CLEARFIELD CITY COUNCIL
AGENDA AND SUMMARY REPORT
April 23, 2024 - POLICY SESSION

Meetings of the City Council of Clearfield City may be conducted via electronic means pursuant to Utah Code Ann. § 52-4-207 as amended. In such circumstances, contact will be established and maintained via electronic means and the meetings will be conducted pursuant to the Electronic Meetings Policy established by the City Council for electronic meetings.

55 South State Street
Third Floor
Clearfield, Utah

7:00 P.M. POLICY SESSION

CALL TO ORDER:
Mayor Shepherd

OPENING CEREMONY:
Pledge of Allegiance
Solemn Moment of Reflection
Council Member Ratchford

APPROVAL OF MINUTES:
February 27, 2024 – work session minutes
February 27, 2024 – policy session minutes
March 19, 2024 – work session
March 26, 2024 – work session
March 26, 2024 – policy session

PRESENTATIONS:

1. PRESENTATION OF THE OUTSTANDING EXECUTIVE DIRECTOR OF THE YEAR AWARD BY THE UTAH RECREATION & PARKS ASSOCIATION

BACKGROUND: During the Utah Recreation and Parks Association's (URPA) Annual Conference in March, Community Services Director, Eric Howes, was awarded the Outstanding Executive Professional for the State of Utah. Director Howes was nominated by staff for his outstanding leadership of Clearfield City's Community Services Department. Additionally, Eric serves on URPA's Leadership Academy board which is a year long program to assist parks and recreation professionals advance their leadership skills to better the parks and recreation profession as a whole within the State of Utah. McKell Christensen, Assistant Executive Director of URPA is here to present the award to Director Howes

2. PRESENTATION BY THE CLEARFIELD CITY YOUTH COMMISSION REGARDING ATTENDANCE AT THE NATIONAL LEAGUE OF CITIES CONGRESSIONAL CITIES CONFERENCE

BACKGROUND: The Clearfield City Youth Commission recently had the opportunity to attend the National League of Cities Congressional Cities Conference in Washington D.C. Members of the Commission are present to talk about their experiences.

PUBLIC HEARINGS:

1. PUBLIC HEARING TO RECEIVE PUBLIC COMMENT ON A ZONING TEXT AMENDMENT TO AMEND SECTIONS 11-3, 11-10A, AND 11-21 OF THE CLEARFIELD CITY CODE TO UPDATE THE LANDSCAPE OPEN SPACE REQUIREMENTS FOR THE P-F (PUBLIC FACILITIES) ZONE AND MAKE MINOR AMENDMENTS TO LANDSCAPING STANDARDS AND REQUIREMENTS

BACKGROUND: The purpose of the P-F Zone is to provide areas for the location and establishment of facilities which are maintained in public and quasi-public ownership and use. Of the properties in Clearfield currently zoned P-F, most are City-owned parks. The minimum required landscaped open space for projects in the P-F Zone is fifteen percent (15%) of the total project area. Staff have reviewed the list of permitted and conditional uses of the P-F Zone and are proposing amendments to open space requirements based on the type of permitted or conditional use.

RECOMMENDATION: Receive public comment.

2. PUBLIC HEARING TO RECEIVE PUBLIC COMMENT ON A ZONING TEXT AMENDMENT TO ADOPT AN UPDATED SET OF DEVELOPMENT, DESIGN, AND CONSTRUCTION STANDARDS

BACKGROUND: The Clearfield City Public Works Department has worked with Jones & Associates Consulting Engineers to prepare an updated set of Development, Design, and Construction Standards. These standards are applicable to development, design, and construction activities in Clearfield City. They will be used and referenced in land use application reviews, approvals for work within the public right-of-way, and construction permits.

RECOMMENDATION: Receive public comment.

SCHEDULED ITEMS:

3. OPEN COMMENT PERIOD

The Open Comment Period provides an opportunity to address the Mayor and City Council regarding concerns or ideas on any topic. To be considerate of everyone at this meeting, public comment will be limited to three minutes per person. Participants are to state their names for the record. Comments, which cannot be made within these limits, should be submitted in writing to the City Recorder at nancy.dean@clearfieldcity.org.

The Mayor and City Council encourage civil discourse for everyone who participates in the meeting.

4. RECOGNITION OF THE PROCLAMATION DECLARING THE MONTH OF APRIL EACH YEAR AS "SEXUAL ASSAULT AWARENESS MONTH"

BACKGROUND: Jenna Nelson, Youth Commission Advisor, will address the Council to acknowledge that the month of April each year in Clearfield City has been proclaimed "Sexual Assault Awareness Month." The proclamation adopted in 2023 was intended to draw attention to the fact that sexual violence is widespread and has public health implications for every community member. Mayor Shepherd and the City Council recognize the need to work together with national, state, local partners, and every citizen actively engaged in public and private efforts to educate our community about what can be done to prevent sexual assault and how to support survivors. There is compelling evidence that the City can be successful in reducing sexual violence in Clearfield through prevention, education, increased awareness, and holding perpetrators who commit acts of violence responsible for their actions.

5. CONSIDER APPROVAL OF A PROCLAMATION DECLARING APRIL 26, 2024 AS ARBOR DAY IN CLEARFIELD CITY

BACKGROUND: Clearfield City will celebrate Arbor Day on Friday, April 26, 2024. The City supports all efforts to plant and protect trees within its boundaries because trees are valuable to the City's environment. Clearfield has received the "Tree City USA" designation for the past 29 years. Community Services Director, Eric Howes, requests the date of April 26, 2024, be officially declared "Arbor Day" in the City of Clearfield.

RECOMMENDATION: Approve the Proclamation officially declaring April 26, 2024 as "Arbor Day" in the City of Clearfield and authorize the mayor's signature to any necessary documents.

6. CONSIDER APPROVAL OF ORDINANCE 2024–06 A ZONING TEXT AMENDMENT TO AMEND SECTIONS 11-3, 11-10A, AND 11-21 OF THE CLEARFIELD CITY CODE TO UPDATE THE LANDSCAPE OPEN SPACE REQUIREMENTS FOR THE P-F (PUBLIC FACILITIES) ZONE AND MAKE MINOR AMENDMENTS TO LANDSCAPING STANDARDS AND REQUIREMENTS

RECOMMENDATION: Approve Ordinance 2024-06 approving a zoning text amendment to amend sections 11-3, 11-10A and 11-21 of the Clearfield City Code to update the landscape open space requirements for the P-F (Public Facilities) Zone and make minor amendments to landscaping standards and requirements, and authorize the mayor's signature to any necessary documents.

7. CONSIDER APPROVAL OF ORDINANCE 2024-07 A ZONING TEXT AMENDMENT TO ADOPT AN UPDATED SET OF DEVELOPMENT, DESIGN, AND CONSTRUCTION STANDARDS

RECOMMENDATION: Approve Ordinance 2024-07 approving a zoning text amendment to adopt an updated set of development, design, and construction standards, and authorize the mayor's signature to any necessary documents.

COMMUNICATION ITEMS:

A. Mayor's Report
B. City Council's Reports
C. City Manager's Report
D. Staffs' Reports

*****ADJOURN AS THE CITY COUNCIL*****

Posted April 19, 2024.

/s/Chersty Titensor, Deputy City Recorder

The City of Clearfield, in accordance with the 'Americans with Disabilities Act' provides accommodations and auxiliary communicative aids and services for all those citizens needing assistance. Persons requesting these accommodations for City sponsored public meetings, service programs or events should call Nancy Dean at 801-525-2714, giving her 48-hour notice.

The complete public notice is posted on the Utah Public Notice Website - www.utah.gov/pmn/, the Clearfield City Website - clearfield.city, and at Clearfield City Hall, 55 South State Street, Clearfield, UT 84015. To request a copy of the public notice or for additional inquiries please contact Nancy Dean at Clearfield City, Nancy.dean@clearfieldcity.org & 801-525-2700.

CLEARFIELD CITY COUNCIL MEETING MINUTES
6:00 PM WORK SESSION
February 27, 2024

City Building
55 South State Street
Clearfield City, Utah

PRESIDING: Mayor Mark Shepherd

PRESENT: Councilmember Karece Thompson, Councilmember Nike Peterson, Councilmember Tim Roper, Councilmember Megan Ratchford, Mayor Mark Shepherd, Councilmember Dakota Wurth

STAFF PRESENT: City Manager JJ Allen, Assistant City Manager Summer Palmer, Community & Economic Development Director Spencer Brimley, Community Services Director Eric Howes, City Attorney Stuart Williams, Senior Planner Brad McIlrath, Public Works Director Adam Favero, Recreation Manager Kristine Conley, Police Chief Kelly Bennett, City Recorder Nancy Dean, Deputy City Recorder Chersty Titensor

VISITORS: Madison Merrill – Landmark Design, Kathryn Murray, Cole Ross

DISCUSSION ON CLEARFIELD CONNECTED 2023, THE STATION AREA PLAN UPDATE FOR THE CLEARFIELD FRONTRUNNER STATION

Brad McIlrath, Senior Planner, introduced Madison Merrill from Landmark Design, who had discussed concerns expressed previously from councilmembers and forwarded those suggestions to Landmark Design, who then crafted an updated draft, which was presented and reviewed with the Council. Mr. McIlrath welcomed Council's feedback during the discussion.

Councilmember Thompson arrived at 6:08 p.m.

Mr. McIlrath called attention to the Future Land Use map and mentioned that the portion on the east side of State Street had been an area of concern at the last meeting and questioned whether the boundary of the Clearfield Station District needed to be revised. Councilmember Peterson specified her biggest concern had been the designation of Mixed Use for the neighborhood around 1150 South. Spencer Brimley, Community & Economic Development Director, asked if she would be okay with allowing the designation if it followed the line of commercial properties on State Street. Councilmember Peterson clarified her concern by stating she did not want the single-family residents to be concerned that there would be an imminent threat of redevelopment. Mr. McIlrath asked whether she thought the area designated as Medium-Density Mixed-Use would be more appropriate as Low-Density Mixed Use or Highway Commercial. Councilmember Peterson thought Highway Commercial would be a more appropriate designation because it recognized commercial viability and was consistent with the established use. She was hesitant to agree with Mixed Use.

Mayor Shepherd said it was difficult to designate future land-use due to the difficulties of attempting to foresee the potential needs or purposes for the area; though the natural aging of the area might require changes in the future, Mayor Shepherd questioned whether the message

should be sent at the present time. He was concerned about the message that would be sent to the residents and potential developers. Ms. Merrill asked whether the Council was concerned about the designation for the commercial properties on the east side of State Street between 1150 South and 1000 East. Councilmember Peterson said she was comfortable with a Highway Commercial designation without a residential component. She said if in the future someone wanted to change the designation, the process could be followed to make any changes.

Mr. McIlrath verified Council's recommendations. Councilmember Peterson stated her preference was that the Clearfield Station District outline follow State Street and not cross to the east side. There was a brief discussion on the need to preserve affordable housing by protecting the areas with older single-family homes. Councilmember Thompson said the Council had made a promise to the residents to leave the neighborhoods alone that they needed to honor. He wanted to keep older business development to encourage accessibility for new small businesses. He was concerned about driving out older smaller businesses by encouraging new development.

Mr. McIlrath pointed Council to the section of the plan that defined the primary and secondary facade designation. Mr. Brimley stated that in a separate conversation with Councilmembers Peterson and Roper they had communicated that if the building faced a primary road, then that side of the building should be the primary facade. Councilmember Peterson said that if the building faced streets on two sides, the building should reflect two primary façade treatments. In regard to the parking structures, Councilmember Peterson wanted those "facades" to be thoughtful because it was the gateway to the community and the face of Clearfield City as the train came through.

Mr. McIlrath brought attention to the Traffic Analysis section of the plan where it had been suggested that it was outdated. He said the traffic engineer said the conditions had not changed from the existing analysis but was willing to ask the traffic engineering sub-consultant to look into it more. Mr. McIlrath reviewed various small changes to verbiage in the Strategic Recommendations section.

Councilmember Peterson was concerned about the language in Appendix A – Existing Conditions Report for Land Use and the implication that Clearfield City would make changes to existing land use policies to match the plan. She wanted the wording to reflect that the language in Appendix A was an "advisory" document only. Mr. McIlrath said he would take those recommendations back to the consultant and would present updates at an upcoming work session before it was scheduled for a policy session.

<u>REVIEW OF THE ATHLETIC FIELD USE POLICY AND PRIVATE CONCESSION SALES</u>

Eric Howes, Community Services Director, presented information about the Athletic Field Use Policy and specifically the topic of Private Concession Sales and requested feedback from Council. He admitted that there was not a lot of policy regarding Private Concession Sales and read from the Athletic Field Use Policy, paragraph M, which specified that concessions sales were the sole privilege of Clearfield City. He thought there were three reasons why the City did not have concessions:

1. The philosophy that private enterprise shouldn't generate profit on public resources.

2. The City had been selling concessions for a number of years which had generated a small revenue for the City. He thought inviting a private group to sell concessions on the City property would create competition on City property. He said the goal for Recreation & Arts programming was 100% cost recovery of direct costs. He said currently the Recreation & Arts programming was at about 55% cost recovery. He said it was a position they did not want to be in long-term.
3. Additional workload to manage and verify compliance of outside vendors. He outlined the five areas that would require review by staff:
    1. Manage compliance with existing contracts – he gave an example of the contract with Pepsi. The City could not allow competitor products to be sold or advertised if concession vendors sold products that went against current contracts.
    2. Health Department – if an outside vendor only sold commercially pre-packaged goods, there would be no further requirements, but if the items were not prepackaged then Staff would have to verify the vendor was in compliance with the Health Department's regulations.
    3. Temporary Business licenses
    4. Verify vendor was collecting sales tax
    5. Appropriate Insurance
    6. Verify Mass Gathering Permit needs – over 500 on a consistent basis – not common.

He said he had checked with surrounding cities and found that Syracuse City had a policy identical to Clearfield's policy. He continued Clinton, Layton, and West Point all did some form of contracting – they did not provide concessions themselves. Those cities utilized the formal Request for Proposal (RFP) process to choose a single vendor for concessions for the year. He said West Point City allowed the use of the city trailer. West Point City also allowed groups using the athletic fields to sell concession with a caveat that it was sold only to those at the event.

Mayor Shepherd asked if there would be a cost benefit in allowing an outside vendor and the City taking a percentage of the sales. Mr. Howes said it was possible, but had never been done. Mr. Howes said the City was generating revenue but not a lot. Summer Palmer, Assistant City Manager, thought there was benefit since the concessions' areas were already built out. Mr. Howes thought that would be a reason to justify the City taking a cut of the sales. Mayor Shepherd said he thought it was worth looking into contracting concessions out but thought it was ultimately a staff decision whether the City ran the concessions or asked an outside vendor through an RFP process.

Councilmember Peterson shared that she was a freelance photographer who worked in several cities in Salt Lake and Utah counties. She related what she had seen regarding concession sales at athletic events on various tax-payer-funded city and school district fields. She pointed out that in Clearfield, if the City could not staff concession stands, no one else could. Mr. Howes confirmed around Labor Day weekend there were staffing issues. She wanted to find a way to avoid the unintentional situation where the City said concessions would not be provided and no one else could because it was the norm that food was available at sporting events everywhere else. She offered some different scenarios she had seen around the State that allowed the option

for food at events. Councilmember Peterson thought if the City could not staff concession stands then she thought it was important to allow an alternative because it was an expectation at athletic events throughout the region. Additionally, she said team merchandise sales were always allowed on the city and school district fields that she visited each week, but not on Clearfield City fields. She wanted to make sure the City could allow concessions in some form and selling of team merchandise when renting a field. She pointed out that the teams used proceeds from sales to pay their field fees.

Mayor Shepherd agreed with allowing team merchandise sales. He thought the RFP process would ensure there would always be concessions at the field. Councilmember Thompson expressed his opinion that if the City did not have people that were skilled to provide good food then it should be contracted out. Councilmember Wurth suggested getting out of concessions and expanding the special event permitting to give the option for the applicant to take concessions upon themselves. Councilmember Peterson said in the examples she had provided, concessions had all been done by the teams and it was how they paid for their fields. Mayor Shepherd said the teams could be part of the RFP process. Councilmember Peterson said if the applicant was allowed to sell food/merchandise then a portion should be paid to the City for the use of the facility. Mayor Shepherd said they would leave the decision on how to proceed to staff. JJ Allen, City Manager, stated that staff would continue to research additional options for providing the service. He mentioned it did not look like there was direction to change the policy at this time.

DISCUSSION ON RESOLUTION 23-15 OF THE WASATCH INTEGRATED WASTE MANAGEMENT SPECIAL SERVICE DISTRICT

Mayor Shepherd introduced the topic of whether Wasatch Integrated Waste Management District (WIWMD) Board had the authority to issue an ordinance which mandated recycling in participating cities. He opened it up to the Council for discussion. He explained that Layton City had issued a Resolution of disapproval of the action. Councilmember Peterson explained the explanation of the votes for the initial resolution. She noted that even if the municipality did not agree with the actions of WIWMD, it did not mean the City could openly challenge what the board did because the City had a representative on the board. She said Layton City was saying that they disagreed that WIWMD had taxation power to take that action and asked the District to review their decision.

Councilmember Thompson did not look at it as a taxation situation but where in State Code was it written that one body could force another body into such action. Mayor Shepherd said there was a question of whether it was even a subdivision – he said it was a quasi-governmental agency. He said it was not correct for them to compel a City to do something without taxing authority, but essentially, they were enforcing a tax. Councilmember Peterson said there were additional financial implications – the hard costs of the roll-out was born by the cities. She recommended to WIWMD that the hard costs needed to be built into the cost-model, but the Board did not know what those costs would be. Councilmember Peterson asked if the Council thought they needed to issue a resolution like the one issued by Layton City.

Councilmember Roper and Councilmember Wurth did not agree that a resolution should be

issued. Councilmember Roper said Nathan Rich was willing to work with cities individually to resolve any issues. He explained his original vote was for the resolution while on the WIWMD Board.

Councilmember Wurth pointed out that a flat fee increase of this nature impacted the residents in a lower income population such as Clearfield disproportionately. He thought the proper way to address the situation at this stage was to work with the WIWMD Board directly but did not oppose a resolution later after attempts were made to resolve the issue.

Councilmember Thompson asked the City Attorney if there was any legal precedence where a District compelled a municipality to act. Councilmember Thompson did not want to concede any municipal power to a quasi-governmental agency. Stuart Williams, City Attorney, was not willing to give a legal analysis without further research of this particular situation.

Councilmember Roper explained that the issue had been discussed over the last several years and thought there had been miscommunication. Mayor Shepherd said it was not sending a message to the company or to Nathan Rich but to the Board of Directors that the municipalities disagreed with the way it was handled. Councilmember Ratchford thought if there was no legal standing there was an issue; recycling was needed – but how it was rolled out and how the public was educated was important. Councilmember Roper said that was why the District put a hardship clause in the resolution so cities could control what was paid by their residents.

Councilmember Peterson thought a resolution was necessary to drive the direction of the Board and to initiate communication. Councilmember Ratchford wanted the resolution to be amicable. Councilmember Wurth did not want to bear the hard costs – he wondered if a resolution was the mechanism to revisit the discussion. Councilmember Peterson said it was a message to ask the WIWMD Board to reexamine its decision. Mr. Allen said a letter might serve the same purpose. Councilmember Roper asked if it was worth asking WIWMD to present the information to the City first. Councilmember Peterson shared that she had already invited Collette West, the new recycling roll-out coordinator at WIWMD, to come give an educational presentation to the city. Councilmember Peterson said the decision to enact county-wide recycling was made in November by the WIWMD Board. The City Council was simply being asked whether it wanted to issue a resolution challenging the legality of some parts of the recycling roll-out and call on the board to voluntarily amend those portions. Council agreed to have the item put on agenda for a vote March 26, 2024.

Councilmember Peterson moved to adjourn at 7:09 p.m., seconded by Councilmember Wurth.

RESULT: Passed [5 TO 0]
YES: Councilmember Thompson, Councilmember Peterson, Councilmember Roper, Councilmember Ratchford, Councilmember Wurth
NO: None

APPROVED AND ADOPTED
This day of 2024

/s/ Mark R. Shepherd, Mayor

ATTEST:

/s/ Nancy R. Dean, City Recorder

I hereby certify that the forgoing represents a true, accurate, and complete record of the Clearfield City Council meeting held Tuesday, February 27, 2024.

/s/ Nancy R. Dean, City Recorder

CLEARFIELD CITY COUNCIL MEETING MINUTES
7:00 PM POLICY SESSION
February 27, 2024

City Building
55 South State Street
Clearfield City, Utah

PRESIDING: Mayor Mark Shepherd

PRESENT: Mayor Mark Shepherd, Councilmember Nike Peterson, Councilmember Tim Roper, Councilmember Karece Thompson, Councilmember Megan Ratchford, Councilmember Dakota Wurth

STAFF PRESENT: City Manager JJ Allen, Assistant City Manager Summer Palmer, City Clerk Nancy Dean, Deputy City Recorder Chersty Titensor, Public Works Director Adam Favero, City Attorney Stuart Williams, Police Chief Kelly Bennett, Community Services Director Eric Howes, Community & Economic Development Director Spencer Brimley, Senior Planner Brad McIlrath, Finance Manager Rich Knapp, Communications Manager Shaundra Rushton

VISITORS: Chris Uccardi, Kathryn Murray, Cole Ross

Mayor Shepherd called the meeting to order at 7:11 p.m.

Councilmember Thompson led the opening ceremonies.

APPROVAL OF MINUTES

January 23, 2024 – work session minutes
January 23, 2024 – policy session minutes
January 30, 2024 – work session minutes
February 6, 2024 – work session minutes

Councilmember Peterson moved to approve the January 23, 2024 work session minutes, January 23, 2024 policy session minutes, January 30, 2024 work session minutes and February 6, 2024 work session minutes, seconded by Councilmember Thompson.

RESULT: **Passed [5 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Thompson, Councilmember Ratchford, Councilmember Wurth
NO: None

PUBLIC HEARING TO RECEIVE PUBLIC COMMENT ON REQUESTED AMENDMENTS TO THE BRAVADA 193 DEVELOPMENT AGREEMENT FOR THE PROPERTY LOCATED AT 1902 EAST 700 SOUTH (TIN: 09-447-0201)

Mayor Shepherd said the developer was unable to attend the meeting. There was no objection

from the Council to continue with the public hearing.

Brad McIlrath, Senior Planner, offered background information for the request from the developer to make amendments to the Development Agreement. He explained that the original site plan indicated that four garage buildings were planned to be built on the site, but after developer had issues with the placement of utility lines and issues with the retaining wall for the adjacent gas station, they built carports instead of the garage buildings. Mr. McIlrath said the developer was able to add more spaces than originally planned due to the change. He pointed out some key information clarified from the tour of the project. For instance, in the original plans there was no covered parking besides the four garages, but the developer added covered parking throughout the project. The Planning Commission recommended approval.

Mayor Shepherd declared the public hearing open at 7:21 p.m.

There were no public comments.

Councilmember Thompson moved to close the public hearing at 7:21 p.m., seconded by Councilmember Wurth.

