterlines are not allowed in

areas where the system pressure is controlled by a pressure reducing valve (PRV) where the working pressure upstream of the PRV is greater than 200 psi.. Ductile iron pipe is required in areas located downstream of a PRV where the working pressure upstream of the PRV is greater than 200 psi.

5. HDPE Fittings: The fittings used for HDPE must be Butt Fusion Fittings. Butt fusion fittings shall be made of HDPE material with a minimum material designation code of PE4710, all applicable ASTM standards and shall be listed in current versions of PPI TR-4. All fittings shall have a pressure rating equal to the pipe.

6. Joint Restraints: HDPE pipe and fittings do not require thrust blocks if the entire system is fused. Thrust blocks are required where mechanical joint or flange fittings are used and when transitioning from HDPE pipe to another pipe material.
7. Tracer Wire and Caution Tape: All HDPE waterlines are required to have tracer wire installed along the pipeline. The tracer wire shall be 12 gauge type UF insulated copper locate wire. The tracer wire must be duct-taped or zip-tied to the waterline at maximum 20-foot intervals along the pipe. After installation, the tracer wire must be tested for continuity between all access points. Any discontinuities in the tracer wire must be repaired to the satisfaction of the City. At all splices, the tracer wire must be connected with gel-filled wire connectors. Wire nuts will not be allowed. At locations where the pipe material transitions from ductile iron to PVC, the tracer wire must be cad-welded (fused) to the ductile iron pipe. Caution tape is required 12 inches above the HDPE waterline along the full length of the trench.
8. Service Taps to HDPE Pipe: Service taps to HDPE pipe shall be mechanical double-strap saddles. Double-strap saddles shall be Romac Style 202S, or approved equal.
9. Service Laterals (3/4" - 2" sizes): When using HDPE pipe, the service laterals shall be installed as either Copper Type 'K' or SDR-9 poly pipe CTS (copper tubing size), ASTM D2737, rated for 250 psi working pressure.
10. Inspection of Pipe Prior to Installation: All HDPE pipe shall be carefully inspected by the City inspector prior to installation. Any pipe with scratches, cuts, or gouges that reduce the wall thickness by more than 10% are not acceptable and will be rejected. In addition, pipe showing evidence of dents or cracks will be rejected.
11. Construction Inspection: All HDPE waterlines and service laterals must be inspected by City inspectors in the trench prior to burying the pipe. The inspection will ensure that proper bedding has been installed underneath the pipe, there is proper clearance to the trench bank, that proper pipe zone material is being installed, and the HDPE

pipe is properly fused. HDPE waterlines and laterals must not be buried until a visual inspection has been conducted and approved for backfill by City inspectors. Regular compaction tests are also required by a certified geotechnical testing firm.

12. NSF-61 Certification: All HDPE pipe that will convey potable water or water that will be treated to become potable, shall be certified by an accredited organization in accordance with NSF-61 as being suitable for contact with potable water. Such pipe must bear the logo "NSF-61" indicating such approval.

13. Wastewater Effluent: HDPE pipe will be allowed for the conveyance of wastewater effluent.

14. Pipe Joining: HDPE pipe shall be heat fused using the standardized butt-fusion procedure and pressure tested as per manufacturer's guidelines before installation. Cuts or gouges that reduce the wall thickness by more than 10% are not acceptable and must be cut out, discarded and the pipe rejoined. Each butt fusion shall be recorded and logged by a datalogger affixed to the fusion machine. Joint data must be submitted as part of the as-built documentation.
15. Data Logger: A data logger shall be used to record and document each butt fusion process. A digital report or printout for all fusion joints made that complies with, but is not limited to, ASTM F3124 must be delivered to the City at the completion of each project.
16. Mechanical Joining: In areas where auxiliary or final connections are to be made and the continuous pipe section will not be installed, the HDPE pipe and fittings may be joined together or to other materials by means of flanged connections or mechanical couplings (Romac Alpha, or approved equal) designed for joining HDPE pipe or for joining HDPE pipe to another pipe material. Mechanical couplings shall be fully pressure rated and fully thrust restrained, including concrete thrust blocks, and installed in accordance with manufacturer's recommendations. Concrete thrust blocks are required in locations where thrust blocks are required on Cedar City's thrust block Detail W3. Flanges and Mechanical Joint Adapters (MJ) shall have a minimum material designation code of PE4710 and meet all applicable AWWA and ASTM standards. Flanges and MJ Adapters shall have a pressure rating equal to the pipe. When connecting mechanical couplings to HDPE pipe, stainless steel pipe end stiffeners must be installed. The stiffeners shall be supplied as a Romac stainless steel HDPE pipe end stiffener, or approved equal.
17. Pipeline Identification: All HDPE pipe shall be marked in accordance with the standards to which it is manufactured. All HDPE pipe shall be black, and shall contain a continuous colored stripe, located at no greater than 90 degree intervals around the pipe. Stripes shall be