RESULT: **Passed [5 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Thompson, Councilmember Ratchford, Councilmember Wurth
NO: None

OPEN COMMENT PERIOD

There were no public comments.

APPROVAL OF ORDINANCE 2024-02 APPROVING AMENDMENTS TO THE BRAVADA 193 DEVELOPMENT AGREEMENT FOR THE PROPERTY LOCATED AT 1902 EAST 700 SOUTH (TIN: 09-447-0201)

Mayor Shepherd expressed his frustration with the timing of the requested changes and lack of communication from the developer, but pointed out two facts that he leaned on to determine his support: 1) that the garages were never a requirement from the City; and 2) the developer added a greater number of carports than they would have provided in garage spaces. Ultimately, he believed the developer had provided a more valuable property.

Councilmember Roper thought the developer knew their product much better than the Council and he felt the developer ought to have the ability to make the choice.

Councilmember Wurth said he was hesitant about amending a development agreement after the fact because he did not want to set a precedence for this type of change but was impressed with the amenities and improvements the developer had made and was more comfortable with approval.

Councilmember Ratchford took pause initially when the enforcement of the use of the garages for parking and not for storage items was discussed as reasoning behind the change and explained that the enforcement of the use of the garages was not a responsibility of the City, but the responsibility of the property management. She thought the product itself was great for the residents, despite the fact that the communication might have been after the fact.

Councilmember Wurth moved to approve Ordinance 2024-02 approving amendments to the Bravada 193 Development Agreement for the property located at 1902 East 700 South and authorize the mayor's signature to any necessary documents, seconded by Councilmember Roper.

RESULT: **Passed [5 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Thompson, Councilmember Ratchford, Councilmember Wurth
NO: None

FISCAL YEAR 2024 MID-YEAR FINANCIAL UPDATE

Rich Knapp, Finance Manager, presented the mid-year financial status which included revenues and expenditures from July 1, 2023 to December 31, 2023. He reviewed the General Fund revenues and expenditures to date. He explained the potential impact of the current state of the General Fund on the forecasted unrestricted balance, which looked to be higher than anticipated due to the unpredictable nature of revenues.

Mr. Knapp reviewed the General Fund revenues by type which showed how the numbers were trending compared to previous years as well as compared to budgeted amounts. He reported that everything was trending as expected. He reviewed the revenue categories that were projected to be higher than budgeted and those that were lower than budgeted. He provided information about key revenues and explanations for their variation from what had been budgeted. He called attention to expenditures by type which indicated they were trending lower than 50% of budget at the mid-point of the year. He reported that he looked for any out of the ordinary expenditures but the only ones to report on were the dispatch expenses that had recently converted to a contracted amount with Layton City that would level out and that the Police and Public Works departments had higher overtime expenditures.

He identified potential future budget amendments due to two projects the Council had recently been notified of: 1) the reconstruction project on 800 North; 2) the projected changes to the Bicentennial Park Amphitheater. In addition to those projects, he informed Council that the health insurance provider had asked that payment be made in advance in June instead of the usual start of the plan year in July and the potential to expedite the new meter project which would be discussed further during budget meetings.

Mr. Knapp spoke on the National Economy where he reported that the labor market had maintained a 3.7% unemployment rate and annual wage growth had accelerated to 4.5%, which raised concerns about whether inflation was under control. He also reviewed the Utah Quarterly Point of Sale (POS) which was showing a leveling out despite the inflation rate. He wondered

whether it was a sign that sales were tapering off. He reported that 70% of sales tax comes from the State POS. He showed Clearfield Quarterly Point of Sale graphs which was trending upward.

COMMUNICATION ITEMS

MAYOR'S REPORT

Mayor Mark Shepherd

- He met with the student body officers at Clearfield High School where Jennie Taylor was the speaker. He said she would be invited back to the High School for a much larger presentation.
- He reported that there were housing bills through legislature that were supported by the Utah League of Cities and Towns, Wasatch Integrated, Realtors, and developers, but Mayor Shepherd did not know if the bills would have any impact. He was grateful the legislation did not impose requirements on the cities but was wary of the motivation behind the legislation and wondered whether there would be sterner repercussions if the cities did not increase the supply of housing and fix the housing problem in the State.
- He mentioned that he had attended the 388th Fighter Wing Awards luncheon last week.
- He and Spencer Brimley, Community Service & Economic Development Director, had met with Chanel Flores with Davis County Economic Development where they had discussed Clearfield City's projects so the County had information to give to those that come to them for information. She said the County would be attending the International Council of Shopping Centers (ICSC) convention in Las Vegas this year. Mayor Shepherd and Mr. Brimley would attend the convention to be available to pitch Clearfield City to any interested attendees. Ms. Flores mentioned different entities looking for office space that might be a good fit for various projects in the City.
- He met with Lockheed Martin to know their needs and discussed a potential plane sponsorship.
- He informed all that in order to participate in the republican caucus, voters needed to be registered to attend. He said participants could register on their phone at the meeting.

CITY COUNCIL'S REPORTS

Councilmember Peterson

- She acknowledged the Clearfield Aquatic Center Swim Team for their wins over the weekend at the State Swim Meet. She recognized Sawyer Portillo won first place in the 6A 50M freestyle and 100M butterfly. She also recognized Sam Williams who won first place in the 5A 50M freestyle.
- She offered her congratulations to Chief Bennett for the award he had been chosen for and expressed her gratitude for his work.

Councilmember Thompson

- He had been invited to be the Weber Basin Job Corps' graduation commencement speaker. He discovered that Weber Basin Job Corps had an E911 Trade for Dispatchers.
- He reported that North Davis Sewer District would be laying approximately 13k feet of new pipe along the manholes on Hill Field Road.
- He said there was a Water Conference coming up in April. He said the crash course at the sewer board was very cool. He thought the Sewer District was interested in providing institutional knowledge to new employees and members.

Councilmember Ratchford

- She said she had met with the City Manager and Finance Manager to answer her questions.
- She reported that she had attended an Owner, Architect and Contractor (OAC) meeting regarding

the North Davis Fire Station where they discussed budgets, expectations for contingency monies. She said they had audited all that had been spent and it went well. The new building was set to be open by the middle to end of May 2024.

Councilmember Wurth

- He said he would be joining the Youth Commission as they travel to Washington, District of Columbia in a couple of weeks. He was looking forward to report on what was learned.
- He lauded the gym at the Clearfield Aquatics Center. He thought it was a great gym and encouraged resident membership.

Councilmember Roper

- Expressed his condolences to the family of Clearfield Officer Porter whose family had a recent tragedy.

CITY MANAGER'S REPORT

JJ Allen, City Manager

- He reported that staff had been working on budgeting.
- Legislature was in session a few more days.

STAFFS' REPORTS

Nancy Dean, City Recorder

- No meetings March 5, 2024 and encouraged all to attend their caucuses.
- No meetings March 12, 2024
- Work session on March 19, 2024 to review budget items.
- Work & Policy sessions on March 26, 2024

Councilmember Peterson moved to adjourn at 7:49 p.m., seconded by Councilmember Thompson.

RESULT: **Passed [5 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Thompson, Councilmember Ratchford, Councilmember Wurth
NO: None

APPROVED AND ADOPTED
This day of 2023

/s/ Mark R. Shepherd, Mayor

ATTEST:

/s/ Nancy R. Dean, City Recorder

I hereby certify that the forgoing represents a true, accurate, and complete record of the Clearfield City Council meeting held Tuesday, February 27, 2024.

/s/ Nancy R. Dean, City Recorder

CLEARFIELD CITY COUNCIL MEETING MINUTES
6:00 PM WORK SESSION
March 19, 2024

City Building
55 South State Street
Clearfield City, Utah

PRESIDING: Mayor Mark Shepherd

PRESENT: Councilmember Karece Thompson, Councilmember Nike Peterson, Councilmember Megan Ratchford, Mayor Mark Shepherd, Councilmember Dakota Wurth

ABSENT: Councilmember Tim Roper

STAFF PRESENT: City Manager JJ Allen, Assistant City Manager Summer Palmer, Community Development Director Spencer Brimley, Community Services Director Eric Howes, City Attorney Stuart Williams, Police Chief Kelly Bennett, Community Relations Director Shaundra Rushton, Senior Planner Brad McIlrath, Public Works Director Adam Favero, Finance Manager Rich Knapp, City Recorder Nancy Dean, Deputy City Recorder Chersty Titensor, Public Works Deputy Director Braden Felix, Finance Department Lee Naylor, Assistant Police Chief Devin Rogers

VISITORS: None

DISCUSSION ON THE PROPOSED FISCAL YEAR 2025 PROPOSED BUDGET-MAJOR EXPENSE CHANGES, REVENUES, MAJOR CAPITAL

JJ Allen, City Manager, explained to the Council that the City was early in the budget process and many of the projections were preliminary and could change prior to the official adoption of the budget. He said the numbers presented were a status quo position and did not increase employee head count which would likely impact the level of service provided. He said the Council would need to discuss new staffing requests.

Rich Knapp, Finance Manager, reviewed the schedule for future budget meetings with the Council and the deadline for the final budget. He pointed out that the preliminary budget worked under the assumption of maintaining the current property tax rate. He explained the staff's historical strategy of anticipating revenues conservatively and mentioned that the advantage of estimating conservatively was that the City could be more nimble if the economy changed or needed to include an unexpected project or program. However, the advantage of being less conservative was that the City could maintain a higher level of service and get projects completed.

He pointed out the changing variables and assumptions thus far in the budget process: revenue projections, compensation, general insurance, utility revenues, grants, transfers and new budget requests.

He reviewed the new staffing requests not included in the current draft with the Council. They included two full-time police officers and full-time and part-time park maintenance specialists to

help in maintaining parks and open space at Clearfield Station. JJ Allen, City Manager, said Clearfield Station would be their primary assignment, but not necessarily their only assignment. Mr. Allen mentioned that parts of the landscaping were the City's property and other areas were private land, but thought it may be more efficient and effective to have one entity maintain them all. If the City was determined to be the maintainer of the project, he brought up the possibility that the developer/property owner could pay the City for their maintenance which could potentially slightly offset the cost of the staff. He said no proposal had been agreed upon, but a discussion had been held.

Kelly Bennett, Police Chief, confirmed that the new positions would allow the department to have three officers on duty 24 hours a day 7 days a week once he could fill the remaining two open positions. Councilmember Peterson asked if there were minimum community standards for staffing for the police or was the request based on experience. Chief Bennett, explained there was an assessment but the Cityneeded to take into consideration special assignments. Summer Palmer, Assistant City Manager, said the staff had been maintaining and updating a sustainability model that had been created 3-4 years ago. The sustainability model was created by looking at the growth of the City over the previous 10 years, and considered anticipated growth from known residential building projects. Based on the information gathered, staff had projected the growth of the City to more than double the percentage of growth from the last 10 years. She explained that they had built into each of the departments a level of service model, and for the police department it required 0.95 officers for every thousand residents. She indicated that to maintain the level of service, taking into consideration the additional number of residents that had moved in, and the number of additional acres of parks, she thought the new staffing requests were justified by the model previously built. Ms. Palmer said they recognized that growth was two years ahead of projections. Councilmember Peterson stated her preference to have an impact fee for levels of service for open spaces. Mr. Allen agreed that maintenance of open spaces was the challenge. He said they anticipated growth in valuation, but for projects such as Clearfield Station – landscaping would need to be maintained without collecting taxes on the property. He recognized there would be a lag, but in time, revenue would come from the project. Mr. Knapp pointed out that Public Works had requested to add an amount to the budget to contract out the commercial meter swap out, but those numbers were not included in the budget numbers.

Ms. Palmer discussed compensation, which was the biggest operational expense. She said last year, the City had taken a conservative approach to compensation, based off the compensation study and not knowing where the economy would go. She said Ricki Miller, Human Resources Manager, had performed a comprehensive external analysis and the City was behind in many positions. She thought the step-in-grade positions were driving the increase amounts and said it was difficult to hire part-time employees. She said utility maintenance, parks, and police officers were difficult positions to fill. She said those positions needed adjustments to be comparable with other organizations. She anticipated an average increase to full-time positions of 8.5% which was an estimated increase of $1.1 million for full-time employees and $300k for part-time employees. She said they were trying to right-size the enterprise funds and allocate more to streets and less from the enterprise funds.

Mr. Allen pointed out that while updating the compensation plan, staff was trying to match to

the median level of market comparisons where half of cities were above and half were below the City's compensation levels. He asked the Council to consider whether they thought the City should lead the market or if they were content with it being in the middle and accepted hiring struggles as part of doing business. Ms. Palmer explained the requested amount was just trying to get the compensation level to the median level for positions.

Ms. Palmer noted that preliminary medical insurance rates had been estimated at a 4.7% increase which would increase the budgeted amount by $120k. She said the numbers were preliminary because she had asked them to cost out an additional high deductible plan to offer more options, but because the rate was good, staff felt like it was an opportunity to modify the current cost sharing split from 85/15 to a 90/10 split and fund the HSA accounts a little more because the HSA contribution amount was driven by the premium. It was her opinion that incentivizing the High Deductible HSA plan would increase the chances of similar lower rate increases in the future. She felt that increasing the cost sharing incentivized the High Deductible option, and was another lever to pull next year in the event of a higher increase. Mr. Allen said that Staff heard from prospective employees that other cities paid the full premium for their employees.

Ms. Palmer reported that the rates for contributions to the Utah Retirement System (URS) Tier 1 and 2 decreased and dropped a full point from 17.97 to 16.97. However, there was an increase for Tier 2 Public Safety and the pickup had increased from 2.59% to 4.73%. Additionally, there was a new mandatory employee contribution of 0.7% for Tier 2 (Public Employee Hybrid plan only). She said for an average employee making $60k/year it amounted to a $30/month contribution. Lee Naylor, Senior Accountant said the net cost to the City for the URS changes was a $30k decrease.

Mr. Knapp explained how staff analyzed the budget to calculate the measure of sustainability for the General Fund. He reminded Council that historically, approximately 5% of Personnel expenses and 20% of Materials and Services expenses were not spent and that in the previous year Council had determined to estimate that a conservative percentage of 3% would not be spent and effectively put back in the budget. Mr. Allen explained options that could be implemented by Council. Mr. Knapp reminded the Council that the numbers shown were just for the General Fund and not the Enterprise Fund. He further reminded Council that in 2023 almost $2M was not spent, demonstrating the conservative nature of the 3% unspent included.

Mr. Knapp reviewed the Measure of Security where he indicated that the City tried to keep approximately two months of operating expenses. At current projections he estimated the Beginning Unrestricted Balance for FY25 would be approximately $9.8M and if all revenues and expenses came in as projected, the Ending Unrestricted Fund Balance would be $4.29M which represented 18.6 percent of the General Fund revenue. He noted State Law required the unrestricted fund balance not exceed 35 percent of the General Fund balance. He explained that Government Finance Officers Association (GFOA) recommended that an entity maintain an unrestricted fund balance of no less than two months of General Fund operating expenditures. He pointed out that the City had 67 days of cash available. Mayor Shepherd confirmed that the budget reflected a $4.6M use of Available Reserves that would be used for projects. Mr. Knapp confirmed that was the intended use.

Councilmember Peterson moved to adjourn for a short break at 7:08 p.m., Councilmember Wurth seconded the motion.

The meeting reconvened at 7:18 p.m.

The Council decided to move to Agenda Item #3 to discuss the Amendment on the Master Development Plan of the Clearfield Station Master Development Agreement.

DISCUSSION ON AN AMENDMENT TO THE MASTER DEVELOPMENT PLAN OF THE CLEARFIELD STATION MASTER DEVELOPMENT AGREEMENT

Brad McIlrath, Senior Planner, reviewed the proposed amendments to the Master Development Plan (MDP). He explained that Staff and the development partners had identified necessary amendments to provide more clarity and flexibility to the first project for mixed-use residential buildings C & D. Mr. McIlrath explained that the developer had building identification signage on the tops of the buildings in the plan, but the Code specified wall signs were to be no higher than 2nd floor window sill, so it was proposed to add ground level wall signs. Additionally, language was added for Icon Signage. Councilmember Peterson thought the language should specify that any icon signage needed to be proportional to the building and one per facade. Councilmember Peterson thought if the developer was saying the reason for the Icon Signage was following an industrial character, then she would expect language from them that it was industrial in nature, follows historical typing, and was proportionate to the building massing. She was concerned that it would be in line with what had been carefully crafted visually. Mayor Shepherd asked about whether the developer had mentioned a sign theme to create consistency throughout the projects, for both office and residential projects. Mr. McIlrath said there was not a theme called out in the intent of the general guidelines and the developer had not shown any theme. Mayor Shepherd wanted to know the developer's vision for the identity of the project. Councilmember Peterson thought it was a good time to insist on cohesiveness of an overall theme.

There was discussion of the proposed site plan and how it varied from the conceptual site plan in the MDP. Councilmember Peterson was concerned that the significant changes made to the conceptual site plan should have been presented to Council. Mr. Allen called attention to language in the MDA where it was agreed that the developer was allowed to build the first residential complex before anything else was built but not the second complex until there was a contract with an anchor office/commercial tenant at the front of the property. Councilmember Peterson thought the change to the shape of the building should have been presented to Council because the developers were not authorized to make those changes. Councilmember Peterson argued that the development was approved based on the parking counts the developer presented on their site plans, so they needed to stick with it, and if there were going to be changes it needed to run through the process through Council. Mayor Shepherd offered an explanation behind the sequencing of the project. There was a discussion on the phasing sequencing and the amenities. Mr. Allen explained that changes to a concept plan were inevitable. Councilmember Peterson thought there should be a discussion with Council when large changes were being made to projects. Mr. Allen said he would take the blame and explained that when staff first became aware of the change to the "C" building, staff had an onsite meeting. Mayor Shepherd

explained that the developers were reducing units and increasing visibility. Councilmember Peterson reiterated that Council should not have been bypassed – and that it was not an administrative decision. Mayor Shepherd said the Council needed to consider that the developers were moving forward at a time when no one else was because of the current economy. He indicated that the developers were taking massive risks. Mayor Shepherd thought it was administrative because the unit count and overall design of the project was not changing. Councilmember Peterson wanted better communication with the Council in the future to better manage expectations. Mayor Shepherd said there would be further changes to the size of the office space on the south end. Mayor affirmed the developers were truly invested. Councilmember Ratchford thought those changes would be administrative decisions. Mr. McIlrath said staff would bring any changes to plans to Council. Councilmember Peterson said if there were changes to projects the Council needed to be apprised of the changes so they could communicate with residents.

Mr. McIlrath reviewed additional proposed changes to the Temporary Signage section, specifically, Pre-construction signage and Project Pylon & Monument Signage. He said the Project Pylon & Monument would follow the guidelines of the Clearfield City Code Title 11 chapter 15 regarding sign regulations. Staff was proposing to add language that said, "any signage not described in this section is prohibited unless otherwise addressed in Clearfield City Code Title 11 Chapter 15."

Mr. McIlrath described the proposed changes to the "Building Placement & Height" section to clarify where the setback would be measured. Mr. McIlrath said it was scheduled for a public hearing in the March 26, 2024 policy session and asked whether it should it be rescheduled to discuss more or was the Council comfortable moving forward. Councilmember Peterson thought it could be addressed on March 26, 2024 but recommended some changes to the language. Mr. McIlrath would communicate with the developers about Council's concerns.

DISCUSSION ON BUSINESS LICENSE FEES

Spencer Brimley, Community and Economic Development Director, said there had been questions and concerns about the disproportionate fees that were scheduled to be increased on July 1, 2024. He asked whether Council would like to make any changes to that roll-out schedule for the remaining increase. Mr. Brimley said most cities had not addressed their fees for a number of years. He said there were two specific business types that had concerns with the increases – Convenience Stores and Hotels.

The other item for consideration was the relationship the City had with MIDA and the licensing process. He said he had spoken with Mike Wagstaff about how the licensing process should be handled. He pointed out that the City had an agreement with MIDA that was out of date based on the costs of doing business and some of the fees included. He said the agreement could be amended in February 2025. He explained that one of the complexities of the business license fees for businesses located in a MIDA jurisdiction was that MIDA was considered its own municipality that contracted services with Clearfield City.

Mr. Allen mentioned that more work needed to be completed to determine what the Interlocal

Agreement with MIDA allowed the City to charge, if anything, for business licenses or disproportionate fees. He thought the process would be to either invoice MIDA for police services provided in their jurisdiction or charge them a business license fee that included disproportionate fees, but not both. Mayor Shepherd disagreed because of the context of the agreement with MIDA. He explained that the City did not collect property taxes from MIDA. The City did not have the income coming in from any MIDA property that would cover a police call. It should go above and beyond just a police call fee. Councilmember Ratchford stated that MIDA did not think there was an expectation of the City providing services, other than what was included in the Interlocal Agreement, so they should not pay property taxes. Mr. Allen attempted to redirect the discussion to revising the disproportionate fee for hotels because it was going beyond the business licensing question on the agenda. The items being discussed would be addressed in the Interlocal Agreement with MIDA.

Councilmember Ratchford wanted to address the hotels in Clearfield City because she thought the fee was too high. Councilmember Peterson asked if Councilmember Ratchford was supportive of disproportionate fees for hotels outside of MIDA jurisdiction. Councilmember Ratchford answered affirmatively, as long as the fee was reasonable. She thought the disproportionate fee needed to be reduced by the amount of the property taxes paid by the hotel. Mr. Brimley explained that the fee study focused its findings on recovering the costs for services and did not take into consideration all other factors of business in the City. Mr. Allen recalled debates about considering credits to fees for sales-tax-generating businesses, or for businesses that provided some public good to the community, but the costs incurred by the City for providing service remained as identified by the study. Mr. Brimley acknowledged that whether it was paid through a disproportionate fee or through some other revenue source the cost of services would need to be paid. He recollected an additional conversation about the importance of the businesses recognizing the costs that were part of their operation. He pointed out that the study did not take community contribution or taxes, etc. into consideration because the study focused on the impact of costs to the City. Councilmember Peterson was open to consider the concept of crediting fees based on sales taxes but thought there needed to be a metric established. Mr. Allen made the point that if the costs for city services were not paid by the business through a disproportionate fee, then de facto it would be charged to the whole population of residents and tax payers.

There was a conversation about MIDA and the fact that they had not made any distributions to the City for services. Mayor Shepherd explained their revenues had not currently attained the needed threshold for distributions and did not anticipate for an additional two years. He pointed out that the wear and tear to Clearfield City's road from the amount of traffic had not been taken into account.

Mr. Brimley pointed out that staff needed to get notice of the increase out to the businesses by May 2024 and wanted Council's input on whether they wanted to make changes to the disproportionate fee. Councilmember Wurth stated that the most feedback on any topic he had received had been on the disproportionate fee. He acknowledged that surrounding cities had not looked at their business licensing fees for 15-20 years and the cost of doing business from a licensing perspective was less expensive in surrounding cities. He recommended delaying the roll-out of the remaining increase. Councilmember Peterson pointed out that in some states on

the eastern side of the country, business owners had private security at convenience stores. She thought it was interesting that there was an acknowledgment of the need for police services and that it was privately funded. She wondered if businesses needed to be made aware that the City was subsidizing a function of private businesses which reduced the availability of police to residents and other businesses.

Mayor Shepherd said the business owners had been informed that the increases were coming. Councilmember Ratchford asked how many dwellings and entities had been added to the City since the study. She thought the amount should be reduced based on the growth of the City. Mr. Brimley said the study had been completed based on data from 2021. Councilmember Wurth appreciated Council's rationale for the increases but thought the two year roll out was aggressive and thought the time for the roll out should be extended. He recommended that 25 percent be rolled out this year and then the remaining 25 percent rolled out the following year. Councilmember Thompson did not oppose delaying the roll out of the taxes.

Councilmember Ratchford thought the revenues generated by the businesses, such as sales tax, energy tax, and transient room taxes, needed to be taken into consideration in the disproportionate fee. Mr. Allen pointed out that theoretically the transient room taxes paid by hotels were to be used for the promotion of travel and tourism. He said those funds were reallocated to the City's communications and marketing efforts. Councilmember Peterson was open to considering taking taxes into consideration but wanted a methodology in place. Councilmember Peterson said if the City was identifying that the disproportionate fee was due to increased police presence, then it should be allocated to a restricted fund and not to the General Fund, so she could explain to the residents how it was being mitigated through the disproportionate fees. She thought it was important to be able to explain to residents that due to the impact of the businesses, the City had to bring on more officers faster. Mr. Allen said the City could restrict the revenues if it chose to, to dedicate the money toward the Police Department. Councilmember Peterson thought it was important to be able to show residents the money trail and be able to identify that it was used to meet the needs of staffing.

Mayor Shepherd reminded Council that the ordinance adopted by Council had specified that the fees would be rolled out this year. He said MIDA's piece would be addressed separately. He pointed out that the reallocation of disproportionate fees was an administrative action. Mr. Allen stated that unless a majority of the Council asked the staff to do otherwise, the increases would roll out in July as by ordinance. Councilmember Wurth maintained he thought it would be kind to businesses in Clearfield to roll out 25 percent this year, then the remaining 25 percent the following year. He acknowledged it would reach the full amount eventually. Mayor Shepherd was amenable with rolling out the increase fully because the business owners had been informed of the increase last year. Council agreed to have full roll out in July 2024.

The discussion on the FY25 Budget resumed at 8:56 p.m.

It was determined that Council could review Capital Projects at the next work session on March 26, 2024.

Mr. Knapp presented information on the FY25 projected revenues. He reviewed a historical summary of General Fund revenues and outlined the proposed increases for the FY25 budget. Mr. Knapp explained the preliminary budget anticipated maintaining the current certified property tax rate of 12.02%. He projected that the average homeowner would likely see an increase of $7.34 annually under that scenario. Mr. Knapp also reviewed the historical rate of the property tax rates. There was a discussion on the impact of maintaining the tax rate and the noticing required for the Truth in Taxation process which was based on the rate of change by Davis County to maintain the taxes collected by the City.

Mr. Knapp reviewed the historical summary of Sales Tax revenues. He pointed out that the rate of growth had slowed. He reviewed the historic summary of Licenses and Permits revenues, Inter-Governmental fund, Charges for Services, Aquatic & Fitness Center, Fines and Forfeitures; indicating the impact on the FY25 budget projections.

He reviewed the Revenue Bonds and the debt per capita.

Councilmember Peterson moved to adjourn at 9:22 p.m., seconded by Councilmember Thompson.

RESULT: Passed [4 TO 0]
YES: Councilmember Thompson, Councilmember Peterson, Councilmember Ratchford, Councilmember Wurth
NO:

APPROVED AND ADOPTED
This day of 2024

/s/ Mark R. Shepherd, Mayor

ATTEST:

/s/ Nancy R. Dean, City Recorder

I hereby certify that the forgoing represents a true, accurate, and complete record of the Clearfield City Council meeting held Tuesday, March 19, 2024.

/s/ Nancy R. Dean, City Recorder

CLEARFIELD CITY COUNCIL MEETING MINUTES
6:00 PM WORK SESSION
March 26, 2024

City Building
55 South State Street
Clearfield City, Utah

PRESIDING: Mayor Pro Tem Karece Thompson

PRESENT: Mayor Pro Tem Karece Thompson, Councilmember Nike Peterson, Councilmember Tim Roper, Councilmember Dakota Wurth

ABSENT: Councilmember Megan Ratchford, Mayor Mark Shepherd

STAFF PRESENT: Community Development Director Spencer Brimley, Community Services Director Eric Howes, City Attorney Stuart Williams, Community Relations Director Shaundra Rushton, Assistant City Manager Summer Palmer, Senior Planner Brad McIlrath, Public Works Director Adam Favero, Finance Manager Rich Knapp, City Recorder Nancy Dean, Deputy City Recorder Chersty Titensor, Public Works Deputy Director Braden Felix, Finance Department Lee Naylor

VISITORS: Cole Ross, Kathryn Murray, Nathan Rich – Executive Director, Wasatch Integrated Waste Management District, Preston Lee – Operations Manager, Wasatch Integrated Waste Management District, Juli McIntosh – Executive Assistant/Special Waste Coordinator, Wasatch Integrated Waste Management District, Collette West – Sustainability Specialist, Wasatch Integrated Waste Management District

DISCUSSION ON A ZONING TEXT AMENDMENT REQUEST BY CLEARFIELD CITY TO AMEND THE TRANSITION SETBACK IN THE DOWNTOWN FORM BASED CODE

Brad McIlrath, Senior Planner, reviewed the proposed amendments to the transition setbacks. He reminded Council of the area included in the Form Based Code Area. He reviewed the change to the zoning text which would provide a 20-foot buffer between any building type in any district adjacent to a single-family home. He outlined the height restrictions for buildings adjacent to lower density neighborhoods.

DISCUSSION REGARDING THE NORTH DAVIS FIRE DISTRICT (NDFD) REQUEST FOR A REFUND OF BUILDING PERMIT FEES FOR THE NEW FIRE STATION

Spencer Brimley, Community & Economic Development Director, presented information for Council to consider the NDFD's request for a refund/donation of building permit fees for the new fire station. He said that originally the plans called for three meters, but due to some changes over the construction process, they would only need two; one new and one existing. He said there was no Impact Fee for the existing connection, but there would be an Impact Fee and Meter Charge for the new connection. Mr. Brimley brought attention to the outstanding balance of $18,597.93 of which $12,055.63 was non-refundable to cover costs for the plan review by WC3. He directed Council to the spreadsheet which showed the breakdown of fees and pointed out that the anticipated full refund would be approximately $48,354.15. Alternatively, the refund

amount could be based on a percentage of cost, based on numbers representative of those that utilized the Fire District services. He said he had reached out to NDFD for assistance in allocating the costs; he asked for a percentage of calls, but Chief Becraft said he would get back with him.

Councilmember Peterson recognized that 90% of the calls were from Clearfield City. Mr. Brimley asked for Council's input to know which methodology to implement for the refund so a public hearing could be scheduled. Councilmember Peterson thought it might be worth splitting costs between the cities. She said she had asked Chief Becraft to pull history from when the station was built in West Point. He told her that West Point City had waived all fees and it was not proportionate between the cities. Her inclination was to refund across the board, to follow the precedent that West Point City had used. Councilmember Roper, Mayor Pro Tem Thompson and Councilmember Wurth agreed. Councilmember Peterson recommended a refund of anything that were not hard costs. She thought the attempt to use a different percentage would be difficult to determine. She looked at the building as a part of the City campus and part of the community, even though it was a separate entity. She said she leaned toward the full donation. Mr. Brimley believed the number would be approximately $48k but he would confirm.

DISCUSSION ON CLEARFIELD CITY RESOLUTION 2024R-07 REGARDING THE WASATCH INTEGRATED WASTE MANAGEMENT DISTRICT RECYCLING MANDATE

Stuart Williams, City Attorney, asked Council to provide feedback on the draft Resolution 2024R-07 responding to Resolution 23-15 created by the Wasatch Integrated Waste Management District (WIWMD). The resolution addressed the punishment phase included in Resolution 23-15 as well as addressing the costs of implementing the program that were not addressed in the Resolution. Additionally, Councilmember Peterson recommended to include language which addressed GRAMA requests made by the District's Board related to existing contracts with third-party vendors and conversations between the District and the third-party vendors outside the presence of City representatives. He said staff was looking for guidance to determine the language of the resolution and whether the Council wanted to move forward with it.

Councilmember Roper said he stood by his decision to support the resolution passed by the District's Board. He indicated that representatives from the District were present at the meeting and could explain the reasoning behind the resolution. He said, as a previous Board member, he expressed his opinion that there were other ways to move forward without a resolution by the District to get the various city councils on Board. He understood the City's response did not oppose the recycling, but there were serious issues at the landfill that needed to be addressed. In his opinion, he did not think there was any way the District could take care of things when every city had different procedures. He thought the District needed to rectify issues in the district that impacted the entire County.

Councilmember Wurth said the City and County needed to be stronger participants in the recycling program but had concerns about the hard costs of the roll out of the program. He was uncertain whether a resolution was an appropriate approach to respond to the District's resolution.

Councilmember Peterson said the resolution helped the Council understand its lane regarding interaction with the Board. She said she respected that the recycling decision was for the District's Board to make and didn't feel it was the Council's place to question their decision. She thought the concerns that were brought to light by Layton City were well articulated and outlined the mechanism that would be used as things moved forward. She said a person could have an opinion on recycling and be supportive of recognizing the significant impacts if recycling was not addressed and still be concerned about how the program was rolled out. She reached out to the District to inform them of the discussion Council was having and wanted to be careful and recognized that it was not a discussion about recycling because the Council did not have the authority to decide on what the District should be doing. The resolution was very prescriptive in what it said: the Council's concern about penalty, the request that it would be a collaborative effort in negotiations of contracts with third parties, and a discussion regarding the hard costs each city would need to incur – understanding the financial impact of how these would be implemented. She did not object if it was known this was not a recycling question, but was focused on the tenents discussed.

Mayor Pro Tem Thompson gave Nathan Rich from Wasatch Integrated Waste Management District time to speak. He said the action was taken by the Board after a three year process and it was understood that the system was changing, and that the life of the landfill was coming to an end. He said they had spent time to decide how to transition into the next phase. He said about 1/3 of the waste was transported 100 miles away to extend the life of the landfill to provide operational flexibility. He said that the landfill was going to close in roughly a 15-year time period, the District would continue to provide customer service at the landfill. In terms of the resolution, the decision to move forward when they did was not taken lightly by the Board. There was discussion at the board meeting whether they wanted to postpone. Mr. Rich said he had wanted to get a commitment from the Board prior to making some staffing decisions, such as hiring Collette, their Sustainability Specialist, as part of the transition to a full recycling program, but considered that he might have done it out of order and that he understood part of their role was to provide an educational component. He understood that the mandatory program seemed heavy-handed, but there were two reasons for the bundled strategy: 1) the more people who participate, the lower the unit cost, 2) higher participation also increased level of performance. He recognized that this was a process and the District Board was comprised of real people and any action taken could be modified. He pointed out that part of what they did was modify District code as it related to rates, and the code was changed all the time. If through discussion a better way was discovered, the Board would consider it. He would like to come back to give a more in-depth presentation about the program and why the District was doing what it was doing. He said they were finalizing a first draft of educational materials they wanted to share with the City. He pointed out that Layton had already passed a resolution and encouraged the City's participation with the Board through its Board member. He said the next Board meeting was in May and June.

Councilmember Thompson asked how much was involved with federal grants. Mr. Rich said there was no federal grant money but they were working with a non-profit called, "The Recycling Partnership" and the District received money from people interested in expanding the circular economy. There was a grant up to $15/bin for programs that met certain requirements. If

it was not a bundled program but was an opt-out program it would be $10/bin and subscription program $5/bin. Any additional bin placed on the ground the District was the clearinghouse on the bins, which might be problematic with the third-party if bins were not owned. The Recycling Partnership wanted the cities to own their bins at the end of the contract period, branded with the City logo. Councilmember Thompson asked if any of the efforts revolved around the reduction of emissions. Mr. Rich stated absolutely.

Councilmember Thompson questioned what information the Board was looking for when they submitted a GRAMA request. Mr. Rich said the information asked for was to know who was recycling and what programs were in place. The District thought it was important to have uniform programs. He thought one of the most important things was how many garbage cans were set out and how many recycling cans were set out. He said the information from the hauler contracts was the cost/unit of cans. He said all the information was gathered in a report that was available on the District's website for all the cities. Councilmember Thompson expressed his concern that the residents were being compelled into a program that was tied to an emission reduction goal that might have a federal link. He thought mandates did not usually accomplish what was intended and that the residents needed to be asked if they wanted to participate. Councilmember Thompson was okay with the resolution at this point, but wanted to sit down and discuss sustainability further to see if it was worth the City buying into it.

Councilmember Roper said there was a hardship portion in the resolution. Councilmember Peterson refocused the discussion on the resolution and not the subject of recycling. Councilmember Roper said the Council had the ability to talk with the District to resolve questions. Councilmember Peterson said the proposed resolution was not a referendum of what was done in November, she said the discussion was to talk about the mechanics of the roll-out of the decision.

Councilmember Peterson reviewed the items outlined in the draft Resolution 2024R-07 and gave further comment as to the intention and desired results. Councilmember Peterson wanted further clarification on the GRAMA request submitted by the District. Mr. Rich said they had completed a similar study approximately 5 years ago and had submitted GRAMA requests to know what all cities were doing with their hauling contracts and what the costs were. Based on that experience, they thought it more efficient to go to each city with a GRAMA request due to the process that was in place to get records. He said at no point had they had contract negotiations with the City's hauler. The Board had a conversation earlier in the process to see if there would be savings by having the District franchise the hauling contracts. They held a series of stakeholder meetings and one of those meetings was with the contractors to get their perspective as they tried to decide which path to take. The haulers made it clear they did not want the District to get involved in the contracts. Davis County had three very competitive haulers and pricing, and the Board found that no one was being taken advantage of. The Board found without argument that regionalizing would not save any substantial amount of money.

Councilmember Peterson addressed those that opposed drafting a resolution by saying in her opinion, resolutions were how the cities spoke formally. She thought the language of the proposed resolution was more collaborative and asked for clarity and understanding where the City would be bearing costs which might exceed what the Council had authorized. She asked for

pause to clarify language, identify costs, and through the Board, formalize some sort of process to collaborate. She thought a resolution did not represent a single person but the consideration of the body. Mr. Rich acknowledged it was an open process and that Councilmember Peterson was a member of the Board, and whether the City passed the resolution or not, the Board was interested in working through the issues. Councilmember Peterson stated her support of the language in the resolution and recommended it be moved forward to the next policy session. Councilmember Thompson agreed. Councilmember Wurth said the resolution was amenable to him because it was not as aggressive as Layton's resolution. He agreed that the resolution kept issues grounded, addressed costs be clarified for the City. He had no recommendation for changes to the language.

DISCUSSION ON A PROPOSED PROCLAMATION DECLARING APRIL 2024 FINANCIAL LITERACY AWARENESS MONTH

The Council moved to the discussion on the proposed Proclamation on Financial Literacy Awareness month.

Mayor Pro Tem Karece Thompson said in the State of Utah, Financial Literacy was being reformed. He said the Utah State Treasurer, Marlin Oaks, was coming to South Clearfield Elementary for a presentation. Councilmember Thompson gave his thoughts related to the importance of encouraging financial literacy. Councilmember Wurth supported the Proclamation.

Councilmember Peterson moved to adjourn the work session and reconvene in a policy session at 6:54 p.m., seconded by Councilmember Wurth. All voting AYE.

DISCUSSION ON FISCAL YEAR 2025 PROPOSED BUDGET

The Council reconvened in work session at 7:55 p.m.

Rich Knapp, Finance Director, started the budget presentation by reviewing the schedule of upcoming meetings. He explained the preliminary nature of the budget and that there would be ongoing changes.

He reviewed the Governmental Historic Capital Project Funding. The proposed budget for Capital Projects was at $3.1M. He reviewed the revenue sources and the proposed expenses. He showed how much the General Fund was subsidizing the projects with the current projections. He said in the future, staff was looking to recommend a transportation/utility fee that would be charged on the utility bill to go into a Street Fund. The Capital Projects were discussed in more detail.

Braden Felix, Deputy Public Works Director, reviewed the following proposed Public Works projects:

1. 350 South, Birch to 750 East
2. University, SR 193 to 1000 S, mill & fill
3. 300 North, 1000 West to Pacific Street

4. 1st Street (500 West Extension) – not in the projected budget numbers.
5.

Mr. Felix reviewed the Capital Projects that were for Utilities only:

Water

- Freeport 13th Street, C to E – 10" line $1.1M
- PRV Updates – Depot Street – $154k

Sewer

- SR-193, 200 South to Railroad – $1M

Storm

- H Street, 3rd to 5th Street – $1.3M additional $1.8M total

Eric Howes, Community Director reviewed Capital Projects for Parks. Some of the projects had been delayed from FY24 due to the required roof repair at the Aquatic Center.

Parks

- Fisher Skate Park – Lighting to LED – $165k
- Bicentennial Park – Add Parking & Security Lighting – $150k
- Fisher Park Sidewalk Replace/Repair – $20k
- Fox Hollow Arboretum Upgrade – $185k
- Fox Hollow Playground – $130k. Mr. Howes explained their department tried to replace one playground each year so that each playground is less than 18 years old.
- Open Space Landscaping – $26k
- Central Park New Signage – $10k
- North Steed & Barlow Large BBQ Grills – $7k each
- Replace Scoreboards Steed & Fischer – 5 at $15k each = $75k

Clearfield Aquatic & Fitness Center

- Replace pool slide stairs – $150k
- Turnstiles – $60k
- Hot water boiler & flue – $40k
- Tile & laminate for lap & Leisure pool – $400k
- Wading pool circulation pump – $5k
- Becks System 5 Controller – $8k
- Re-plaster outdoor wading pool – $25k

Arts Center and City Hall

- City Hall – VAV Box replace/repair – $200k
- Arts Center – Plumbing – $50k
- City Hall – 2nd half replace fire dampers & louvers – $50k
- Arts Center – Elevator – $200k
- City Hall – Police Area Renovation – $2.6 – 3.2M (Not included in proposed budget)

Park Facilities

- Parks – Electronic Locks Outbuildings phase 2 – $185k

- Steed Tower – Replace fire escape staircase – $35k
- Steed Tower – Fall protection for roof – $5k

PARAT – FY24 projects

- Bike Park & Trails – Chelmes Park – $30k
- Skate Park Improvements – $200k
- Bicentennial Playground – $200k
- Park Pavilion Replacement – $300k

Vehicles

- Police – 2 Explorers @$64k each = $125k – not in budget because officers hadn't been added yet
- Police – Explorer unmarked – $50k
- Parks – F150 – $55k
- Parks – (2) F150 – $61k each = $122k
- Parks – F350 – $55k
- Parks – F350 w/ utility bed – $68k
- Rec – Toyota Sienna – $51k
- Motor Pool – Sienna – $51k
- Motor Pool – F150 – $55k
- Motor Pool – Maverick – $32k

Vehicles – Enterprise Funds:

- Water – (3) F250 at $60k each = $180k
- Storm – F250 – $60k
- Streets – Bobtail Dump Truck w/ snowplow & heated bed – $265k

Facilities – Mr. Howes said the proposed budget amount for office furniture could be delayed based on finalizing changes to the Police Department.

Parks – Equipment

- Zero Turn 72" mower replace – $17k
- Stump grinder Bobcat Attachment – $11k
- 144" mower replace 11' – $68k
- Roughcut mower replace $23k
- Overseeder replace – $21k

Aquatic & Fitness Center Equipment

- Replace cable cross over – $8k
- Replace 6 elliptical with enrollment fee monies – $44k

Capital Expenses

- Increased budget for desktops/laptops/rugged laptops replace for Police Department – $83k
- Backhoe Loader – $125k The City had three, will seel one each year; last one sold for

$3k less than purchase
- Wheel loader replace – $7k net
- Police – thermal imagery drone – $8k

Councilmember Thompson asked how the fleet was doing. Mr. Knapp said the City had been selling/buying in the past, but this year the City would engage with Enterprise Car Rental to help with purchases and sales of fleet vehicles. Mr. Knapp said they had been spending less. Summer Palmer, Assistant City Manager, said Enterprise would help with staff time investment.

Mr. Knapp pointed out that more monies had been budgeted for the utility meter replacement so the commercial replacement could be contracted out. The residential meters would be completed internally.

Mr. Knapp gave an overview of larger changes to the Operational Expenses that were non-personnel related, one-time Operational Expenses, and larger changes to the Operational Budget with dispatch services, parks, recreation, IT, water, sewer and solid waste items.

Councilmember Wurth moved to adjourn at 8:53 p.m., seconded by Councilmember Peterson.

RESULT: Passed [4 TO 0]
YES: Councilmember Thompson, Councilmember Peterson, Councilmember Roper, Councilmember Wurth
NO: None
ABSENT: Councilmember Ratchford

APPROVED AND ADOPTED
This day of 2024

/s/ Mark R. Shepherd, Mayor

ATTEST:

/s/ Nancy R. Dean, City Recorder

I hereby certify that the forgoing represents a true, accurate, and complete record of the Clearfield City Council meeting held Tuesday, March 26, 2024.

/s/ Nancy R. Dean, City Recorder

CLEARFIELD CITY COUNCIL MEETING MINUTES
7:00 PM POLICY SESSION
March 26, 2024

City Building
55 South State Street
Clearfield City, Utah

PRESIDING: Mayor Pro Tem Karece Thompson

PRESENT: Councilmember Nike Peterson, Councilmember Tim Roper, Councilmember Karece Thompson, Councilmember Dakota Wurth

ABSENT: Mayor Mark Shepherd, Councilmember Megan Ratchford

STAFF PRESENT: Assistant City Manager Summer Palmer, City Attorney Stuart Williams, Public Works Director Adam Favero, City Community Services Director Eric Howes, Community Development Director Spencer Brimley, Senior Planner Brad McIlrath, Communications Manager Shaundra Rushton, City Recorder Nancy Dean, Deputy City Recorder Chersty Titensor.

VISITORS: Andy Garcia – DeMolay, Tayvin White – DeMolay, Churie Cohen – DeMolay, Lindsey Cohel – DeMolay, Denin Hill – Demolay, Dresden Hill – DeMolay, Debbie Hill – Demolay, Ashlint Byar – DeMolay, Killian Randall – DeMolay, Sarah Randall – DeMolay, Ellis Valdez – DeMolay, Daneen Adams – Open Doors, Todd Hixson – Safe Harbor, Kathryn Murray.

Mayor Pro Tem Karece Thompson called the meeting to order at 7:04 p.m.

Councilmember Wurth led the opening ceremonies.

APPROVAL OF MINUTES
February 13, 2024 – work session
February 13, 2024 – policy session
February 27, 2024 – work session
February 27, 2024 – policy session

Councilmember Peterson asked to table the minutes from the February 27, 2024 work and policy sessions to give her time to review and submit feedback to staff.

Councilmember Peterson moved to approve the February 13, 2024 work session, February 13, 2024 policy session, and table the February 27, 2024 work session, February 27, 2024 policy session, seconded by Councilmember Wurth.