impregnated or molded into the pipe by the manufacturer. Application of the stripes after manufacture is not acceptable. Stripe color shall be: Potable Water Mains - blue stripes and Reclaimed Water Mains - purple stripes.

18. Ductile Iron Pipe Size (DIPS): All HDPE pipe shall be ductile iron pipe size. DIPS sized HDPE has the same outside diameter as ductile iron pipe.

19. Inside Diameter: The inside diameter (ID) of HDPE pipe shall be at least as large as the required pipe size. For example, if the required pipe diameter is 8 inches, then the ID of the HDPE pipe must be at least 8 inches in diameter.

20. Storage and Handling: HDPE pipe shall be stored on clean, level ground to prevent undue scratching or gouging. Handling of the joined pipe shall be in such a manner that the pipe is not damaged by dragging over sharp or cutting objects. Lifting of joined pipe sections shall preclude concentration of bending stresses at joints and shall be done in a manner which evenly distributes lifting stresses along the full length of the pipe.

21. Pressure Testing of HDPE Pipe: HDPE pipe shall be tested hydrostatically at 200 psi for 2 hours in accordance with Cedar City Engineering Standards. Pressure testing is not allowed to be done at the same time as chlorination of HDPE pipe. The pressure test and the chlorination process must be done separately for HDPE pipe.
22. Warranty: A standard 1-year warranty applies to HDPE waterlines after acceptance by the City.
23. As-built Drawings and Survey Coordinates: Accurate as-built drawings of HDPE pipe are critical to ensure that the pipes can be located in the future. Mylars, PDF, and CAD as-built files are required. As-built survey points are required at the same locations as listed for PVC pipe in Section 4.2.1(4)(d)(16).
24. Contractor Education and Certification: For contractors installing HDPE pipe, all workers who will be fusing HDPE pipe must be trained and certified according to the requirements set forth in the latest edition of ASTM F3190. The workers who will be fusing HDPE pipe must have a current Heat Fusion Equipment Operator Qualification card in order to work on Cedar City projects.

f. Copper Pipe: Where service lines are two-inch or less in diameter, type K copper pipe must be used when the main line is Ductile Iron Class 50. Pipe that has outside dimensions greater than two-inch in diameter shall not be copper. All copper pipe shall conform to the following specifications:
    1. Material: Pipe shall be used which conforms to the requirements of ASTM B88. The pipe shall be of a Type K only and shall be dimensioned so as to allow the connection to AWWA standard water

service taps and fittings. The pipe shall have surfaces smooth and free from bumps and irregularities.

2. Pipe Joints: All pipe joints on Copper pipe shall be soldered joints using ASTM B813, water flushable, lead-free alloy solder; and ASTM B-828 procedure, or all brass compressive couplings with grip rings Ford C44 Pack Joint Coupling or approved equal unless otherwise specified.
3. Service Connections: The installation of service connections shall use only connections, equipment and practices recommended by the manufacturer. The service connection shall conform to the detail drawing shown in the standard drawings.

g. Fittings: Fittings shall be K-Copper or Cement Lined Ductile Iron, "Tyler, Star" or an approved equal and have a pressure rating as may be required by the static pressure along the pipeline. All fittings shall be dimensioned according to ANSI A-21.10 or A-21-53 (AWWA C 110 or C 153) "American Standard for Cast Iron Fittings, 3 inches through 48 inches, for Water and other Liquids", and shall be equipped with restraining joints (mega-lug or equal).