RESULT: **Passed [4 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Wurth, Councilmember Thompson
NO: None
ABSENT: Councilmember Ratchford

PUBLIC HEARING ON AN AMENDMENT TO THE MASTER DEVELOPMENT PLAN OF THE CLEARFIELD STATION MASTER DEVELOPMENT AGREEMENT (MDA) WITH CLEARFIELD CITY, UTAH TRANSIT AUTHORITY (UTA), AND CLEARFIELD STATION PARTNERS, LLC FOR THE CLEARFIELD STATION PROJECT LOCATED AT APPROXIMATELY 1250 SOUTH STATE STREET (TINs: 12-066-0138, 12-882-0001, 12-882-0004, and 12-882-0005)

Brad McIlrath, Senior Planner, explained the proposed amendments to the Master Development Plan (MDP) which was an exhibit of the Master Development Agreement. He explained that the MDP provided development regulations for the Clearfield Station area. He said staff had received an application for the first project for the Mixed-Use Residential Buildings C & D. He reported that through the application process, staff and the developers had identified some necessary amendments to provide more clarity and flexibility for the development of the site. He showed the Illustrative Master Plan where he identified the location of the buildings.

Mr. McIlrath discussed the requested changes to section 4.11 Signage, and the addition of Icon Signage language. He said the developer did not have any plans for rooftop signage at the current time, but said if they had a rooftop sign, they anticipated it being text placed along the top edge of the building and not on the rooftop. Mr. McIlrath read the language for Icon Signage to Council. He reviewed the Temporary Signage section where language had been added to allow for signage during the preconstruction phase to advertise future plans for the project. Based upon feedback from the Planning Commission and Council to reduce visual clutter, it made allowance for one sign per use, with a potential maximum of three signs.

Mr. McIlrath reviewed proposed changes to section 5.1 Mixed Use Residential Land Use Regulations. The proposed change would redefine the measurement of the front setbacks. He showed an example in Building C. The Code required a setback of no more than 10 feet from the property line, but Building C exceeded that setback. He said there would need to be redesigns to provide more active outdoor space, such as outdoor dining, display of goods; some kind of extension of the interior use. The proposed language would add that the setback would be measured from the right-of-way or public utility easement (PUE) line to the street-side edge of the outdoor use hardscape area.

In the Land Use Requirements section a comma was added to clarify original intent.

Mayor Pro Tem Thompson opened the public comment at 7:20 p.m.

There were no public comments.

Councilmember Peterson moved to close the public hearing at 7:21 p.m., seconded by Councilmember Roper.

RESULT: **Passed [4 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Thompson, Councilmember Wurth
NO: None
ABSENT: Councilmember Ratchford

PUBLIC HEARING TO REVIEW THE 2024-2025 COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) ONE-YEAR ACTION PLAN

Allison Barnes, CBDG Coordinator, explained that as an entitlement Grantee of Housing and Urban Development's (HUD) Community Development Block Grant (CDBG) funds, Clearfield City, was required to develop an Annual Action Plan. HUD regulations required two public hearings, the first was to start the 30-day comment period to gather information from the public concerning the needs within Clearfield City. No action was required. She said the finalized plan would be presented to Council on May 14, 2024. It was anticipated that Clearfield City would receive approximately $193,000, with the official amount to be announced around May 8, 2024. She said the steering committee was considering splitting the public service allotment equally (15%), pay for administration costs (20%), and purchase a vacant lot (65%).

Deneen Adams, Assistant Executive Director from Open Doors, expressed appreciation for past support to their organization. She reported that Circles was going into their 9th year of providing services. She said it was an anti-poverty program that used mentors to assist residents to overcome the barriers of poverty. They were asking for $15k to keep the program going.

Todd Hickson, the new Executive Director for Safe Harbor, introduced himself. He informed Council of the services provided by Safe Harbor, such as shelter support services, education awareness, crisis intervention through their hotline, therapy, children's advocacy, and protective orders. Their group were asking for $12k to help support their emergency shelter staffing funding. Councilmember Peterson asked if Clearfield City or Davis County was trending upward or downward with domestic violence since the Covid-19 pandemic. He said with the legislation passed last year with the lethality assessment, they saw their numbers had increased significantly. Stuart Williams, City Attorney, said the numbers could be going up because of the lethality assessment, increased education and reporting by police, and police bringing more awareness to residents of the available programs. Councilmember Peterson asked if there was a way for residents to help Safe Harbor. Mr. Hickson said volunteers could go directly to their website or contact the agency to help. The agency accepted help from those wanting to volunteer their time, accepted donations in kind or however individuals wanted to help.

Mayor Pro Tem opened the public hearing at 7:30 p.m.

There were no public comments.

Councilmember Roper moved to close the public hearing at 7:30 p.m., seconded by Councilmember Wurth.

RESULT: **Passed [4 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Thompson, Councilmember Wurth
NO: None

ABSENT: Councilmember Ratchford

OPEN COMMENT PERIOD

There was no public comment.

APPROVAL OF THE DeMOLAY PROCLAMATION DECLARING THE MONTH OF MARCH 2024 DeMOLAY MONTH IN CLEARFIELD CITY

Andy Garcia introduced DeMolay International and explained that it was a special club for boys between the ages of 12-21. He said it was a place to learn about how to be leaders, how to manage projects and work as a team. They liked to be a family and support each other.

Mayor Pro Tem Thompson expressed his support for their efforts and encouraged the DeMolay International organization and participants to continue their efforts to provide valuable development. Mayor Pro Tem Thompson read the Proclamation.

Councilmember Peterson moved to approve the DeMolay Proclamation declaring the month of March 2024, DeMolay Month in Clearfield City, seconded by Councilmember Wurth.

RESULT: **Passed [4 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Wurth, Councilmember Thompson
NO: None
ABSENT: Councilmember Ratchford

APPROVAL OF ORDINANCE 2024-04 APPROVING AN AMENDMENT TO THE MASTER DEVELOPMENT PLAN OF THE CLEARFIELD STATION MASTER DEVELOPMENT AGREEMENT (MDA) WITH CLEARFIELD CITY, UTAH TRANSIT AUTHORITY (UTA), AND CLEARFIELD STATION PARTNERS, LLC FOR THE CLEARFIELD STATION PROJECT LOCATED AT APPROXIMATELY 1250 SOUTH STATE STREET (TINs: 12-066-0138, 12-882-0001, 12-882-0004, and 12-882-0005)

Councilmember Wurth moved to approve Ordinance 2024-04 approving an amendment to the Master Development Plan of the Clearfield Station Master Development Agreement with Clearfield City, Utah Transit Authority and Clearfield Station Partners, LLC and authorize the mayor's signature to any necessary documents, seconded by Councilmember Roper.

RESULT: **Passed [4 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Thompson, Councilmember Wurth
NO: None
ABSENT: Councilmember Ratchford

COMMUNICATION ITEMS

CITY COUNCIL'S REPORTS

Mayor Pro Tem Thompson

- Nothing to report

Councilmember Peterson

- She said Wasatch Integrated would come to present later in the spring to review the recycling program.

Councilmember Wurth

- He said he enjoyed his time with the Youth Commission in Washington, D.C.
- He said he was preparing a presentation on the possibility of utilizing the direct pay mechanism which was part of the Inflation Reduction Act. He said it could possibly help fund clean energy projects in the City and perhaps jump start redevelopment in areas that needed it.

Councilmember Roper

- He added his thoughts to what had already been presented. He said Open Doors was a phenomenal organization, but had great needs. He said the food bank was extremely low. He recommended all to support the food bank and Open Doors and encouraged everyone to refer any organizations that could help support it to them.

CITY MANAGER'S REPORT

Summer Palmer, Assistant City Manager

- She excused both the Mayor and City Manager who were attending the Utah Chief of Police Association banquet celebration in support of Clearfield City's Chief of Police Kelly Bennett who received the Chief of the Year Award-Mid-sized City.
- She expressed her appreciation to the finance team who had been working so hard on the budget.

STAFF REPORTS

Nancy Dean, City Recorder

- No council meeting April 2, 2024
- Work and Policy session on April 9, 2024
- No council meeting April 16, 2024
- Work and Policy session on April 23, 2024. She pointed out that the budget would be on most of the agendas.

Eric Howes, Community Director

- Announced the Easter Egg Hunt and Easter Egg Dive was Saturday. The Hunt started at 10:00 a.m. at Fischer Park and the Dive was 10:30 a.m. – 1:00 p.m. at the Aquatic Center.

Councilmember Wurth moved to adjourn policy session and reconvene in work session at 7:43 p.m., seconded by Councilmember Peterson.

RESULT: **Passed [4 TO 0]**
YES: Councilmember Peterson, Councilmember Roper, Councilmember Thompson, Councilmember Wurth
NO: None

ABSENT: Councilmember Ratchford

APPROVED AND ADOPTED
This day of 2024

/s/ Mark R. Shepherd, Mayor

ATTEST:

/s/ Nancy R. Dean, City Recorder

I hereby certify that the forgoing represents a true, accurate, and complete record of the Clearfield City Council meeting held Tuesday, March 26, 2024.

/s/ Nancy R. Dean, City Recorder

STAFF REPORT

TO: Mayor Shepherd and City Council Members

FROM: Brad McIlrath, Senior Planner

MEETING DATE: Tuesday, April 23rd, 2024

SUBJECT: Public Hearing, Discussion and Possible Action on **ZTA 2024-0206**, a zoning text amendment request by Clearfield City to amend Sections 11-10A and 11-21 of the Clearfield City Code to update the landscape open space requirements for the P-F Zone (Public Facilities) and make minor amendments to landscaping standards and requirements. **(Legislative Action)**.

STAFF RECOMMENDATION

On April 3rd, 2024, Staff recommended that the Planning Commission forward a recommendation of **APPROVAL** for **ZTA 2024-0206** to the City Council, for the proposed landscaping standards outlined in this report. This recommendation was based upon the proposed changes outlined in the staff report and presentation.

PLANNING COMMISSION RECOMMENDATION

On April 3, 2024, the Planning Commission forwarded a recommendation of **APPROVAL** for **ZTA 2024-0206** to the City Council, for the proposed landscaping standard changes subject to the following modifications:

1. The definition for 'Public Works Facility' be added to Section 11-3-3 of the Clearfield City Code.
2. Commercial developments shall be landscaped with a minimum of one tree for every 500 square feet of landscape area instead of the proposed one tree for every 600 square feet as proposed by staff.
3. Multi-family developments shall be landscaped with a minimum of one tree for every 400 square feet and be left unchanged instead of the proposed one tree for every 600 square feet as proposed by staff.

The recommendation was made on a 5-1 vote with Commissioner Murray dissenting in favor of the one tree for every 600 square feet as originally proposed.

BACKGROUND & ANALYISIS

The purpose of the P-F (Public Facilities) Zone is to provide areas for the location and establishment of facilities which are maintained in public and quasi-public ownership and use. Of the properties in Clearfield currently zoned P-F, most are City owned parks. Other examples include a water tower in the Freeport Center, farmland owned by Weber Basin Water Conservancy District, and the Maintenance and Operations Center (MOC) for the Public Works Department. With planned additions to the MOC, staff have been reviewing the standards for development in the P-F Zone.

The minimum required landscaped open space for projects in the P-F Zone is fifteen percent (15%) of the total project area. Staff have reviewed the list of permitted and conditional uses of the P-F Zone and are proposing amendments to open space requirements based on the type of permitted or conditional use. The primary purpose of the proposed amendment is to establish similar landscaping standards for comparable uses. A public operations or utility facility, for example, is comparable in nature to land uses that are typically found in the M-1 (Manufacturing) Zone.

Staff proposes that the minimum required open space for 'Public Works Facilities' and 'Public Utility Facilities' is reduced to five percent (5%), and that the applicable landscaping standards and requirements for these uses are the same standards as those for properties in the M-1 Zone.

Staff, after having noticed the Public Hearing for this amendment, identified the need to define a 'Public Works Facility' in the Land Use Ordinance of Clearfield City and to add it to the list of permitted uses in the P-F Zone. For this reason, staff also recommends that the Planning Commission include in their recommendation that 'Public Works Facility' be defined under Clearfield City Code Section 11-3-3, Terms Defined. This will require an updated notice for the Public Hearing with the City Council.

While updating the landscaping standards and requirements, staff also recommends the following amendments at this time.

- Minor formatting changes
- Return to the prior minimum tree quantity requirement of one (1) tree for every six hundred (600) square feet of landscaping for commercial, multi-family, and other similar types of development

When the City adopted a new water efficient landscaping ordinance in 2022, the minimum tree and shrub requirements for certain types of development were increased to ensure proper planting quantities while having landscapes designed with less turf grass and more planter bed areas. During site plan reviews since the 2022 adoption, staff have determined that the new tree ratio of one (1) tree per four hundred (400) square feet is more than is necessary to have a well planted and aesthetically pleasing landscape. Additionally, over planting conflicts with water conservation efforts and can pose maintenance and tree health challenges.

The proposed amendments are included as an attachment to this report with the amended portions shown with red text.

GENERAL FINDINGS – ZONING ORDINANCE TEXT AMENDMENT

Clearfield Land Use Ordinance Section 11-6-3 establishes the following findings the Planning Commission shall make to approve Zoning Ordinance Text Amendments. The findings and staff's evaluation are outlined below:

	Review Consideration	Staff Analysis
1)	The proposed amendment is in accordance with the General Plan and Map; or	The proposed amendments are in accordance with the General Plan which encourages continual evaluation and modifications to adopted ordinances as circumstances require. The proposed amendments provide for consistency in the open space and landscaping requirements for similar land uses.
2)	Changed conditions make the proposed amendment necessary to fulfill the purposes of this Title.	Proposed additions to the MOC have provided the opportunity for continual evaluation of development standards of the P-F Zone along with our updated landscaping standards. The proposed amendment establishes similar landscaping standards for comparable uses.

FINDINGS AND CONCLUSION

Based upon a review of the existing and proposed ordinance standards Staff concludes the following:

1. The landscaping and open space requirements of the Clearfield City Code should be continually evaluated to address needs identified through site plan reviews and code implementation.
2. The proposed changes encourage equitable treatment of properties with comparable land uses.
3. The proposed amendments will also require that a definition for 'Public Works Facility' is added to Section 11-3-3 of the Clearfield City Code. Staff recommend that the Planning Commission include the added definition in their recommendation to the City Council and that the Public Hearing notice is updated accordingly.
4.

CORRESPONDING POLICY PRIORTIES

- *Improving Clearfield's Image, Livability, and Economy*
  The proposed amendments encourage beautification of properties within Clearfield City with an attractive and water-efficient landscape design on public and private properties.

FISCAL IMPACT

None.

ALTERNATIVES

The City Council may make changes that are different than the Planning Commission recommendation. The proposed changes and Planning Commission recommendation were discussed with the City Council in a work session on April 9th, 2024. During that discussion the City Council indicated a desire to have the tree requirement standard for commercial properties be one tree for every 600 square feet of landscape area. The City Council was comfortable with the Planning Commission recommendation to maintain a standard of one tree for every 400 square feet of landscape area for multi-family developments but was also open to matching the same standard used for commercial properties. A decision that is different than the recommendation from the Planning Commission will need to be stated as part of the motion for the approved changes.

SCHEDULE/TIME CONSTRAINTS

If the City Council chooses to table this item, it will need to be tabled to a specific future date and time.

LIST OF ATTACHEMENTS

- Summary of Original Proposed Text Amendments

SUMMARY OF PROPOSED TEXT AMENDMENTS FOR ZTA 2024-0206

11-3-3: TERMS DEFINED:

PUBLIC WORKS FACILITY: Any publicly owned and/or operated facility meant for the physical functions of a public entity, including construction operations, maintenance, and the storage of vehicles, equipment, and materials.

11-10A-2: PERMITTED USES (P-F ZONE):

The following buildings, structures, and uses of land shall be permitted in the PF public facilities zone upon compliance with the requirements set forth in this code:

Churches.

Parking lots, stand alone.

Parks and open space.

Public uses. (Ord. 2009-35, 11-24-2009; amd. Ord. 2014-16, 7-8-2014)

Public works facilities.

11-10A-12: OTHER REQUIREMENTS (P-F ZONE):

A. ~~A.~~ Landscaping And Open Space:

1. A minimum of fifteen percent (15%) of the total project area shall be provided as landscaped open space for the following uses: Churches, Stand alone parking lots, Caretaker's residence for mortuaries, Cemeteries, Colleges and universities, Mortuaries, Outdoor storage, Schools, Specialized schools, and Vocational and technical training facilities.

2. A minimum of five percent (5%) of the total project area shall be provided as landscaped open space for the following uses: Public utility facilities and Public works facilities.

3. All landscaping shall comply with the provisions of chapter 21 of this title. Certain types of landscaping to buffer noise, structures or other elements may be required along any or all property lines if determined by the planning commission.

B. Garbage Dumpsters: Garbage dumpsters shall be completely screened when adjacent to a residentially zoned parcel, or in any location where they can be viewed from a public right of way.

C. Walls And Fences: Walls or fences may be required along all property lines which are adjacent to a residential zone or use or public right of way. The exact location, height and type of materials of the wall or fence shall be approved by the planning commission as part of the site plan approval process.

D. Exterior Building Materials:

1. Permitted exterior building materials for main buildings shall be brick, stucco, stone, rock, or vinyl siding.

2. Vinyl siding shall not be permitted on the front elevation of a main building.

3. Accessory buildings shall be built with a finished, all weather exterior material. Detached garages and carports shall be finished to match the exterior of the main building.

4. Any building elevation facing a street or right of way shall include at least two (2) of the following: brick, stucco, stone, or rock.

E. Footings And Foundation Required: All main buildings shall be constructed on a permanent footing and foundation.

F. Restrictions: No area needed to meet the lot width, frontage, area, setback or other requirements of this article may be divided, sold, or leased separate from such lot or building.

G. Design Standards: All new site development or construction in the PF public facilities zone shall incorporate the appropriate design standards described in chapter 18 of this title. (Ord. 2009-35, 11-24-2009; amd. Ord. 2022-06, 2-22-2022)

CHAPTER 21 LANDSCAPING STANDARDS AND REQUIREMENTS

11-21-1: PURPOSE AND INTENT:

The Landscaping Standards and Requirements ordinance is established to promote the health, safety, and general welfare of the public by enhancing the aesthetic quality of residential and commercial areas while promoting water-efficient landscaping. (Ord. 2022-06, 2-22-2022)

11-21-2: DEFINITIONS:

For the purposes of this chapter, the following terms shall be defined as set forth herein:

ACTIVE RECREATION AREA: An area that is dedicated to active play, including where turf may provide a playing surface.

BUBBLER: An irrigation head that delivers water to the root zone by “flooding” the planted area, usually measured in gallons per minute. Bubblers exhibit a trickle, umbrella, or short stream pattern.

CHECK VALVE: A device used in sprinkler heads or pipe to prevent water from draining out of the pipe through gravity flow. Used to prevent pollution or contamination of the water supply due to the reverse flow of water.

DRIP EMITTER: Drip irrigation fittings that deliver water slowly at the root zone of the plant, usually measured in gallons per hour.

EVAPO-TRANSPIRATION (ET): The quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time, expressed in inches per day, month or year.

GRADING PLAN: The Grading Plan shows all finish grades, spot elevations as necessary and existing and new contours with the developed landscape area.

GROUND COVER: Material planted in such a way as to form a continuous cover over the ground.

GROUND PLANE COVERAGE: Vegetative cover of the horizontal surfaces of a landscaped area. Canopies of deciduous trees shall not be counted toward the coverage calculation.

HARDSCAPE: Durable landscape materials, such as concrete, wood, stone or brick pavers, or compacted organic mulch.

IRRIGATION EFFICIENCY: The measurement of the amount of water beneficially applied, divided by the total amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system hardware characteristics and management practices.

IRRIGATION PLAN: The irrigation plan shows the components of the irrigation system with water meter size, backflow prevention (when outdoor irrigation is supplied with culinary water), precipitation rates, flow rate and operating pressure for each irrigation circuit, and identification of all irrigation equipment.

LANDSCAPE ARCHITECT: A person who holds a certificate to practice landscape architecture in the state of Utah. Only a Landscape Architect can legally create commercial landscape plans.

LANDSCAPE DESIGNER: A person who may or may not hold professional certificates for landscape design/architecture and cannot legally create commercial landscape plans. Landscape Designers generally focus on residential design and horticultural needs of home landscapes.

LANDSCAPE PLAN: The landscape plan shows the design of the landscape with natural features such as plantings, ground and water forms, circulation, walks, hardscape, and other features to comply with this chapter. Types of plantings are identified, and quantities included. A landscape and open space percentage of the site is also included to ensure conformance with the minimum requirements of the zone in which the development is located.

LANDSCAPE ZONE: A portion of the landscaped area having plants with similar water needs, areas with similar microclimate (i.e., slope, exposure, wind, etc.) and soil conditions, and areas that will be similarly irrigated. A landscape zone can be served by one irrigation valve, or a set of valves with the same schedule.

LANDSCAPED AREA: Improved areas of the property that make up the landscape. The landscaped area does not include building or structure footprints, sidewalks, and other non-irrigated natural areas intentionally left undeveloped.

LANDSCAPING: Any combination of living plants, such as trees, shrubs, vines, ground covers, flowers, or grass; natural features such as rock, stone, or bark chips; and structural features, including but not limited to, fountains, reflecting pools, outdoor art work, screen walls, fences or benches.

LOCALSCAPES®: A locally adaptable and environmentally sustainable urban landscape style that requires less irrigation than traditional Utah landscapes (see www.Localscapes.com).

MULCH: Any material such as rock, bark, wood chips or other materials left loose and applied to the soil.

OPEN SPACE: An area which is completely free and unobstructed from any building or structure. Landscaping, walkways, covered patios, light poles and other ornamental features shall not be considered obstructions for the purposes of this definition. Areas used for storm drainage shall not be eligible for inclusion in a required open space area. Utility corridors shall only be counted toward the open space requirement if improved as an accessible amenity to the project or the community as a whole.

PARK STRIP: A typically narrow landscaped area located between the back-of-curb and sidewalk.

PLANNED SINGLE-FAMILY RESIDENTIAL DEVELOPMENT: A planned single-family development with specific open space and/or amenity standards that are required by the zone or a development agreement, and in which common open spaces will be maintained by a homeowner's association or organization.

PLANTER BED: Any irrigated, non-turf portion of the landscaped area.

PLANTING PLAN: A Planting Plan shall clearly and accurately identify and locate new and existing trees, shrubs, ground covers, turf areas, driveways, sidewalks, hardscape features, and fences.

POP-UP SPRAY HEAD: A sprinkler head that sprays water through a nozzle in a fixed pattern with no rotation.

PRECIPITATION RATE: The depth of water applied to a given area, usually measured in inches per hour.

PRESSURE COMPENSATING: A drip irrigation system that compensates for fluctuating water pressure by only allowing a fixed volume of water through drip emitters.

~~PUBLIC FACILITY: A government, educational, or non-profit organization that provides services to the general public.~~

PUBLIC UTILITY FACILITY: A building or structure used for the provision of public utilities.

PUBLIC WORKS FACILITY: Any publicly owned and/or operated facility meant for the physical functions of a public entity, including construction operations, maintenance, and the storage of vehicles, equipment, and materials.

REHABILITATED LANDSCAPING: Altering, repairing, or adding to a landscape to make possible a compatible use, increase curb appeal, decrease maintenance, etc.

ROTOR SPRAY HEAD: A sprinkler head that distributes water through a nozzle by the rotation of a gear or mechanical rotor.

RUNOFF: Irrigation water that is not absorbed by the soil or landscape area to which it is applied, and which flows onto other areas.

SMART AUTOMATIC IRRIGATION CONTROLLER: An automatic timing device used to remotely control valves in the operation of an irrigation system using the internet to connect to a

real time weather source or soil moisture sensor. Smart Automatic Irrigation Controllers schedule irrigation events using either evapotranspiration or soil moisture data to control when and how long sprinklers or drip systems operate and will vary based on time of year and weather/soil moisture conditions.

SPRAY SPRINKLER: An irrigation head that sprays water through a nozzle.

STREAM SPRINKLER: An irrigation head that projects water through a gear rotor in single or multiple streams.

TURF: A surface layer of earth containing grass species with full root structures that are maintained as mowed grass.

WASTE OF WATER: Includes, but is not necessarily limited to:

1. The use of water for any purpose, including outdoor irrigation, that consumes, or for which is applied substantial excess water beyond the reasonable amount required by the use, whether such excess water is lost due to evaporation, percolation, discharges into the sewer system, or is allowed to run into the gutter or street.

2. Washing sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas except to alleviate immediate health or safety hazards.

WATER-CONSERVING PLANT: A plant that can generally survive with available rainfall once established although supplemental irrigation may be needed or desirable during periods of dry and warm weather. (Ord. 2022-06, 2-22-2022)

11-21-3: APPLICABILITY:

The provisions of this chapter shall apply to all new and rehabilitated landscaping for public facility projects, commercial and industrial projects, multi-family residential projects, and landscaping for new single-family residential dwellings and fully rehabilitated single-family residential landscapes. (Ord. 2022-06, 2-22-2022)

11-21-4: COMMERCIAL, INDUSTRIAL, MULTI-FAMILY, AND PUBLIC FACILITY DEVELOPMENT STANDARDS:

A. Open Space:

1. Commercial~~, Multi-family, and Public Facility~~ Developments: A minimum of ten percent (10%) of the total lot or parcel area of all commercial developments shall be provided as landscaped open space. All open space required shall be landscaped with a minimum of one tree for every six hundred (600) square feet of landscaped area and one shrub for every two hundred (200) square feet of landscaped area. Planter beds shall be planted to provide a minimum of 50% ground plane coverage when plant material reaches maturity. Canopies of deciduous trees shall not count towards the coverage calculation. Park strips are exempt from the ground plane coverage requirements.

2. Multi-family Developments: ~~A minimum of fifteen percent (15%) of the total lot or parcel area of all public facility developments shall be provided as landscaped open space.~~ A minimum of twenty percent (20%) of the total lot or parcel area of multi-family developments located in the

R-2 Zone shall be provided as landscaped open space. A minimum of twenty-five percent (25%) of the total lot or parcel area of multi-family developments located in the R-3 Zone shall be provided as landscaped open space. All open space required shall be landscaped with a minimum of one tree for every six ~~four~~ hundred (4600) square feet of landscaped area and one shrub for every two hundred (200) square feet of landscaped area. Planter beds shall be planted to provide a minimum of 50% ground plane coverage when plant material reaches maturity. Canopies of deciduous trees shall not count towards the coverage calculation. Park strips are exempt from the ground plane coverage requirements.

32. Industrial Developments: A minimum of five percent (5%) of the total lot or parcel area shall be provided as landscaped open space. All open space required shall be landscaped with a minimum of one tree for every one thousand (1,000) square feet of landscaped area and one shrub for every six hundred (600) square feet of landscaped area.

a. All yard areas between a street frontage and buildings, parking areas, or storage areas which are not used for vehicular or pedestrian access shall be landscaped with a minimum buffer landscaping depth of ten feet (10').

b. If adjacent to a residential zoning district, an additional building setback of ten feet (10') shall be provided adjacent to the residential use to reduce the visual impact of large-scale industrial buildings. The additional ten feet (10') shall be landscaped with trees to provide buffering and shall not include parking, vehicular access, or storage areas for equipment or mechanical systems. Those uses may exist beyond the ten foot (10') buffer.

4. Developments in the P-F Zone (Public Facilities):

a. Public Utility Facilities and Public Works Facilities shall comply with the open space and landscaping standards of Industrial Developments.

b. All other uses in the P-F Zone shall provide a minimum of fifteen percent (15%) of the total lot or parcel area as landscaped open space. All open space required shall be landscaped with a minimum of one tree for every six hundred (600) square feet of landscaped area and one shrub for every two hundred (200) square feet of landscaped area. Planter beds shall be planted to provide a minimum of 50% ground plane coverage when plant material reaches maturity. Canopies of deciduous trees shall not count towards the coverage calculation. Park strips are exempt from the ground plane coverage requirements.

~~3. Single-family Residential Developments: Each lot or parcel located within a platted single-family subdivision shall comply with the minimum open space requirements of the zone in which the property is located.~~

~~4. Planned Single-family Residential Developments: Developments shall comply with the open space requirements of the zone in which the property is located or comply with the requirements of any applicable development agreement.~~

B. Landscape Design Standards:

1. Plant Selection:

a. Plants shall be well-suited to conditions at the project site. Both native and locally adapted plants are acceptable. Plants with similar water needs shall be grouped together as much as possible.

b. Areas with slopes greater than 33% shall be landscaped with deep-rooting, water-conserving plants for erosion control and soil stabilization.

c. Park strips and other landscaped areas less than eight (8) feet wide shall not be landscaped with turf and shall be maintained free of weeds. Any hardscape installed within a park strip shall cover no more than fifty percent (50%) of the park strip area, unless otherwise required by city code.

d. Turf area shall not exceed 15% of the total landscaped area, outside of active recreation areas.

Note: Please visit weberbasin.com for a list of recommended water-conserving plants (not a comprehensive list).

2. Mulch: After completion of planting, all irrigated non-turf areas shall be covered with a minimum three (3) inch layer of mulch to retain water, inhibit weed growth, and moderate soil temperature. Non-porous material such as concrete or asphalt shall not be placed under the mulch.

3. Tree Selection: Tree species shall be selected based on growth characteristics and site conditions, including available space, overhead clearance, soil conditions, exposure, and desired color and appearance. Trees shall be selected as follows:

a. Broad canopy trees shall be selected where shade or screening of tall objects is desired;

b. Low-growing trees shall be selected for spaces under utility wires;

c. Trees shall be selected from which lower branches can be trimmed to maintain a healthy growth habit where vision clearance and natural surveillance is a concern;

d. Narrow or columnar trees shall be selected where awnings or other building features limit growth, or where greater visibility is desired between buildings and the street for natural surveillance;

e. Street trees shall be planted within existing and proposed park strips, and in sidewalk tree wells on streets without park strips. Tree placement shall provide canopy cover (shade) and avoid conflicts with existing trees, retaining walls, utilities, lighting, and other obstacles. All street trees shall comply with the clear vision standards of this Title;

f. All trees to be installed on public property or on property to be maintained by the city shall be subject to approval by the city arborist or designee;

4. Plant Material Size at Installation:

a. Deciduous trees shall be installed at a minimum size of two (2) inches in caliper, measured eight (8) inches above the soil line.

b. Evergreen trees shall be installed at a minimum height of six (6) feet.

c. Shrubs shall be installed at a minimum size of three (3) gallon.

d. Ornamentals grasses and perennials shall be installed at a minimum size of one (1) gallon.

e. Groundcover shall be installed at a minimum height of three (3) inches.

C. Landscape and Irrigation Plan Submittal: A copy of a landscape and irrigation plan shall be submitted to and approved by the city prior to the issue of any permit. The plans shall be prepared by a registered landscape architect and shall consist of the following items:

1. Landscape Plan. A detailed landscape plan shall be drawn at a scale that clearly identifies the following:

a. Project name and address, and landscape architect's information;

b. Location of all plant materials, a legend with botanical and common names, and size of plant materials;

c. Location of landscape features, ground and water forms, walks, hardscape, mulch, and other features;

d. Property lines and street names;

e. Existing and proposed buildings, walls, fences, utilities, paved areas and other site improvements;

f. Existing trees and plant materials to be removed or retained;

g. Scale: graphic and written;

h. Date of design;

i. Designation of a landscape zone; and

j. Details and specifications for tree staking, soil preparation, and other planting work.

2. Irrigation Plan. A detailed irrigation plan shall be drawn at the same scale as the planting plan and shall contain the following information:

a. Layout of the irrigation system and a legend summarizing the type and size of all components of the system, including manufacturer name and model numbers;

b. Static water pressure in pounds per square inch (PSI) at the point of connection to the public water supply;

c. Flow rate in gallons per minute and design operating pressure in psi for each valve and precipitation rate in inches per hour for each valve with sprinklers; and

d. Installation details for irrigation components.

D. Plan Review, Construction Inspection, and Post-Construction Monitoring:

1. As part of the land use approval process, a copy of the landscape and irrigation plans shall be submitted to the city for review and approval before construction begins.

2. All installers and designers shall meet state and local license, insurance, and bonding requirements, and be able to show proof of such.

3. During construction, site inspection of the landscaping may be performed by the city.

4. Following construction and prior to issuing the approval for occupancy, an inspection shall be scheduled with the Community Development Department to verify compliance with the approved landscape plans.

Note: The City reserves the right to perform site inspections at any time before, during, or after the irrigation system and landscape installation, and to require corrective measures if requirements of this chapter are not satisfied. (Ord. 2022-06, 2-22-2022)

11-21-5: SINGLE-FAMILY RESIDENTIAL:

A. Open Space:

1. Single-family Residential Developments: Each lot or parcel located within a platted single-family subdivision shall comply with the minimum open space requirements of the zone in which the property is located.

2. Planned Single-family Residential Developments: Developments shall comply with the open space requirements of the zone in which the property is located or comply with the requirements of any applicable development agreement.

BA. Landscape Design Standards:

1. Plant Selection:

a. Plants shall be well-suited to the microclimate and soil conditions at the project site. Both native and locally adapted plants are acceptable. Plants with similar water needs should be grouped together as much as possible.

b. Areas with slopes greater than 33% shall be landscaped with deep-rooting, water-conserving plants for erosion control and soil stabilization.

c. Park strips and other landscaped areas less than eight (8) feet wide shall not be landscaped with turf and shall be maintained free of weeds. Any hardscape installed within a park strip shall cover no more than twenty-five percent (25%) of the park strip area.

d. Turf area shall not exceed 35% of the combined front and interior side yard landscaped areas of the lot or parcel or 250 square feet, whichever is greater.

Note: Please visit weberbasin.com for a list of recommended water-conserving plants (not a comprehensive list).

2. Mulch: After completion of all planting, all irrigated non-turf areas and all non-irrigated park strip areas shall be covered with a minimum three (3) inch layer of mulch to retain water, inhibit weed growth, and moderate soil temperature. Non-porous material shall not be placed under the mulch.

CB. Homebuilders and Developers:

1. Homebuilders and developers subdividing lots and/or constructing new single-family residential homes within a planned development with common ownership and maintenance of landscaped areas shall comply with all of the water efficient landscaping and irrigation standards of this chapter, and provide water efficient designs, such as the Localscapes® design style, to prospective home buyers.

2. Any Model Home shall meet the water-efficient landscaping standards of this chapter and provide an informational brochure on water-efficient landscaping. Brochures can be obtained from the City Planning Division. (Ord. 2022-06, 2-22-2022)

11-21-6: IRRIGATION DESIGN STANDARDS:

A. Irrigation systems shall be designed to maximize irrigation efficiency.

B. Landscaped areas shall be provided with a smart automatic irrigation controller. Smart irrigation controllers shall be WaterSense® labeled and automatically adjust the frequency and/or duration of irrigation events in response to changing weather conditions. All controllers shall be equipped with automatic rain delay or rain shut-off capabilities.

C. Each valve shall irrigate a landscape with similar site, slope, and soil conditions. Plants watered by a valve should have similar watering needs. Turf and non-turf areas shall be irrigated on separate valves. Drip emitters and sprinklers shall be placed on separate valves.

D. Drip emitters or a bubbler shall be provided for each tree. Bubblers shall not exceed 1.5 gallons per minute per device. Bubblers for trees shall be placed on a separate valve unless specifically exempted by the City due to the limited number of trees on the project site. Drip irrigation or bubblers shall be used to irrigate plants in non-turf areas.

E. Pop-up spray heads shall be at a minimum of four (4) inches in height to avoid blockage from lawn foliage.

F. Sprinkler heads shall be attached to rigid lateral lines with flexible material (swing joints) to reduce potential for breakage.

G. Check valves shall be required where elevation differences cause low-head drainage. Pressure compensating valves and sprinklers shall be required where a significant variation in water pressure occurs within the irrigation system due to elevation differences.

H. Filters shall be required on all secondary water service connections. Filters shall have as a minimum a 30 mesh screen and shall be cleaned and maintained by the property owner on a regular basis.

I. Drip irrigation lines require additional filtration at or after the zone valve at a minimum of 200 mesh and end flush valves are required as necessary for drip irrigation lines.

J. Valves with spray or stream sprinklers shall be scheduled to operate in accordance with local water supplier restrictions to reduce water loss from wind, evaporation, or other environmental conditions not suitable for irrigation.

K. Program valves for multiple repeat cycles where necessary to reduce runoff, particularly on slopes and soils with slow infiltration rates. (Ord. 2022-06, 2-22-2022)

11-21-7: RESTRICTIVE COVENANTS REQUIRING TURF OR PLANT MATERIAL WITH UNIFORM OVERHEAD SPRAY IRRIGATION:

A. Any Homeowners Association governing documents, such as bylaws, operating rules, covenants, conditions, and restrictions that govern the operation of a common interest development, shall not:

1. Require the use of any uniform plant material requiring overhead spray irrigation in landscape areas less than eight (8) feet wide or require any uniform plant material requiring overhead spray irrigation in other areas that exceed 35% of the landscaped area; or

2. Prohibit, or include conditions that have the effect of prohibiting, the use of water-conserving plants as a group; or

3. Have the effect of prohibiting or restricting compliance with this chapter or other water conservation measures. (Ord. 2022-06, 2-22-2022)

11-21-8: COMPLETION OF IMPROVEMENTS:

A. Completion: All landscaping improvements required by this title shall be installed in accordance with the approved landscape and irrigation plans as follows:

1. Nonresidential Landscaping: Landscaping for commercial, industrial, and public facility projects shall be completed prior to the issuance of a certificate of occupancy for the building or structure with which it is associated, or in cases of inclement weather, within six (6) months of the date of initial occupancy. The date of initial occupancy shall be the date that a certificate of occupancy is issued for the first building or structure of an individual phase or plat of the development.

2. Multi-family Residential: Landscaping for two-family and multiple-family dwellings in all zones shall be completed prior to the issuance of a certificate of occupancy for the building or structure with which they are associated, or in cases of inclement weather, within six (6) months of the date of initial occupancy. Date of initial occupancy will be the date that a certificate of occupancy is issued for the first dwelling unit.

3. Single-family Residential: The front and side yards of all single-family dwellings in all zones shall be landscaped within twelve (12) months of the date of initial occupancy for the building or structure with which they are associated. The rear yard shall be landscaped within eighteen (18) months of the date of initial occupancy. Date of initial occupancy will be the date that a certificate of occupancy is issued for the dwelling unit.

B. Bond/Escrow required for nonresidential, two-family, and multiple-family developments: In cases of inclement weather and in order to ensure that all required landscaping is installed in an acceptable manner, the developer shall post a separate cash bond with the city or establish an escrow account with an appropriate financial institution. The cash bond or escrow account shall be subject to approval by the Community Development Department, and shall be in an amount equal to one hundred ten percent (110%) of the estimated costs of construction and installation of all required landscaping, parks, playgrounds, recreation facilities, fences, walls, and other amenities shown on the final landscape plan or site plan, as applicable.

1. The bond or escrow account shall be posted or established in accordance with all other city regulations.

2. The bond or escrow account shall be posted or established prior to the issuance of a certificate of occupancy for the site.

3. The bond shall be accompanied by a schedule of anticipated completion dates for such improvements. In no case shall the time period for completion exceed the time periods set forth in subsection A of this section.

4. In the event that the improvements are not completed in reasonable conformance with said schedule, the city may undertake to complete the improvements and pay for such improvements from the bond or escrow account.

5. This section shall not pertain to the completion or installation of private landscaping on individual building lots for single-family dwellings. (Ord. 2022-06, 2-22-2022)

11-21-9: TREE AND SHRUB REGULATIONS FOR PUBLIC WAYS AND PLACES:

A. Purpose: The city values its open spaces, both natural and enhanced, and recognizes the importance of trees within the community. Not only do trees add to the beauty of the community, but they stabilize surface drainage and soil erosion. A well-designed landscape can reduce air and sound pollution, regulate solar radiation, and help with wind control.

B. City Arborist:

1. Created: The Community Services Director or designee shall appoint a City Arborist.

2. Duties And Responsibilities: The City Arborist shall have authority over all trees and shrubs located within the city's rights of way, parks, and public places. On private, commercial, and residential property, the City Arborist shall have the authority over trees and shrubs which constitute a public hazard or threat as described in the standards for specification manual.

C. Planting Trees, Landscaping in City Right of Way: Tree planting on public ways shall be coordinated with required open landscaping areas to achieve the most effective use of these areas and to accomplish the purposes of aesthetics and conservation. Street trees shall be selected based on growth characteristics that are well suited to their environment. For a list of permitted street trees, contact the City Arborist.

D. Public Rights of Way Tree and Plant Care: It is the duty of the owner and occupant of any real property with frontage along a public sidewalk to maintain any trees, shrubs, and plant material between such property and the curb line of the street. The city shall have the right, as determined by its sole discretion, to plant, prune, maintain, and remove trees, plants, and shrubs within rights of way, streets, and public property as may be necessary to ensure public safety or to preserve or enhance public grounds.

E. Clear Vision: All trees, shrubs, and other plant material located within the public rights of way or in public places shall comply with the clear vision standards of this Title.

F. Illegal To Cut, Injure, Or Top Trees:

1. It shall be unlawful for any person to remove trees situated on city property, including streets and roadways of the city, without obtaining permission from the city arborist for that purpose.

2. It shall be unlawful as a normal practice for any person, firm, or city department to top any tree on city property. Topping is the severe cutting back of limbs to stubs larger than three inches (3") in diameter within the tree's crown to such a degree as to remove the normal canopy and disfigure the tree. Trees severely damaged by storms or other cause, or other obstructions where other pruning practices are impractical, may be exempted from this subsection at the determination of the city arborist.

G. Pruning, Corner Clearance: Every owner of any tree or shrub overhanging any street, sidewalk or right of way within the city, shall prune the branches so that such branches shall not severely obstruct the light from any streetlamp, obstruct the view of any street intersection, or obstruct and create a hazard on a sidewalk. Said owners shall remove all dead, diseased, or dangerous trees and shrubs, or broken or decayed limbs which constitute a menace to the safety of the public. The city shall have the right to prune any tree or shrub on private property when it interferes with visibility of any traffic control device, sign or sight triangle at intersections or constitutes a hazard on a sidewalk. Any costs incurred by the city will be collected from the adjacent property owner.

H. Appeal: Any person may appeal a decision of the city arborist to the community service director, who may hear the matter and make a final decision within sixty (60) days. (Ord. 2022-06, 2-22-2022)

11-21-10: SUPPLEMENTARY STANDARDS:

A. Fee In Lieu of Open Space: A fee in lieu of landscaped open space in commercial, industrial, multi-family, and public facility developments may be permitted by the planning commission for required open space that is less than five thousand (5,000) square feet in size, provided that the development can be adequately served by existing parks and recreation facilities. The amount of the fee shall be set forth in the city's fee schedule. Any fee in lieu paid to the city shall be set forth in a development agreement. Open space fees in lieu shall be held by the city in a reserved account to be used solely for improvements to parks and recreation facilities. Where possible, the fees collected by the city shall be used to improve the park or open space nearest the location where those fees were paid.

B. Modification: The percentage of required landscaped open space may be modified through a development agreement, subject to planning commission recommendation and city council approval. No modification shall be granted, however, unless the following standards are met:

1. The granting of the modification will not adversely affect the rights of adjacent landowners or residents;

2. The modification desired will not adversely affect the public health, safety, or general welfare; and

C. The granting of the modification will not be opposed to the general spirit and intent of this title or the general plan.

Preservation, Maintenance, And Ownership:

1. The planning commission and city council shall require the preservation, maintenance, and ownership of all required open space for nonresidential, multi-family, or planned single-family residential developments through one or a combination of the following:

a. Dedication of the land as a public park or parkway system;

b. Dedication of the land as permanent open space on the recorded plat;

c. Granting the city a permanent open space easement on the private open spaces to guarantee that the open space remain perpetually in recreation use, with ownership and maintenance being the responsibility of a homeowners' association; or

d. Through compliance with the provisions of the condominium ownership act as outlined in Title 57 of the Utah code, which provides for the payment of common expenses for the upkeep of common areas and facilities.

2. Landscaping for all single-family residential properties shall be maintained in accordance with the provisions of this chapter and applicable regulations of the zone in which the property is located.

3. In the event that open space or other required landscaping improvements or facilities are not landscaped or maintained in a manner consistent with the approved site plan or landscaping plan, the city may at its option cause such landscaping or maintenance to be performed and assess the costs to the affected property owner(s) or other responsible association or entity. (Ord. 2022-06, 2-22-2022)

11-21-11: PROHIBITED WATERING PRACTICES:

Regardless of the age of a development, water shall be properly used. Waste of water is prohibited. (Ord. 2022-06, 2-22-2022)

11-21-12: ENFORCEMENT, PENALTY FOR VIOLATIONS:

The Community Development Director or designee is authorized to enforce all provisions of this chapter. (Ord. 2022-06, 2-22-2022)

STAFF REPORT

TO: Mayor Shepherd and City Council Members

FROM: Brad McIlrath, Senior Planner

MEETING DATE: Tuesday, April 23rd, 2024

SUBJECT: Public Hearing, Discussion and Possible Action on **ZTA 2024-0306**, a zoning text amendment request by Clearfield City to adopt an updated set of Development, Design, and Construction Standards.

STAFF RECOMMENDATION

On April 3rd, 2024, Staff recommended that the Planning Commission forward a recommendation of **APPROVAL** for **ZTA 2024-0306** to the City Council, for the proposed zoning text amendment by Clearfield City to adopt an updated set of Development, Design, and Construction Standards.

PLANNING COMMISSION RECOMMENDATION

On April 3, 2024, the Planning Commission forwarded a recommendation of **APPROVAL** for **ZTA 2024-0306** to the City Council, for the proposed zoning text amendment by Clearfield City to adopt an updated set of Development, Design, and Construction Standards.