h. Tapping/Repair Clamp Material Specification:
   1. Small Taps/Repair Clamps: For small tappings and repair clamps (3/4" through 3") on cast iron, steel or ductile iron pipe, the following materials shall be required:
      i. Saddle Castings: Small saddle tappings shall be similar to "Romac Stainless Steel Saddles" Model 202NS constructed of high tensile ductile (modular) iron, in accordance with ASTM specification 536-71, and shall be covered by a black nylon, plastic or epoxy fused coat, approximately 10-12 mils thick, with an approximate dielectric strength of 1000 volts per mill. The pressure rating of the tapping saddle shall equal the maximum static pressure along the pipeline.
      ii. Stainless Steel Strap: Stainless steel straps shall consist of two two-inch wide straps to spread out the clamping force on the pipe and shall come complete with sufficient bolts, nuts and washers (with five-eighths-inch N.C. Teflon coated roll threads) to properly clamp the strap to the pipe. M.I.G. welds shall be passivated for resistance to corrosion. The pressure rating of the tapping saddle shall equal the maximum static pressure along the pipeline.
      iii. Gaskets: Gaskets shall be made from virgin SBR compounded for water services.
   2. Large Taps/Repair Clamps: For large taps and repair clamps (larger than 3") on Cast Iron, Steel or ductile iron pipe, the following materials shall be required:
      i. Cut in Tee: The preferred method of making large taps or

pipe repairs is to cut in a cement lined Ductile Iron tee with couplings and valves as specified in these Standards.

ii. Sleeves: Taps or pipe repairs can be made using sleeves that are either cast iron with an asphalt tar varnish coating or epoxy coated steel with stainless steel bolts Romac fabricated steel tapping sleeve Model FTS 420 or approved equal. No stainless steel sleeves will be allowed. All sleeves shall have a working pressure rating equal to the maximum static water pressure along the pipeline. Tapping sleeve shall only be used when the tap is smaller than the pipe being tapped.

iii. Tapping Valves: Tapping valves shall conform to Section 4.2.1((4),g,1).

i. Valves and Boxes: All valves, eight inches and smaller shall be of a resilient-seat-gate-valve type, and all valves over eight inches shall be butterfly valves unless otherwise specified by the City Water Department.

1. Gate Valves: Valves shall conform to the latest revision of AWWA Resilient Seated gate valve Standard C-509 and be UL listed, FM approved. All internal parts shall be accessible without removing the body from the line. The wedge shall be of cast iron completely encapsulated with resilient material. The resilient sealing material shall be permanently bonded to the cast iron wedge with a rubber tearing bond to meet ASTM D 429. NRS stems shall be cast bronze or 18-8 Type 304 or 316 stainless steel with internal collars in compliance with AWWA. OS&Y stems shall be bronze. The NRS stuffing box shall have two "O"-Ring seals above the thrust collar. These rings shall be field replaceable without removing the valve from service. There shall be low friction thrust bearings above and below the stem collar. The stem nut shall be independent of the wedge and of solid bronze. The waterway in the seat area shall be smooth, unobstructed and free of cavities. Stuffing box shall be attached to the bonnet and the bonnet to the body with bolts and nuts. All exposed bolts and nuts on the valve, not including flange bolts and nuts, shall be stainless steel. The body and bonnet shall be coated interior and exterior with corrosion resistant coating. Each valve shall be hydrostatically tested at 400 PSI to the requirements of both AWWA and UL/FM. Valve flange bolts and nuts shall be Zinc Coated Carbon Steel ASTM A307A Grade A. Valves shall be installed vertically in a horizontal run of pipe, and shall be provided with a two-inch square operating nut for manually operating the valve with a "T" handle wrench. The direction of rotation to open shall be to the left (counter-clockwise).