BACKGROUND & ANALYISIS

The Clearfield City Public Works Department has worked together with Jones & Associates Consulting Engineers to prepare an updated set of Development, Design, and Construction Standards. These standards are applicable to development, design, and construction activities in Clearfield City. They will be used and referenced in land use application reviews, approvals for work within the public right-of-way, and construction permits.

As these standards and specifications govern the use or development of land, State code considers them to be "land use regulations" which are legislative decisions that need to be adopted by ordinance with a recommendation from the Planning Commission and final approval from the City Council. Staff recommends that the updated standards are adopted by adding a new section to Chapter 1, General Provisions of the Land Use Title. By adopting the standards and providing the reference in the Land Use Title, the standards will be able to be amended from time to time by Public Works staff and not require a public hearing unless major changes are made. The process of adopting the standards by reference has been done in other communities in Davis County and has been approved by Clearfield City Legal staff. While the standards are technical in nature and will be primarily used by the Public Works Department, the Planning Commission will be the administrative land use authority for new developments in which the standards will be applied.

Based upon feedback provided by the City Council during the April 9th, 2024 work session, Staff has included language below to address future amendments that would necessitate the formal adoption with a public hearing by the Planning Commission and City Council.

SECTION 11-1-18: CLEARFIELD DEVELOPMENT, DESIGN, AND CONSTRUCTION STANDARDS:

The City Engineer, or a designee, is hereby authorized to draft, approve, adopt, and interpret a set of Development, Design, and Construction Standards for development, design, and construction activity approvals in Clearfield City. Such guidelines and standards may be administratively amended from time to time as determined necessary by the City Engineer. The standards shall be based upon reasonable engineering standards and practices. Any appeal from a standard imposed by the City Engineer shall follow the modification process as outlined in Section 1.06 of the Development, Design, and Construction Standards. At such future time that a significant design change is needed or the Development, Design, and Construction Standards undertake a comprehensive update, the changes shall follow the formal adoption process used for zoning text amendments.

GENERAL FINDINGS – ZONING ORDINANCE TEXT AMENDMENT

Clearfield Land Use Ordinance Section 11-6-3 establishes the following findings the Planning Commission shall make to approve Zoning Ordinance Text Amendments. The findings and staff's evaluation are outlined below:

	Review Consideration	Staff Analysis
1)	The proposed amendment is in accordance with the General Plan and Map; or	The proposed amendments are in accordance with the General Plan which encourages continual evaluation and modifications to land use ordinances as circumstances require. The proposed standards ensure the efficient and orderly development of land within the City.
2)	Changed conditions make the proposed amendment necessary to fulfill the purposes of this Title.	Proposed additions to the MOC have provided the opportunity for continual evaluation of development standards of the P-F Zone along with our updated landscaping standards. The proposed amendment establishes similar landscaping standards for comparable uses.

FINDINGS AND CONCLUSION

Based upon a review of the existing and proposed ordinance standards Staff concludes the following:

1. The proposed Development, Design, and Construction standards ensure the efficient and orderly development of land within the City.
2. The updated Development, Design, and Construction standards will better reflect current circumstances, needs, and technology.

CORRESPONDING POLICY PRIORTIES

- *Providing Quality Municipal Services*
  By providing updated development, design, and construction standards Clearfield City will ensure high quality public infrastructure and facilities that are constructed by private parties and maintained by the City. The update of these standards shows continuous improvement, and the updates include innovative design. The use of these standards will allow the City to have well-planned facilities and infrastructure as called out by this policy priority.
- *Improving Clearfield's Image, Livability, and Economy*
  The development, design, and constructions standards support high quality economic development by improving public infrastructure to meet the community's growing needs as well as beautification of city-owned facilities and maintained infrastructure. Providing high quality public facilities and infrastructure foster community pride and investment.

FISCAL IMPACT

The standards themselves do not carry a fiscal impact, but all future capital improvement projects and maintenance of

ALTERNATIVES

As outlined above, Staff has attempted to address the concerns brought forward by the City Council related to future amendments of the standards. The City Council may accept the proposed language or propose an alternative to the proposed language that best addresses the concerns of the City Council.

SCHEDULE/TIME CONSTRAINTS

If the City Council chooses to table this item to further discuss the proposed language for Section 11-1-18 or any other standard, it will need to be tabled to a specific future date and time.

LIST OF ATTACHEMENTS

- Development, Design, and Construction Standards (DRAFT)

Clearfield City Corporation

Development, Design, & Construction Standards

- FINAL DRAFT - 3/8/2024

March 2024

Clearfield City Public Works

Prepared by

JONES & ASSOCIATES

Consulting Engineers

JONES & ASSOCIATES

DEVELOPMENT, DESIGN, AND CONSTRUCTION STANDARDS for CLEARFIELD CITY

SUBMITTED & RECOMMENDED:

Brandon K. Jones, P.E. — 3/8/24 Date

APPROVED:

Mark Shepherd Mayor	Date
JJ Allen City Manager	Date
Adam Favero Public Works Director	Date
Braden Felix, P.E. City Engineer	Date
Nancy Dean Attest, City Recorder	Date

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APPENDICES

SECTION 1 GENERAL

1.01 Applicability

These Development, Design, and Construction Standards are applicable to any land use application, all work within the public-right-of-way, and all city capital improvement projects.

1.02 Clearfield City Code Governs

Nothing in this document shall be construed to be contrary to Clearfield City Code. Should a conflict exist between this document and the Ordinances, the Code shall govern.

1.03 Conformance with Federal, State, and Local Laws

Nothing in this document shall relieve the Developer, Engineer, or Contractor from abiding by any and all Federal, State, and local laws.

1.04 Definitions

A. Title or Chapter – When "Title" or "Chapter" is written, it shall be as if "Clearfield City Ordinance, Title (or Chapter)" is written.

B. Contractor – The individual, firm, co-partnership, or corporation, and his, their, or its heirs, executors, administrators, successors, and assigns, or the lawful agent of any such individual firm, partnership, covenanter, or corporation, or his, their, or its surety under the contract bond, constituting one of the principals to the contract and undertaking to perform the Work.

C. Drawings – The City-approved construction drawings, the Clearfield City Public Works Standard Drawings, and/or the Manual of Standard Drawings, as applicable.

D. Developer – The person sponsoring construction of the improvements.

E. Development – The subject subdivision, minor subdivision, or building.

F. Improvements – See "Work."

G. Improvement Plans – See "Drawings."

H. Inspector – The authorized representative of the City assigned to make all necessary inspections of the Work performed or being performed, or of materials furnished or being furnished by the Contractor.

I. Work – All types of work necessary to provide safe access and utility service to and within proposed subdivision, project, or site, including, but not limited to, site grading, utility installation, and street construction. Work includes all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning.[1]

[1] From EJCDC© C-700, Standard General Conditions of the Construction Contract.

J. See also the Clearfield City Code, Title 12 Subdivision Regulations. Where definition conflicts arise between City Ordinance and this document, the definitions in this document shall take precedence when in reference to this document.

1.05 Acronyms

A. ALUA – Administrative Land Use Authority

B. APWA – American Public Works Association

C. AWWA – American Water Works Association

D. BMP – Best Management Practice

E. CFP – Capital Facilities Plan

F. CLFD – Clearfield City

G. DDW – Division of Drinking Water

H. DWQ – Division of Water Quality

I. DWRi – Division of Water Rights

J. FEMA – Federal Emergency Management Agency

K. HOA – Homeowners' Association

L. IFC- International Fire Code

M. LID – Low Impact Development

N. RCP – Reinforced Concrete Pipe

O. UAC – Utah Administrative Code

P. UDEQ – Utah Department of Environmental Quality

Q. UDOT – Utah Department of Transportation

R. UPDES – Utah Pollutant Discharge Elimination System

S. USACE – United States Army Corps of Engineers

1.06 Modification Process

A. Formal Written Request for Modification: A request for a modification to the Public Work Standards and Technical Specifications shall be made as follows:

1. In writing and submitted to the Public Works Director;

2. Prior to Work being performed in a manner not consistent with the Public Work Standards and Technical Specifications;

3. Include each specific Public Work Standards and Technical Specifications being sought to be modified; and

4. Include a detailed explanation, supported by evidence of the undue hardship that will result by having to complete the Work in accordance with the Public Work Standards and Technical Specifications, or in the alternative, include a detailed explanation, supported by evidence how performing the Work in accordance with the Public Work Standards and Technical Specifications is unnecessary to meet the goals and standards of the City.

B. Consideration of a Formal Written Request for Modification: The Public Works Director, or designee, shall consider each request and consult with those necessary to review all Formal Written Requests for Modification of the Public Work Standards and Technical Specifications and respond, as follows:

1. Respond in writing, with a finding of fact that details the basis for the granting or denial of each requested modification to the Public Work Standards and Technical Specifications.

C. Record Maintenance: The granting or denial in whole or in part of any Formal Written Request or Modification to the Public Works Standards and Technical Specifications shall be maintained by the City in accordance with all federal, state, and local laws.

SECTION 2 DEVELOPMENT STANDARDS

2.01 Approval Procedure

See Title 12 – Subdivision Regulations of the Clearfield City Code and Title 11 - Land Use

2.02 Developer Responsibilities

A. Required Improvements and Guarantees – see Title 12 of Clearfield City Code.

B. Permits and Approvals

1. Developer is responsible for obtaining all necessary permits and approvals for the construction of the Improvements. Copies of all applications and approved permits shall be submitted to the City. Agencies/permits that may be required include, but are not limited to:

   a. DDW Plan Approval (pre-construction)

   b. Operating Permit (post-construction)

   c. UPDES NOI and NOT

   d. DWRi Stream Alteration

   e. DWRi Dam Safety

   f. EPA 404 Wetlands

   g. FEMA CLOMA and/or CLOMR

   h. UDOT

   i. UTA

   j. Union Pacific

   k. Others as applicable

C. Improvements

1. The required improvements shall include street improvements in front of each lot abutting dedicated streets to a connection with existing improvements of the same kind or to the boundary of the subdivision nearest existing improvements. Design must provide for future extension to adjacent development and be compatible with the contour of the ground for proper drainage. Required underground improvements such as water lines, sewer lines, storm drain, and any other buried conduit shall be installed to the boundary lines of the subdivision.

2. Upsizing based on CFPs – The Developer is required to construct/install infrastructure sized in accordance with the City's currently adopted CFPs. The City may be responsible for paying the difference in cost between the master planned infrastructure size and the minimum infrastructure size required for the development.

3. Materials and Construction Testing – Developer shall be responsible for materials and construction testing in accordance with the applicable specification(s). Testing must be performed by a properly licensed and qualified testing agency. The results shall be provided to the City's inspector.

4. Mapping of New Improvements – Developer shall reimburse City for time spent completing field surveying and the mapping of new improvement locations into the City's GIS database.

2.03 Subdivision Standards

A. The general standards for subdivision layout and development are found in Title 12 – Subdivision Regulations.

B. See also Section 3 – Design Standards and Section 4 – Construction Standards of this document.

2.04 Geotechnical Investigation

A. A geotechnical investigation shall be conducted for the following:

1. All new subdivisions;

2. All commercial subdivisions and sites;

3. Any subdivision that includes public infrastructure improvements; and

4. Upon request of the City.

B. The geotechnical investigation shall be complete in nature, and its findings shall be summarized in a Geotechnical Report. The Geotechnical Report shall be signed and sealed by a licensed Professional Engineer with expertise in the field of geotechnical engineering.

C. See Appendix B for requirements regarding the Geotechnical Report, including minimum testing requirements and design parameters.

2.05 Traffic Impact Study

A. A traffic impact study shall be conducted for the following:

1. See Appendix C, Traffic Impact Study Minimum Requirements, Section C3, Level of Study.

B. The study shall be complete in nature, and its findings shall be summarized in a Traffic Impact Study Report. The Traffic Impact Study Report shall be signed and sealed by a licensed Professional Engineer with expertise in the field of traffic engineering.

C. See Appendix C for requirements regarding the Traffic Impact Study Report.

SECTION 3 DESIGN STANDARDS

3.01 Required Improvements

A. See Title 12 Chapter 6 for information on the required improvements.

B. See also Section 5 – Technical Specifications and Section 6 – Standard Drawings, Plans, and Details of this document for additional information.

3.02 Improvement Plans

A. Complete and detailed, and signed and sealed (in accordance with UAC 58-22-602, as amended) construction plans and drawings of improvements shall be submitted to the City for the review by the ALUA prior to receiving final plat approval and prior to commencing construction.

B. No construction shall begin until plans have been checked, received final land use approval, and a preconstruction meeting has been held.

C. The Engineer of Record must provide a written certification (signed and dated), to be included on the final improvement plans, that states the following:

1. As the Engineer-of-Record, I hereby certify that to the best of my knowledge these construction plans and supporting documentation (Plans) comply with the applicable City Code, Public Works Standards, local, State, and Federal regulations, and general engineering practices (Standards). I understand and agree that:

    a. The City's acceptance of these Plans shall not be construed to be a permit for, or an approval of, any variance from any provisions of the Standards.

    b. Any communication from the City giving feedback on the Plans shall be construed as feedback only and shall not be interpreted as authorization to vary from or cancel the provisions of the Standards.

    c. The City's acceptance of these Plans, or feedback from the City on whether the Plans meet the Standards, shall not prevent the City from requiring the correction of errors in the Plans at any time, including during the construction of improvements.

    d. Any exceptions to the Standards granted by the appropriate governing agency have been provided in writing to the City.

D. The following instructions are for the purpose of standardizing the preparation of drawings to obtain uniformity in appearance, clarity, size, and style. The plans and designs shall meet the standards defined in the specifications and drawings hereinafter outlined. The minimum information required on the drawings for improvements are as follows:

1. All drawings and/or prints shall be clear and legible and conform to industry standard engineering and drafting practices.

2. Drawings shall be legible and to a common scale when printed on 11” x 17” paper.
3. Both plan view and centerline profile must be shown. On subdivisions along steep cross slopes, profiles for each side of the street may be required to be shown.
4. Plan and profiles shall indicate design and/or existing grades a minimum of 200-ft beyond the limits of the proposed project.
5. All wet utilities (water, sewer, storm drain, land drain) shall be shown in plan and profiles views.
6. Each set of plans shall be accompanied by a separate sheet of details for special structures which are to be constructed and are not covered by the City Standards. All structures shall be designed in accordance with the minimum Clearfield City Standards and approved by the ALUA.
7. Separate drawings of elements of the City Standards shall not be required to be redrawn and submitted with the construction drawings unless specific deviations from the standards are requested for approval; however, the construction drawings shall refer to the specific items of the Standards that are to be incorporated into the Work.
8. The plan and profile construction plans shall be submitted in portable document format (“pdf”). Upon approval, the developer’s engineer shall provide the City with electronic files of the final plat and improvement plans in AutoCAD or other City approved format. A hard copy of the approved construction plans bearing the final land use acceptance shall be kept available at the construction site. Prior to final acceptance by the City, the developer, developer’s representative, contractor, or project engineer shall submit to the City a set of "as built" drawings for permanent City file record.
    a. All changes shall be clouded and documented.

3.03 Design / Layout

A. Blocks
    1. Length: Shall not exceed 1,200-lf.
    2. Width: Shall be wide enough to adequately accommodate 2 tiers of lots. Double Frontage Lots must comply with City Code Title 12.

B. Walkways: In blocks greater than 800-ft in length, a dedicated walkway may be required. Such walkways shall include:
    1. Concrete, minimum of 5-ft wide;
    2. 4-feet Chain-link (or approved equal) fence on both sides of walkway; and
    3. Entrance barriers to prevent motorized vehicles from accessing the walkway.

C. Non-Residential Uses: Shall be designed specifically for such purposes with adequate space for off-street parking and delivery facilities.

D. Lots

1. Arrangement / Design: Shall provide satisfactory and desirable sites for buildings and properly relate to the topography and character of the surrounding area.

2. Minimum Lot Requirements: Per the zone in which the subdivision is located, See City Code Title 11. The square footage of any street (public or private) shall not be included in the lot size.

3. Side lines of lots shall be approximately at right angles or radial to the center of the street.

4. Corner lots shall be platted wider than interior lots to permit conformance with required setbacks.

DI. Flag lots shall comply with City Code 11-3-9. with an access strip no less than 20-feet wide (access strip not included in the lot area).

DII. Developable Area Limitation: Any area within a subdivision that is not developable (e.g. protection of natural slopes or vegetation, special natural topographic features, or visual factors) shall be shaded and noted on the Plat.

DIII. Adjoin Street: Each lot shall abut on an existing or proposed public street.

3.04 Sanitary Sewer Design

A. All design shall be in accordance with UAC R317, as amended.

B. Changes in pipe size shall occur in a manhole. Match 0.8 depth point of sewer lines.

(UAC, R317-3-2-H)

C. All terminating sewer mains shall end with a city standard manhole. No cleanout shall be permitted on a main line.

D. Service lateral connection shall not be allowed in sewer manholes.

E. All sewer shall be gravity unless otherwise approved by the City.

F. Collection lines shall be in public rights-of-way or private road rights-of-way. Collection lines shall not be located on private property (easements) without the express written permission from the City. If such case is granted, the easement shall be a minimum width of 20-ft and shall be dedicated to the City of Clearfield.

G. All sanitary sewer systems shall be public and shall connect to a public sewer line. Private sanitary sewer systems may be permitted on singularly owned property provided they discharge directly to a public sewer system and obtain the express written permission from the City.

3.05 Water Design

A. All design shall be in accordance with UAC R309, as amended, and AWWA Standards.

B. All mains and individual lot services shall be of sufficient size to meet fire flow requirements.

C. Valves are required on all branches of tees and crosses. On unbroken lengths of water line, the maximum valve spacing is 1000-ft.

D. At dead end lines, including temporary dead ends, provide fire hydrant at termination point.

E. Where a water line crosses surface water, designer/engineer shall contact the DDW and the City prior to final design.

F. All fire lines shall meet the IFC and Public Works Standards and Technical Specifictions but shall remain privately owned and maintained.

G. Fire hydrants

1. Fire hydrants are to be installed in locations as required by the IFC and approved by the North Davis Fire District and the City, with a minimum spacing of 500-ft.

2. Fire hydrants shall not be located within 10-ft of any sanitary sewer line or manhole.

3. Fire hydrants must maintain a 5-ft minimum clearance from an adjacent proposed or existing improvement (e.g., mailbox, streetlight, fencing, etc.).

3.06 Street/Road Design

A. Streets shall be designed in accordance with these Standards, standard engineering practices, and the AASHTO and MUTCD guidelines.

B. Local (residential) streets shall have not less than 333-ft radius curves[2]

C. No changes of grade in excess of 1.5% shall be permitted without a vertical curve.

D. Sight triangles, in accordance with AASHTO requirements, shall be shown as required in the Drawings.

E. Horizontal points of curvature shall not be located closer than 150-ft from the center of an intersection.

F. Intersections

1. Roadway centerlines shall intersect at 90-degrees. Where a 90-degree angle is not feasible, the intersection angle may be reduced to as low as 80-degrees with the City Engineer's concurrence. In no case shall the angle be less than 80-degrees.

2. Intersections shall be no closer than 500-ft to one another, as measured from centerline to centerline.

[2] AASHTO A Policy on Geometric Design of Highways and Streets (2018): Table 3-13, 30mph, *e* = -2.0%.

G. Cul-de-Sacs

1. Length of cul-de-sac shall not exceed 500-ft as shown in the Standard Drawings.

H. Pavement / Pavement Section

1. Developments

   a. Pavement section shall comply with the Standard Drawings.

2. City Projects

   a. Pavement section shall be included in the Project Plans.

3. See Standard Drawings for minimum pavement section and notes.

4. Both Development and City Projects must meet the minimum pavement section thicknesses. Where geotechnical pavement design thicknesses exceed the standard minimums, the geotechnical pavement design thicknesses shall govern.

I. Temporary Turnarounds

1. When a turnaround cannot be constructed outside of subdivision, it may be located on a portion of the subdivision lots as required in the Drawings.

2. The lot(s) on which the turnaround is constructed shall be restricted as follows:

   a. Platted as “R” (restricted lot).

   b. This lot cannot be sold or building permits issued until the road is extended beyond the subdivision boundary, complete with curb, gutter, and sidewalk.

3. Drainage onto adjacent property must be by written approval (easement) of adjacent property owner.

J. Landscaping

1. When landscaping is required to be designed/installed, refer to City Code (Title 12 and Title 11, Chapter 21 “Landscaping Standards and Requirements”) and these Standards.

K. UDOT

1. Intersections with UDOT controlled streets shall be in accordance with UDOT Standards. A copy of the approved UDOT Access Permit shall be submitted to the City.

L. Union Pacific

1. Railroad crossing shall be in accordance with Union Pacific’s Standards and requirements. A copy of the approved railroad crossing permit shall be submitted to the City.

M. Street Amenities

1. Streetlights (see Drawings) shall be installed at intersections, curves, overpasses, or as deemed necessary by the City.

2. Street trees (see City Code Title 12 and Form Based Code for projects in Downtown) shall be:
    a. Planted on both sides of all streets, outside of the rights-of-way, on private property in approved locations.
3. Signs and traffic safety devices shall be placed as required by the City.

3.07 Storm Drain and Drainage Design

A. See Appendix A for Storm Drain and Drainage Design Standards.

B. Low Impact Development (See Appendix A)

C. 80th Percentile Storm Retention (See Appendix A)

SECTION 4 CONSTRUCTION STANDARDS

4.01 General Policies

A. General Conditions

1. Permit/License: When the work is in progress, Contractor shall have at the work site a copy of the required permit(s) and their contractor's license number.

2. Private access: Temporary all-weather roadways, driveways, walks, and rights-of-way for vehicles and pedestrians shall be constructed and continuously maintained where required.

3. Street excavation in winter: Excavation of City streets during the winter months (herein defined as November 15 to April 1) will be allowed only if the work is a new service connection, required maintenance, or emergency, or otherwise approved by the Public Works Director. Permanent patching of City streets excavated in the winter may be delayed until April 1 with the following provisions: Within five working days from the completion of the excavation, the permittee provides/maintains a 1-1/2-in thick temporary winter asphalt surface until such time as the permanent asphalt surface is installed; the permittee shall provide/maintain a temporary untreated base course surface until such time as the temporary winter asphalt surface is installed. These provisions apply regardless of whether the permittee or City crews are performing the permanent resurfacing.

4. Existing utilities: All projects shall be “Blue Staked” prior to construction. The contractor shall use extreme caution to avoid a conflict, contact, or damage to existing utilities, such as power lines, sewer lines, storm drains, streetlights, telephone lines, cable television lines, water lines, gas lines, poles, or other appurtenances during the course of construction of the project. Any such conflict, contact, or damage shall be immediately communicated to said utility company and the Public Works Department. All damages must be repaired as soon as possible in accordance with the requirements of the utility company.

5. Preconstruction pictures of existing public way improvements: The permittee may secure pictures of the conditions of the existing public way improvements such as curbing, sidewalk, landscaping, asphalt surfaces, etc. In the event that public way improvements are damaged and no pictures are taken, the Public Works Department will assume the correction of the damage is the responsibility of the permittee.

B. Licensing

1. Contractor (including all sub-contractors) must be licensed with the State of Utah: It is the policy of Clearfield City that contractors desiring to perform work in the City's public way shall be properly licensed in the State of Utah. The acceptable licenses shall be in accordance with UAC R156-55a-301, as amended.

Exceptions: A license shall not be required by the City when the permittee is a public utility company. However, subcontractors for utility companies shall have a valid contractor's license.

C. Construction Permits

Developer/Contractor is responsible for obtaining all necessary permits for the construction of the Improvements prior to commencement of said Improvements. Permits required may include, but are not limited to:

1. Excavation (City)

    a. The City issues permits to control any excavation and construction operations in the public right-of-way. All contractors, sub-contractors, and utility companies proposing to construct, repair, or replace any facility within the public right-of-way shall contact the City and complete all permit requirements prior to commencing proposed work.

    b. Work by utility companies and their contractors in constructing facilities in new subdivision streets shall be required to post a bond with the City and will be subject to City inspection and compliance with all requirements.

    c. Emergency Work

        i. Maintenance of pipelines or facilities in the public way may proceed without a permit when emergency circumstances demand the work be done immediately provided a permit could not reasonably and practicably have been obtained beforehand.

        ii. If emergency work is commenced on or within any public way of the City, the Public Works Department shall be notified within one-half hour when the work commences or as soon as possible from the time the work is commenced. Contact shall be made to the City's "on call" personnel. The Public Works Department shall also be notified within 1 hour of the start of work on the first regular business day of which City offices are open after such work commences, and a permit shall be requested by the Contractor and subsequently issued by the City which shall be retroactive to the date when the work was begun. Before commencing the emergency work, all necessary safety precautions for the protection of the public and the direction and control of traffic shall be taken. None of the provisions of these regulations are waived for emergency situations except for the prior permit requirement.

    d. Enforcement: Any violation of the above regulations regarding working within the Public Way shall be subject to the provisions of the applicable Clearfield City Code.

2. USACE/DWRi – Stream Alteration
3. UPDES
4. Dam Safety (DWRi)
5. UDOT – Encroachment
6. Davis County Surveyor's Monument

D. Excavation Operations

1. Blue Stakes: Before commencing excavation operations, the permittee shall call "Blue Stakes" at 1-800-662-4111 or 811.
2. Traffic control devices: Traffic control devices such as construction signs, barricades, and cones must be in place before excavation begins.
3. Protection of paved surfaces outside of excavation area: To avoid unnecessary damage to paved surfaces, backhoes, outriggers, tracked equipment, or any other construction equipment that may prove damaging to asphalt shall use rubber cleats or paving pads when operating on or crossing said surfaces.
4. Open trench limits: Open trenches will be limited to one block at a time or 660-ft, whichever is less.
5. In the event of an approved planned road closure, Contractor shall notify the City, Fire Department, emergency services dispatch, UTA, US Postal Service, and Davis School District a minimum of 24 hours prior to the closure. In the case of an emergency, the above listed agencies will be notified as soon as possible.

E. Environmental Controls

1. Dust and debris: The permittee or contractor shall keep dust and debris always controlled at the work site. If necessary, a container shall be provided for debris and dusty areas shall be wet down. The permittee or contractor shall be responsible for the cleanup of mud or debris from public roads deposited by vehicles or construction equipment exiting the work site. The City reserves the right to shut down the work or issue a citation if dust is not controlled.
2. Noise: The permittee or contractor shall keep neighborhood free of noise nuisance in accordance with City Code.

F. Cleanup: The permittee or contractor shall remove all equipment, material, barricades, and similar items from the right-of-way. Areas used for storage of excavated material will be smoothed and returned to their original contour. Vacuum sweeping or hand sweeping shall be required when the City determines cleaning equipment is ineffective.

G. Storm Water: All Contractors working within the boundaries of the City shall conform to all requirements and regulations as outlined by the Clearfield City Storm Water Management Plan. Copies of the plan are available on the City's website.

4.02 Pre-Construction Meeting

A. The pre-construction meeting shall not be held until the ALUA has approved and signed the construction plans.

B. A preconstruction meeting shall be held before any excavation or other work is begun in the subdivision or Project. The meeting may include, but is not limited to the following:

1. Public Works Director
2. City Engineer or Project Manager
3. Subdivision or Project Engineer
4. All contractors and subcontractors involved with installing the subdivision or project improvements.
5. Representatives of affected Clearfield City Departments.
6. Representatives of local utility companies (as may be required by the City).

C. Items pertaining to the construction and inspection of the subdivision or Project improvements will be discussed.

4.03 Construction

A. Specifications

1. Contractor shall be responsible for constructing all improvements in accordance with the Technical Specifications, per Section 5 of this document.
2. No deviations will be allowed unless reviewed and authorized by the City on a case-by-case basis.

B. Plans and Details

1. Contractor shall be responsible for constructing all improvements in accordance with the Drawings, Plans, and Details, per Section 6 of this document.
2. No deviations will be allowed unless reviewed and authorized by the City on a case-by-case basis.
3. In the event that as-built conditions of the improvements are found to be out of compliance with the approved improvement plans and tolerances contained in these Standards, it shall be the contractor's responsibility to remove those improvements and replace them with improvements that comply with the approved improvement plans and are within the given tolerances. Adjacent improvements may also require replacement to bring all improvements into compliance.

C. Sequence/Timing

1. All underground utility work shall be completed prior to placement and compaction of the roadway base course. Utilities, including service lines, not installed prior to roadway construction shall be bored as approved by the City.

2. All concrete collars shall be installed within 14 days of asphalt placement.

D. Inspection

1. All construction work involving the installation of improvements in the subdivision or project shall be subject to inspection by the City. It shall be the responsibility of the person responsible for construction to ensure that inspections take place where and when required. Certain types of construction shall have continuous inspection, while others may have only periodic inspections.

E. Requests for Inspections

1. Requests for inspections shall be made to the Public Works Department by the person responsible for the construction.

2. Requests for inspection on work requiring continuous inspection shall be made 3 working days prior to the commencing of the work.

3. Notice shall also be given 1 day in advance of the starting of work requiring periodic inspection, unless specific approval is given otherwise by the City.

F. Continuous Inspection

1. be required on (but not limited to) the following types of work:

   a. Laying of street surfacing.

   b. Placing of concrete for curb and gutter, sidewalks, and other structures.

   c. Laying of sewer pipe, drainage pipe, water mains, water service laterals and testing.

2. On construction requiring continuous inspection, no work shall be done except in the presence or by permission of the Public Works Department or authorized City representative.

G. Periodic inspections

1. Shall be required on (but not limited to) the following types of work:

   a. Street grading and gravel base

   b. Excavations for curb and gutter and sidewalks

   c. Excavations for structures

   d. Trenches for laying pipe

   e. Forms for curb and gutter, sidewalks and structures

H. Substantial and Final Completion Inspections

1. A substantial completion inspection shall be requested by the Contractor and made by the Public Works Department or authorized representative after all construction work is completed. Any faulty or defective work shall be corrected by the persons responsible for the work within a period of 30 days of the date of the City's official punchlist defining the faulty or defective work.

2. A final completion inspection shall be requested by the Contractor and made by the Public Works Department or authorized representative after all faulty and defective work has been corrected.

I. Testing

1. Development Projects

a. Developer/Contractor shall select a properly licensed and qualified testing agency.

b. Developer/Contractor shall be responsible for coordinating all testing in accordance with the Technical Specifications per Section 5 of this document.

c. Testing reports shall be submitted to City weekly for review. Areas with failed tests shall be corrected and retested.

d. Failure to have improvements tested as they are constructed may be cause for work stoppage or rejection by City.

2. Projects

a. Contractor shall select a properly licensed and qualified testing agency.

b. Contractor shall be responsible for coordinating all testing in accordance with the Technical Specifications per Section 5 of this document and the Project Manual.

c. Testing reports shall be submitted to City weekly for review. Areas with failed tests shall be corrected and retested. Contractor may be required to pay for retesting.

d. Failure to have improvements tested as they are constructed may be cause for work stoppage or rejection by City.

J. Safety

1. Contractor is solely responsible for jobsite safety.

2. Contractor shall comply with all local, state, and federal rules and regulations regarding jobsite safety.

3. City and/or its authorized representatives shall have the authority to shut down a job when unsafe working conditions are found.

SECTION 5 TECHNICAL SPECIFICATIONS

5.01 Technical Specifications for Clearfield City

A. Adoption of Divisions 01 through 34 of the Manual of Standard Specifications, as published by Utah LTAP Center, Utah State University, Logan, Utah, current edition, with all published amendments. (Commonly referred to as APWA Specs.)

B. Modifications and Additions to Manual of Standard Specifications (see Appendix E)

5.02 Order of Precedence

A. Approved project-specific specifications (when applicable)

B. Modifications and Additions to Manual of Standard Specifications

C. Manual of Standard Specifications, current edition, with all published amendments

SECTION 6 STANDARD DRAWINGS, PLANS, AND DETAILS

6.01 Standard Drawings, Plans, and Details for Clearfield City

A. Clearfield City Public Works Standard Drawings, current edition (See Appendix F)

B. Adoption of Manual of Standard Plans, published by Utah LTAP Center, Utah State University, Logan, Utah, current edition, with all published amendments. (Commonly referred to as APWA Drawings.)

6.02 Order of Precedence – City Projects

A. Approved project-specific drawings and details (when applicable)

B. Clearfield City Public Works Standard Drawings, current edition

C. Manual of Standard Plans, current edition, with all published amendments, when not covered by one of the aforementioned items.

6.03 Order of Precedence – Development Projects

A. Clearfield City Public Works Standard Drawings, current edition

B. Manual of Standard Plans, current edition, with all published amendments, when not covered by one of the aforementioned items.

C. Final Land Use Approval Specific Drawings and Details

APPENDIX A – STORM DRAIN AND DRAINAGE DESIGN STANDARDS

APPENDIX A

STORM DRAIN AND DRAINAGE DESIGN STANDARDS

TABLE OF CONTENTS

EXHIBITS

A1. General Provisions

A. This document represents the reporting, design and construction standards for private and public design and construction as it relates to storm drainage within the City.

B. A Storm Water Report is required for all new development and redevelopment projects.

C. Implementation of LID measures and 80th percentile storm retention does not reduce or eliminate the requirement for detention/retention as contained in this document but may be included within the designed detention/retention volumes calculated.

A2. Definitions and Acronyms

The following terms shall be defined as follows in this document related to storm water:

A. 80th Percentile Storm – The rainfall event whose precipitation total is greater than or equal to 80 percent of all storm events over a given period of record.

B. Best Management Practices (BMPs) – Construction practices and control measures necessary to protect against pollution generated by construction sites.

C. Common Plan of Development – "Common plan of development or sale" means one plan for development or sale, separate parts of which are related by any announcement, piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, plat, blueprint, contract, permit application, zoning request, computer design, etc.), physical demarcation (including contracts) that identify the scope of the project. A plan may still be a common plan of development or sale even if it is taking place in separate stages or phases, is planned in combination with other construction activities, or is implemented by different owners or operators.[1] Common plans of development may be residential, commercial, or industrial in nature.

D. Detention Basin – A water storage pond designed to store a volume of water that reduces the post-development peak runoff of a storm to the pre-development runoff rate or other rate as defined by the governing body. This is accomplished by the use of an outlet which controls the rate of flow out of the pond into the receiving storm drain or water body. Detention ponds contain an inlet, outlet, and spillway; the inlet and outlet may be one and the same. The detention basin is intended to drain the storm water within a period of time to make the volume available for the next storm event.

E. Development – Any man-made change to unimproved land, including but not limited to site preparation, excavation, filling, grading, paving, and construction of buildings or other structures.

[1] General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s); State of Utah Department of Environmental Quality, Division of Water Quality; August 16, 2023.

F. Disturb – To alter the physical condition, natural terrain or vegetation of land by clearing, grubbing, grading, excavating, filling, building or other construction activity.

G. Drain Inlet – A point of entry into a sump, storm water basin, or storm drain system.

H. Drinking Water Source Protection Zone – Zones determined by geo-hydrology designed to protect groundwater aquifers of a well in a culinary water system.

I. DWQ – Acronym for Division of Water Quality, a division of the UDEQ.

J. Freeboard – The vertical distance between the emergency spillway and the top of the basin embankment.

K. General Permit for discharges from MS4 (Permit) – Authorization for a municipal separate storm sewer system to discharge storm water into waters of the United States.

L. Hardscape – Generally impervious areas, typically streets, sidewalks, driveways, parking areas, and roofs.

M. Infiltration – The movement of water through the soil surface and into the soil;[2] the movement of water downward from the ground surface through the upper soil.[3]

N. Infiltration Rate – The rate at which water enters the soils during a storm.[2]

O. Infiltration System (storm water) – A system which is designed to return storm water runoff into an underground aquifer.

   1. Bioretention facilities, rain gardens, and tree boxes that are designed to slow down and hold storm water runoff for biological treatment and use by vegetative uptake are not considered to be infiltration systems if they are not isolated from groundwater. Groundwater isolation may be achieved with impermeable liners or an underdrain that <u>does not</u> discharge into a dug, bored, drilled or driven well, improved sinkhole or other subsurface fluid distribution system.

   2. The discharge of storm water piping below grade for the purpose of infiltration is considered a Class V injection well facility.

P. Injection Well, Class V – As defined in UAC R317-7-2, as amended:

   1. A bored, drilled, or driven shaft whose depth is greater than its largest surface dimension, OR

   2. A dug hole whose depth is greater than its largest surface dimension, OR

   3. An improved sinkhole, OR

   4. A subsurface fluid distribution system.

[2] Linsley/Franzini/Freyberg/Tchobanglous. (1992). *Water Resources Engineering and Environmental Engineering.* New York: McGraw-Hill Inc.

[3] Lindeburg. (2003). *Civil Engineering Reference Manual.* Belmont, CA: Professional Publications, Inc.

Q. Low Impact Development (LID) – An approach to land development (or re-development) that works with nature to more closely mimic pre-development hydrologic functions, reduces or minimizes the quantity of storm water runoff, and protects or improves water quality in receiving water bodies.

R. LID Analysis and Report – A written analysis of a development or redevelopment site that (1) identifies appropriate methods to reduce storm water runoff, (2) identifies the pollutants to target for each drainage area, and (3) selects appropriate structural controls to implement on the site.

S. Municipal Separate Storm Sewer System (MS4) – The storm water conveyance system owned by the City which includes streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains. For a full definition, see UAC 317-8.

T. Outlet – The discharge mechanism of a detention basin, typically a pipe containing a head gate or orifice to control the release of water out of the basin.

U. Percolation – The movement of water through the subsurface soil layers, usually continuing downward to the groundwater table,[3] measured by a Standard Percolation Test in units of minutes per inch.

V. Pollutant – Chemicals, sediment, trash, disease-carrying organisms, and other contaminants picked up by storm water which is conveyed into rivers, streams, and other water bodies.

W. Redevelopment – Alteration of a property that change the footprint of a site or building.

X. Retention Basin –A water storage pond designed to store the runoff volume of a storm and dispose of water through percolation, infiltration, and evaporation within a period of time to make the volume available for the next storm event. A retention basin contains an inlet and spillway, but no structural outlet.

Y. Softscape – Generally pervious areas, such as native vegetation and landscaped areas.

Z. Spillway, Emergency – A storm drain basin feature that controls and guides storm water as it spills over the basin's embankment.

AA. Spillway, Internal – A storm drain basin feature that allows excess water to leave the basin through discharge piping which is set at an elevation below the emergency spillway.

BB. Storm Drain System – The system of conveyances (including but not limited to catch basins, detention basins, retention basins, infiltration galleries, curbs, gutters, ditches, cross drains, roads, man-made channels, sumps, pipes, etc.) owned and operated by the City, which is designed and used for collecting and/or conveying storm water.

CC. Storm Water Pollution Prevention Plan (SWPPP) – A written plan that evaluates and minimizes the impact of pollutants on storm water through the use of control measures and activities that target pollution sources. A SWPPP template can be found on the UDEQ Water Quality website.

DD. Storm Water Report – A written analysis of a development or redevelopment site that

estimates the volume and rate of storm water runoff generated by the proposed improvements. The report details rationale and calculations for establishing the sizes of storm water piping and storage facilities in compliance with this document. This Report shall also contain the calculations for determining the 80th Percentile Storm volume and methods evaluated and selected to manage the rainfall on-site.

1. This Report may be combined with the LID Analysis and Report.

EE. Storm Water Runoff – Precipitation that is not intercepted or otherwise captured at a site which eventually enters into natural water bodies such as rivers, streams, and lakes.

FF. Subsurface Fluid Distribution System – An assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground. (i.e. infiltration galleries, underground retention)

GG. UAC – Acronym for Utah Administrative Code.

HH. UDEQ – Acronym for Utah Department of Environmental Quality.

A3. Rainfall Hydrology

A. All storm drain systems shall be designed to carry the 100-year storm, unless otherwise stated.

B. Storm Specifications

1. Local storm drain piping shall be designed for the 10-year storm, where the road or other above ground conveyance will carry the difference to the 100-year storm.
2. Storm drain piping connecting two (2) streets through private property shall be designed for the 100-yr storm.
3. Local detention basins, including all piping into the basin from the nearest point of entry shall be designed to accommodate a 10-year storm event with a maximum discharge of 0.2 cubic feet per second (cfs) per acre.
4. Local retention basins, including piping into the basin from the nearest point of entry, shall be designed to accommodate the 100-year 2-hour storm.
5. Regional detention basins, including all piping into the basin from the nearest point of entry, shall be designed to accommodate the 100-year storm event.
6. The storm duration used for the sizing of basins shall be based upon the worst-case scenario. The time of concentration shall be calculated and shown.
7. See Exhibits 1 and 2 for rainfall data.

C. Hydrologic Methodology

1. Parameters

a. Hardscape – Proposed streets and sidewalk areas plus the estimated hardscape areas (roofs, driveways, patios, walkways etc.) determined by using a recent subdivision with similarly sized lots, or calculated area as measured from approved site plan.

b. Softscape – The remaining area of the subdivision not hardscape.

2. Developments less than 20 acres

a. The Rational Method may be used. A computer model may also be used. See paragraph 3 for more information.

b. Rainfall Intensity – When using the Rational Method, use the rainfall intensity table provided in Exhibit 1 of this document.

c. Runoff Coefficients – The following C-values shall be used when using the Rational Method:

i. Hardscape – 0.90

ii. Softscape (open space, landscaping) – 0.25

iii. Values from published sources may be used when pre-approved by the City Engineer.

3. Developments larger than 20 acres

a. A City Engineer-approved computer model shall be used.

b. Rainfall Pattern and Depth – The following rainfall pattern shall be used. This pattern is based on the Farmer-Fletcher Distribution. This pattern is for a 1-inch unit storm and must be multiplied by rainfall depth for storms of other magnitudes, as provided in Exhibit 2.

Farmer-Fletcher Distribution

Unit Storm

Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)
1	0	11	0.004	21	0.033	31	0.052	41	0.012	51	0.005
2	0	12	0.005	22	0.034	32	0.045	42	0.011	52	0.005
3	0.002	13	0.008	23	0.035	33	0.04	43	0.01	53	0.004
4	0.002	14	0.009	24	0.038	34	0.035	44	0.009	54	0.004
5	0.002	15	0.009	25	0.039	35	0.03	45	0.009	55	0.004
6	0.002	16	0.013	26	0.045	36	0.022	46	0.008	56	0.003
7	0.002	17	0.017	27	0.052	37	0.02	47	0.006	57	0.003
8	0.002	18	0.02	28	0.054	38	0.018	48	0.006	58	0.002
9	0.003	19	0.024	29	0.054	39	0.016	49	0.005	59	0.002
10	0.003	20	0.029	30	0.054	40	0.014	50	0.005	60	0.001

A4. Storm Drain System

A. Independent System

1. Storm waters shall not be conveyed in irrigation ditches.
2. Irrigation waters shall not be conveyed in storm drain systems.

B. Groundwater

1. Where adverse groundwater conditions exist, the City may allow the installation of a subsurface land drain system. Laterals may be installed to each lot for clear groundwater only (surface water may be permitted only upon approval from the City Engineer). Subsurface lines shall be installed with a slope adequate for proper drainage. A backflow control device may be required at the confluence of the land drain system and storm drain system, as determined by the City Engineer.

C. Piping

1. Storm Drain Lines
    a. All storm drain lines that are considered to be part of the City's storm drain system shall be reinforced concrete pipe (RCP), of appropriate class when installed in the public right-of-way.
    b. Minimum size for storm drain mains shall be 15-inch diameter.
    c. Public storm drain pipes shall not be curved.
    d. See Section A3 for sizing requirements.
2. Land Drain Lines
    a. All land drains shall be PVC or RCP.
    b. Minimum size for land drain mains shall be 8-inch diameter.
    c. Minimum size for land drain laterals shall be 4-inch diameter.
3. Pipe specifications are included in Section 5 of the Public Works Standards.
4. Reimbursement / Pioneering Agreements – Where determined by the City Engineer and/or the Storm Drain Capital Facilities Plan, larger drain lines shall be installed to accommodate future development. The cost to provide adequate storm drainage for a development shall be paid for by the Developer. Upsizing will be coordinated at the time of development. The cost of upsizing will be the responsibility of the City or as defined in the agreement.

D. Access – Storm drain lines shall have cleanout boxes, inlets, or manholes installed at all changes in grade or alignment, with a maximum distance of 400 feet between accesses. Structures shall be installed in accordance with the standard specifications and Standard Drawings.

E. Sumps

1. Sumps are not allowed in the City's storm drain system, except as approved by the City Engineer on a case-by-case basis.
2. Sumps shall not be permitted within zones 1 or 2 of any Drinking Water Source Protection Zone of any drinking water source.
3. Class V Injection Well permitting is required.

F. Grates

1. Grates shall be provided at all entrances/exits of the storm drain system, and on the upstream end of all culverts greater than 50-ft in length.
2. Grates shall be provided on catch basins, junction boxes, control structures, etc.
3. Bar spacing shall be designed for location, function, and safety. (Generally, bar spacing should not exceed three (3) inches.)

A5. Detention and Retention Basins

A. When Required

1. Storm drainage basins are required for all development; however, residential developments less than one (1) acre are not required to have detention or retention, except when determined by the City Engineer.
2. In an effort to increase the City's ability to more easily manage storm events, Regional Detention Basins shall be constructed wherever possible, as shown in the City's Storm Water Capital Facilities Plan.
3. As shown in the City's Storm Water Capital Facilities Plan, Developer may be required to participate in the construction of a new regional detention basin or the upgrading of an existing detention basin that is designated as a regional detention basin in lieu of onsite detention within the proposed development, if the development is located within a regional detention basin's drainage subbasin.

B. Basin Property, Easement, and Access

1. Public Basins – Public basins shall be located on a separate parcel dedicated to the City with frontage along a public roadway. The developer shall provide the City permanent access to any portion of a public basin requiring operation and/or maintenance.
2. Private Basin – Private basins serving multiple lots shall be located on a separate parcel, owned by the home-or land-owners association. Private basins serving a single lot shall be located within the lot. The City shall be provided an easement to, around, and across the basin for emergency access, operation, and/or repair for a private basin.

3. Access – Each basin shall be constructed with sufficient, all-weather, drivable access to all structures from a public street. A turnaround area shall be provided at the termination of the access road.