2. Butterfly Valves: All butterfly valves shall be of the tight-closing, rubber-seat type with rubber seats that are securely fastened to the valve body. No metal-to-metal seating surfaces shall be permitted. Valves shall be bubble-tight at rated pressures with flow in either

direction, and shall be satisfactory for applications involving valve operation after a long period of inactivity. Valve discs shall rotate 90 degrees from the full open position to the tight shut position. Butterfly valves shall meet the full requirements of AWWA Standard C504 for Class 150B for areas with a static water pressures less than 150 psi without the use of pressure reducing valves, and Class 250B for all other areas. The manufacturer shall have manufactured tight-closing, rubber-seat butterfly valves for a period of at least five years. All valves shall be similar to those as manufactured by the Henry Pratt Company or approved equal. Valve bodies shall be constructed of cast iron ASTM A-126 Class B (for flanged end valves) or ASTM A-48 Class 40 for wafer type valves. Flange drilling shall be in accordance with ANSI B16.1 Standard for cast iron flanges. Two trunnions for shaft bearings shall be integral with each valve body. Body thickness shall be in strict accordance with AWWA Standard C504. All exposed bolts and nuts on the valve, not including flange bolts and nuts, shall be stainless steel. Valve flange bolts and nuts shall be Zinc Coated Carbon Steel ASTM A307A Grade A. Valve discs shall be constructed of alloy cast iron ASTM A436 Type I (Ni-Resist). Shafts of all valves shall be turned, ground and polished. Valve shafts shall be constructed of 18-8 Type 304 or Type 316 stainless steel. Shaft diameters shall meet minimum requirements established by AWWA Standard 75 lbs. pull under test procedure ASTM D-429, Method B. Valves shall be fitted with sleeve-type bearings. Bearings shall be corrosion resistant and self-lubricating. Bearing load shall not exceed one-fifth of the compressive strength of the bearing of shaft material. Packing shall be self-adjusting Chevron type. Valve operators shall conform to AWWA C504. Manual operators shall be of the traveling nut, self-locking type and shall be designed to hold the valve in any intermediate position between fully open and fully closed without creeping or fluttering. Operators shall be equipped with mechanical stop-limiting devices to prevent over-travel of the disc in the open and closed positions. Valves shall close with a (clockwise) rotation. Operators shall be fully enclosed and designed to produce the specified torque with a maximum pull of 80 lbs. on the hand-wheel or chain-wheel. Operator components shall withstand an input of 450 Ft. Lbs. at extreme operator position without damage.

3. Valve Boxes: All valves shall be provided with a Cast Iron valve box of the extension screw type, and the correct adjustable height to bring the top of the valve box flush with the ground surface. The valve box shall not be less than five inches in diameter and shall have a minimum thickness of .375 inch. The box provided also shall be provided with a suitable base and cover. The word "WATER" shall be cast on the cover.

j. Water Service Laterals: The material used for water service connections shall

comply with the following:

1. Copper Service Pipe: Copper service pipe shall be seamless and suitable for use as copper underground service connections and shall conform to Section 4.2.1(4) of these Standards.
2. SDR-9 Poly Pipe CTS (Copper Tubbing Size): All SDR-9 poly pipe CTS (copper tubing size) shall meet ASTM D2737, rated for 250 psi working pressure. SDR-9 poly pipe can be used in all areas where the working pressure is less than 250 psi. SDR-9 poly pipe may also be used in areas where the system pressure is controlled by a pressure reducing valve (PRV) where the working pressure upstream of the PRV is less than 250 psi. SDR-9 poly pipe may be used in areas where the main lines are ductile iron pipe.
3. Corporate Stops: Corporation stops shall be similar to those manufactured by the Mueller Company or Ford, with a rated working pressure of 200 PSI minimum:

	WATER SERVICE CONNECTION SIZE	
	3/4"	1"
MUELLER CO.	H-15008	H-15008
FORD	B-1000-G	B-1000-G

   Corporation stops shall have grip joint compression couplings for the copper service pipe and threaded on the inlet end with an AWWA corporation stop thread. Gate valves with valve box shall be required on all water service connections greater than 1 inch.
4. Meter Setter Yokes: Meter setters or meter yokes shall be 18" high, Ford 70 series copper setter or equal, and shall have an AWWA approval, built-in back-flow device and inlet angle ball valve and grip joint compression couplings for copper tubing on both inlet and outlet. All internal parts shall be accessible without removing the setter from the line. Meters shall only be installed by City Water Department personnel.
5. Meter Box and Lid: The meter boxes shall be white, high density polyethylene ADS N-12 or equal, 18" X 36" (standard size). Refer to Cedar City Detail W5 for water meter lid requirements.
6. Building Service Connections: At all points designated by the City Engineer, the owner shall install services for building connections, and shall extend such services to the property line, unless otherwise indicated by the City Water Department. Individual water services shall be 1 inch from the water main to the meter setter for normal domestic service, but may be one-and-one-half or two inches in diameter as directed by the City Water Department. Services shall have a minimum of three feet of cover and be laid as shown in the

standard drawings.

k. Fire Hydrants: Fire Hydrants shall be Mueller, Modern Centurion, Model A-423; Kennedy, Model K81A; American AVK; or approved equal with 400 PSI test pressure, 200 PSI working pressure, 5 1/4" dia. 3 nozzle, foot valve and 6" mechanical joint connection. Fire hydrants shall conform to the latest edition of AWWA C-502, "Dry Barrel Fire Hydrants." All exposed bolts and nuts, not including flange bolts and nuts, on the fire hydrant that are underground shall be stainless steel. Valve flange bolts and nuts shall be Zinc Coated Carbon Steel ASTM A307A Grade A. It shall be the responsibility of the Owner to furnish hydrants with a finish paint above the ground line identical to the existing hydrant paint (red). All exposed bolts and nuts that are below ground level on the fire hydrant shall be stainless steel.

(5) Flowable Backfill: Flowable backfill material shall conform to the following:

a. Portland Cement: Type I or II Subsection 718.01.

b. Fly Ash: ASTM C-618, Class F, except loss on ignition shall not exceed three percent maximum, and shall come from a source approved by the City Engineer.

c. The coarse and fine aggregate for flowable fill shall be natural and consisting of mineral aggregate particles meeting the following:

Sieve Size	Percent Passing
3/4	100
200	0-10

d. Mix Design (See Section 4.4 Concrete Work for Mix Design Submittal) meet the following:

Minimum compressive strength (28 days)	50 PSI
Maximum compressive strength (28 days)	150 PSI
Minimum fly ash per cubic yard	300 lbs.
Maximum cement per cubic yard	50 lbs.
Maximum slump	10 in.

(6) Pipeline Casings: Pipeline casings shall conform to the following:

a. Casing Material: The casing material shall be smooth, uncoated carbon steel casing pipe with a minimum yield strength of 35,000 PSI and a minimum wall thickness of 0.375 inches.

b. Casing Size: The casing size shall be sufficient to maintain a 2 inch minimum clearance between the greatest outside diameter of the carrier pipe (including pipe bells) and the minimum interior diameter of the casing pipe. Minimum clearance shall be maintained around the entire pipe circumference.

c. Casing Chocks or Skids: Casing chocks or skids shall be Power Seal 4810

casing chocks or equal approved by the City Engineer. Casing chocks or skids shall support the carrier pipe at a maximum of every 7 feet and install according to the manufactures directions.

d. Casing Seals: The annulus between the carrier pipe and casing on both v ends of the pipe casing shall be sealed with a neoprene boot and stainless steel straps provided by Power Seal or equal approved by the City Engineer.

e. Carrier Pipe Joints: The joints of the carrier pipe inside the case shall be joints that resist slipping by using either locking gaskets, glued or other nonslip type joints approved by the City Engineer.

(7) Spare Communication Conduits: A minimum of one 2-inch gray, Schedule 40 PVC conduit with a nylon twin pull string with 500 pounds of pull strength shall be installed at least in one of the City sewer, storm drain or water line trenches required for any development.

PASSED AND ADOPTED BY THE CEDAR CITY CITY COUNCIL SEPTEMBER 11, 2024.

	AYE	NAY	ABSENT	ABSTAIN
Phillips			X	
Melling	X			
Riddle	X			
Cox	X			
Wilkey	X			

Presiding Officer

Garth O. Green, MAYOR, Cedar City

Attest

RENON SAVAGE, RECORDER, Cedar City