C. Maintenance and Ownership

Actual ownership and maintenance responsibility shall be specifically defined in the Owner's Dedication, Certificates, Development Agreements, or by Deed.

1. Local Basins – Local basins shall be constructed by the developer. Following conditional acceptance of the construction, the operation and maintenance shall be conveyed to the City when applicable.
2. Regional Basins – Regional basins shall be owned and maintained by the City, constructed according to the criteria herein, and approved of the City Engineer.
3. Private Basins
    a. Single Lots (Non-residential only) – When approved, private basins shall be owned and maintained by the property owner.
    b. Multiple Lots – When approved, private basins shall be owned and maintained by the Homeowners' Association.
    c. Access may be provided from a private street provided an access easement is granted to the City providing access to/from the basin from a public street.
    d. For all private basins, Developer is required to enter into a Long-Term Storm Water Maintenance Agreement with the City.

D. Basin Volume

1. All basin designs and calculations shall be included in the Storm Water Report and submitted to and reviewed by the City Engineer for approval.
2. Volume shall be measured to the internal spillway (overflow) elevation.
3. Volume in pipes, ditches, or roadside swales shall not be considered in the volume calculation for detention and retention basins.
4. Above-grade storage of water shall not be allowed in parking lots.

E. Allowable Discharge Design

1. See Section A3.B for storm specifications.
2. Discharge shall not exceed the lesser of:
    a. Pre-development runoff with pre-development, meaning the condition of the land prior to settlement, or
    b. The discharge rate is determined by using the standard rate of 0.20 cubic feet per second per total acre.

Show all calculations or provide spreadsheet or program file.

3. Calculations shall be based on the total acreage of the development draining to the basin.
4. Pass-through of offsite drainage through the development must be considered and will be allowed.

F. Detention and Retention Basin Elements

1. Depth – Basins should not exceed three (3) feet in depth as determined from its lowest point to the overflow or spillway, unless otherwise approved by the City.
2. Side slopes – Side slopes shall not be steeper than 4:1 (horizontal to vertical).
3. Bottom Slope – The basin floor shall be designed so as to prevent the permanent ponding of water. The slope of the floor of the basin shall not be less than 1% to provide drainage of water to the outlet grate and prevent prolonged wet, soggy, or unstable soil conditions.
4. Freeboard – At least one (1) foot of freeboard is required (berm above the high-water mark).
5. Spillways
    a. The purpose of a spillway is to protect life and property by providing an emergency route for floodwaters in excess of the design storm event. Spillways are required for all detention basins.
    b. The spillway shall be designed to carry the 200-year storm flow minus the 100-year storm flow which is handled by the outlet control structure.
    c. Spillways shall introduce flows back into the pipe or stream downstream of the outlet control.
    d. Spillways shall include a maintained swale and drainage easement to a safe location.
    e. The spillway shall be designed to prevent erosion.
    f. All spillways shall be designed to protect adjacent embankments, nearby structures, and surrounding properties.
6. Ground Covers – The surface area of the basin shall be sodded with a drought resistant turf. A minimum of four (4) inches of top soil must be installed prior to sod placement. A sprinkler irrigation system is also required for all grassed basins. Developer/contractor is responsible for establishing vegetation.
7. Embankment (Fill) Construction – If a raised embankment is constructed for a basin (constructed with granular materials), it shall be provided with a minimum of 6-inches of clay cover on the inside of the berm to prevent water passage through the soil.

8. Excavation (Cut) Construction – If the basin is constructed primarily by excavation, then it may be necessary to provide an impermeable liner and land drain system when constructed in the proximity of basements or other below grade structures as determined by a geotechnical evaluation.

9. Multi-Use Basins – Basins may be designed as multi-use facilities when appropriate precautions are incorporated into the design. If amenities such as pavilions, playground equipment, volleyball courts, etc. are to be constructed within the water detention area of a basin, they shall be designed appropriately. Structures shall be designed for saturated soil conditions and bearing capacities are to be reduced accordingly. Restrooms shall not be located in areas of inundation. Inlet and outlet structures should be located as far as possible from all facilities. No wood chips or floatable objects may be used in the area that will be inundated.

10. Fencing – A conveniently-located access gate, appropriately sized for entrance by maintenance vehicles and equipment, shall be provided for fenced basins. Fencing should not be located at the top of the basin embankment where maintenance equipment, vehicles, and personnel need access. Fencing shall be a minimum of 6-ft tall, with material in accordance with these Public Works Standards and City Zoning Requirements.

G. Detention Basins (LID BMPs may be incorporated when approved, See Sections A6 and A7)

1. Percolation – No reduction due to percolation for detention basins volumes shall be permitted.

2. Outlet Control

   a. Private detention basins may have a calculated fixed orifice plate mounted on the outlet of the basin.

   b. Public detention basins shall have movable, screw-type head gates set at the calculated opening height with a stop block required to carry the maximum allowable discharge.

3. Low Flow Piping – The inlet and outlet structures may be located in different areas of the basin, requiring a buried pipe to convey any base flows that enter and exit the basin. (Cross gutters and surface flows are prohibited.) The minimum pipe size and material for the low flow pipe shall be 15-inch RCP or as otherwise specified by the City Engineer.

4. Oil/Sediment Separators

   a. Sizing and design of oil/sediment separators shall be reviewed by the City Engineer and City Personnel prior to installation.

      i. Manufacturer's recommendations for sizing must be followed with calculations submitted to the City.

ii. Consideration must be given to frequency and ease of maintenance of the structure.

iii. Separator should be installed upstream of detention basin and appropriately sized for such location.

b. Any site dealing with large parking lots or particularly dirty parking lots such as auto repair and maintenance will be required to have an oil separator.

c. On an annual basis, Private basins with Separators shall be required to be cleaned and provide documentation to the City per the Long-Term Storm Water Maintenance Agreement.

H. Retention Basins (excludes 80th Percentile Storm Retention, See Sections A6 and A7)

1. Retention basins must be specifically approved by the City Engineer.

2. Retention basins shall not be permitted within zones 1 or 2 of any Drinking Water Source Protection Zone of any drinking water source.

3. An approved oil/sediment separator shall be installed upstream of retention basin.

4. Retention Basin Criteria – Retention basins may be permitted if the following conditions apply:

a. The distance between the nearest City storm drain and the boundary of the development is greater than:

i. For residential development: 500 feet or 50 feet times the number of lots in the entire development (whichever is greater);

ii. For commercial development: 20 feet times the number of parking stalls on site.

b. The basin is not located within a Hazardous Area (such as a steep slope) or some other sensitive area (such as a Drinking Water Source Protection Zone).

c. Site is topographically incapable of draining to the City system.

d. Recommendation by the City Engineer.

5. Percolation Rate for Retention Basins

a. A percolation test shall be performed by a licensed tester. The percolation test shall be performed at the elevation of the proposed grade of the bottom of the retention basin.

b. Due to degradation of soils ability to percolate over time, only 70% of the percolation rate shall be used in the calculations for the retention basins.

6. Retention basins shall be designed to completely drain within 48 hours of the primary storm event.

I. Subsurface Fluid Distribution Systems

1. Subsurface Fluid Distribution Systems are allowed for private basins only.
2. See Paragraph H for requirements related to Percolation Rate for Retention Basins.
3. A Class V injection well permit is required.
4. An approved oil/sediment separator shall be installed upstream of subsurface fluid distribution system.
5. Subsurface Fluid Distribution Systems are not allowed for storm water disposal if located in Zone 1 or 2 of a drinking water source. They may be allowed in Zone 3 or 4 of a drinking water source if they are equipped with appropriate pretreatment and approved by the City Engineer.
6. Examples of Subsurface Fluid Distribution Systems include but are not limited to: ADS StormTech® systems, ACF Environmental R-Tanks® and similar; perforated pipe infiltration galleries, etc.

A6. Water Quality

A. Long-term Best Management Practices (BMPs) shall be used to maintain, to the maximum extent practical, the quality of the water to the pre-developed condition.

B. Construction BMPs shall be implemented per the City's Storm Water Management Plan.

A7. Low Impact Development

All new development and redevelopment projects equal to or greater than one (1) acre, or projects that are less than one (1) acre that are part of a larger common plan of development or sale, shall be required to evaluate Low Impact Development (LID) approaches to infiltrate, evapotranspiration, and/or harvest and use storm water from the site to protect water quality.[4]

A. 80th Percentile Storm Retention

1. All new development and redevelopment projects equal to or greater than one (1) acre, or projects that are less than one (1) acre that are part of a larger common plan of development or sale, shall be required to manage rainfall on-site, and prevent the off-site discharge of the precipitation from all rainfall events less than or equal to the 80TH percentile rainfall event [storm]. This objective must be accomplished by the use of practices that are designed, constructed, and maintained to infiltrate, evapotranspiration, and/or harvest and reuse rainwater. If meeting this retention standard is technically infeasible, a rationale shall be provided on a case-by-case basis for the use of alternative design criteria. The project must document and quantify that infiltration and evapotranspiration have been used to the maximum extent technically

[4] Adapted from General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s); State of Utah Department of Environmental Quality, Division of Water Quality; May 12, 2021.

feasible and that full employment of these controls are infeasible due to site constraints.[3]

2. In the City, the 80th percentile storm has been determined to be 0.50 inches of depth.
3. The intent is to manage water as close as possible to the point at which it falls.
4. Calculations and implementation rationale must be contained in the Storm Water Report.
5. LID measures should be implemented to meet the 80th Percentile Storm requirements.

B. Implementation of this retention standard does eliminate the requirement for detention/retention basins as described in Section A5 but may be included within the designed detention/retention volumes calculated.

C. Structural controls may include green infrastructure practices such as:

1. Rainwater harvesting (e.g. rain barrels)
2. Rain gardens
3. Permeable pavement or pavers (not permitted on public streets)
4. Vegetated swales
5. Preservation of vegetation (non-disturbance)
6. Xeriscaping
7. Others as approved by the City Engineer

D. LID approaches must be evaluated and detailed in a LID Analysis and Report, which shall be submitted to and approved by the City Engineer.

E. If an LID approach cannot be utilized, the Applicant must document an explanation of the reasons preventing this approach and the rationale for the *chosen alternative controls* on a case by case basis for each project.[3]

F. Implementation of LID measures does not eliminate the requirement for detention/retention basins as described in Section A5 but may be included within the designed detention/retention volumes calculated.

EXHIBIT 1 – NOAA POINT PRECIPITATION FREQUENCY ESTIMATES - INTENSITY

NOAA Atlas 14, Volume 1, Version 5
Location name: Clearfield, Utah, USA*
Latitude: 41.1059°, Longitude: -112.0254°
Elevation: 4446 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

--- Intensity ---

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**1.64** (1.42-1.93)	**2.06** (1.80-2.44)	**2.82** (2.45-3.31)	**3.52** (3.01-4.13)	**4.64** (3.89-5.50)	**5.69** (4.62-6.82)	**6.94** (5.45-8.39)	**8.42** (6.37-10.4)	**10.8** (7.74-13.8)	**13.1** (8.90-17.0)
10-min	**1.25** (1.08-1.46)	**1.57** (1.37-1.85)	**2.14** (1.85-2.52)	**2.67** (2.29-3.14)	**3.53** (2.96-4.18)	**4.33** (3.52-5.18)	**5.28** (4.15-6.38)	**6.41** (4.85-7.90)	**8.24** (5.89-10.5)	**9.95** (6.77-12.9)
15-min	**1.03** (0.892-1.21)	**1.30** (1.13-1.53)	**1.77** (1.54-2.08)	**2.21** (1.90-2.60)	**2.92** (2.44-3.46)	**3.58** (2.91-4.28)	**4.36** (3.43-5.27)	**5.30** (4.00-6.53)	**6.81** (4.87-8.65)	**8.23** (5.60-10.7)
30-min	**0.696** (0.602-0.814)	**0.874** (0.762-1.03)	**1.19** (1.03-1.40)	**1.49** (1.28-1.75)	**1.96** (1.65-2.33)	**2.41** (1.96-2.88)	**2.94** (2.31-3.55)	**3.57** (2.70-4.40)	**4.59** (3.28-5.82)	**5.54** (3.77-7.20)
60-min	**0.430** (0.372-0.504)	**0.541** (0.471-0.637)	**0.738** (0.639-0.867)	**0.919** (0.789-1.08)	**1.22** (1.02-1.44)	**1.49** (1.21-1.78)	**1.82** (1.43-2.20)	**2.21** (1.67-2.72)	**2.84** (2.03-3.60)	**3.43** (2.33-4.46)
2-hr	**0.277** (0.244-0.318)	**0.346** (0.306-0.399)	**0.447** (0.393-0.515)	**0.543** (0.472-0.628)	**0.703** (0.596-0.819)	**0.849** (0.703-0.999)	**1.02** (0.821-1.22)	**1.23** (0.950-1.50)	**1.57** (1.14-1.96)	**1.88** (1.30-2.41)
3-hr	**0.213** (0.191-0.241)	**0.263** (0.235-0.299)	**0.329** (0.292-0.373)	**0.391** (0.345-0.444)	**0.492** (0.425-0.564)	**0.585** (0.495-0.678)	**0.700** (0.577-0.823)	**0.836** (0.667-1.00)	**1.06** (0.804-1.32)	**1.26** (0.921-1.62)
6-hr	**0.142** (0.129-0.156)	**0.173** (0.158-0.192)	**0.209** (0.190-0.231)	**0.242** (0.218-0.269)	**0.292** (0.260-0.326)	**0.334** (0.293-0.376)	**0.384** (0.331-0.438)	**0.442** (0.371-0.511)	**0.553** (0.449-0.669)	**0.654** (0.516-0.821)
12-hr	**0.089** (0.082-0.098)	**0.109** (0.100-0.121)	**0.132** (0.120-0.146)	**0.152** (0.137-0.167)	**0.182** (0.162-0.202)	**0.206** (0.182-0.231)	**0.232** (0.202-0.264)	**0.261** (0.222-0.300)	**0.308** (0.253-0.363)	**0.347** (0.278-0.417)
24-hr	**0.054** (0.050-0.059)	**0.067** (0.062-0.073)	**0.080** (0.074-0.087)	**0.091** (0.084-0.099)	**0.106** (0.097-0.115)	**0.117** (0.107-0.128)	**0.129** (0.118-0.141)	**0.141** (0.128-0.154)	**0.157** (0.141-0.184)	**0.176** (0.151-0.211)
2-day	**0.032** (0.029-0.034)	**0.039** (0.036-0.042)	**0.046** (0.043-0.050)	**0.053** (0.049-0.057)	**0.061** (0.056-0.066)	**0.068** (0.062-0.073)	**0.074** (0.068-0.081)	**0.081** (0.073-0.088)	**0.089** (0.080-0.098)	**0.096** (0.086-0.106)
3-day	**0.023** (0.021-0.025)	**0.028** (0.026-0.031)	**0.034** (0.031-0.037)	**0.038** (0.036-0.042)	**0.045** (0.041-0.048)	**0.050** (0.046-0.054)	**0.055** (0.050-0.059)	**0.060** (0.054-0.065)	**0.066** (0.060-0.073)	**0.072** (0.064-0.079)
4-day	**0.019** (0.017-0.020)	**0.023** (0.021-0.025)	**0.027** (0.026-0.030)	**0.031** (0.029-0.034)	**0.037** (0.034-0.040)	**0.041** (0.037-0.044)	**0.045** (0.041-0.049)	**0.049** (0.045-0.054)	**0.055** (0.049-0.060)	**0.059** (0.053-0.065)
7-day	**0.013** (0.012-0.014)	**0.015** (0.014-0.017)	**0.019** (0.017-0.020)	**0.021** (0.020-0.023)	**0.025** (0.023-0.027)	**0.027** (0.025-0.030)	**0.030** (0.028-0.033)	**0.033** (0.030-0.036)	**0.036** (0.033-0.040)	**0.039** (0.035-0.043)
10-day	**0.010** (0.009-0.011)	**0.012** (0.011-0.013)	**0.015** (0.014-0.016)	**0.017** (0.015-0.018)	**0.019** (0.018-0.021)	**0.021** (0.019-0.023)	**0.023** (0.021-0.025)	**0.025** (0.023-0.027)	**0.027** (0.025-0.029)	**0.029** (0.026-0.031)
20-day	**0.006** (0.006-0.007)	**0.008** (0.007-0.008)	**0.009** (0.009-0.010)	**0.011** (0.010-0.011)	**0.012** (0.011-0.013)	**0.013** (0.012-0.014)	**0.014** (0.013-0.015)	**0.015** (0.014-0.016)	**0.016** (0.015-0.018)	**0.017** (0.016-0.019)
30-day	**0.005** (0.005-0.005)	**0.006** (0.006-0.007)	**0.007** (0.007-0.008)	**0.008** (0.008-0.009)	**0.009** (0.009-0.010)	**0.010** (0.010-0.011)	**0.011** (0.010-0.012)	**0.012** (0.011-0.013)	**0.013** (0.012-0.014)	**0.013** (0.012-0.015)
45-day	**0.004** (0.004-0.004)	**0.005** (0.005-0.005)	**0.006** (0.006-0.006)	**0.007** (0.006-0.007)	**0.008** (0.007-0.008)	**0.008** (0.008-0.009)	**0.009** (0.008-0.010)	**0.010** (0.009-0.010)	**0.010** (0.010-0.011)	**0.011** (0.010-0.012)
60-day	**0.004** (0.003-0.004)	**0.004** (0.004-0.005)	**0.005** (0.005-0.006)	**0.006** (0.006-0.006)	**0.007** (0.006-0.007)	**0.007** (0.007-0.008)	**0.008** (0.007-0.009)	**0.008** (0.008-0.009)	**0.009** (0.008-0.010)	**0.009** (0.009-0.010)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

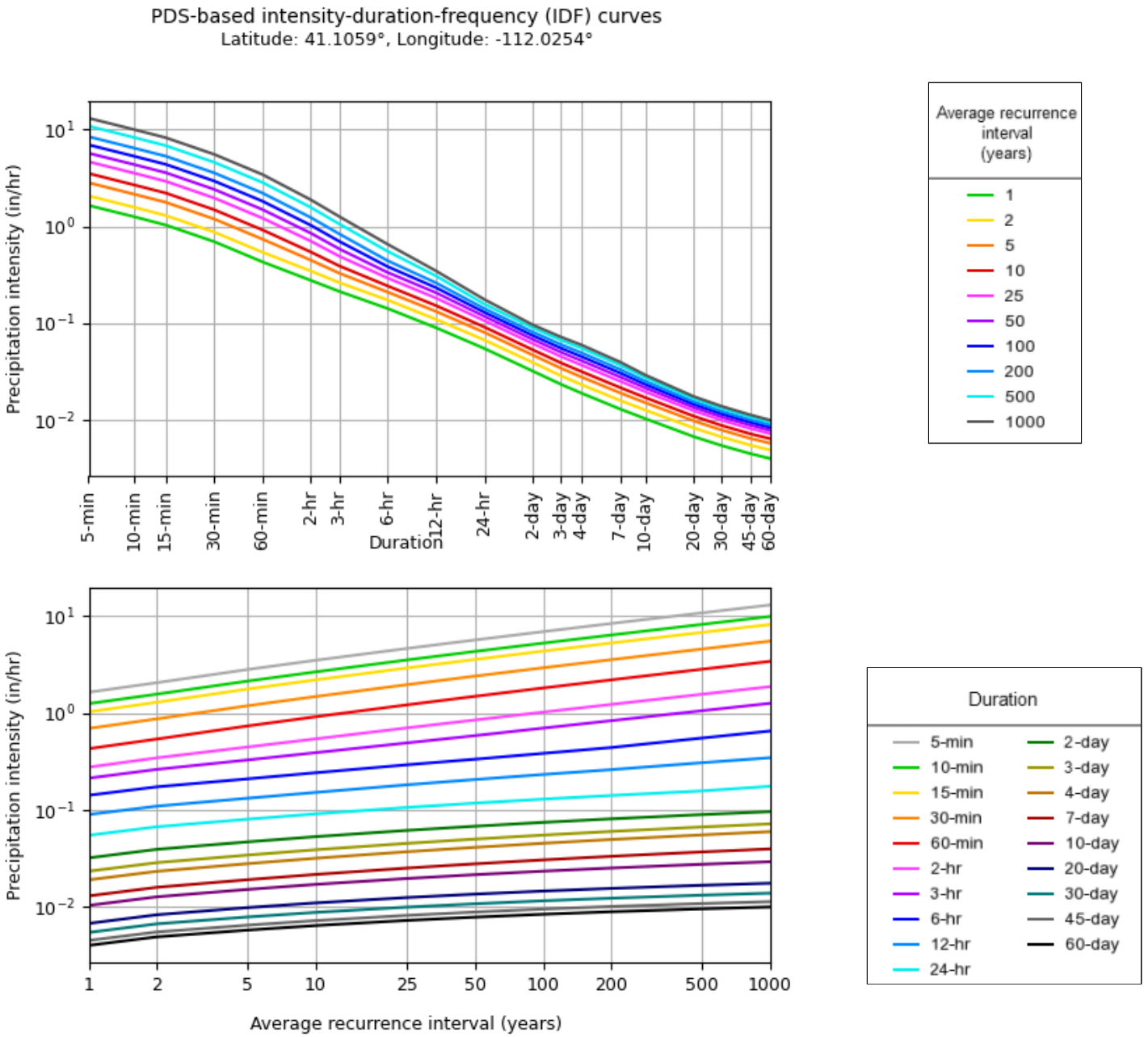

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EXHIBIT 2 – NOAA POINT PRECIPITATION FREQUENCY ESTIMATES - DEPTH

NOAA Atlas 14, Volume 1, Version 5
Location name: Clearfield, Utah, USA*
Latitude: 41.1059°, Longitude: -112.0254°
Elevation: 4446 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

--- Depth ---

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.137 (0.118-0.161)	0.172 (0.150-0.203)	0.235 (0.204-0.276)	0.293 (0.251-0.344)	0.387 (0.324-0.458)	0.474 (0.385-0.568)	0.578 (0.454-0.699)	0.702 (0.531-0.866)	0.903 (0.645-1.15)	1.09 (0.742-1.42)
10-min	0.209 (0.180-0.244)	0.262 (0.228-0.308)	0.357 (0.309-0.420)	0.445 (0.382-0.524)	0.589 (0.493-0.697)	0.722 (0.586-0.864)	0.880 (0.692-1.06)	1.07 (0.808-1.32)	1.37 (0.982-1.74)	1.66 (1.13-2.16)
15-min	0.258 (0.223-0.303)	0.324 (0.283-0.382)	0.443 (0.384-0.520)	0.552 (0.474-0.649)	0.730 (0.611-0.864)	0.895 (0.727-1.07)	1.09 (0.857-1.32)	1.32 (1.00-1.63)	1.70 (1.22-2.16)	2.06 (1.40-2.67)
30-min	0.348 (0.301-0.407)	0.437 (0.381-0.515)	0.596 (0.517-0.700)	0.743 (0.638-0.874)	0.982 (0.823-1.16)	1.20 (0.978-1.44)	1.47 (1.15-1.78)	1.78 (1.35-2.20)	2.29 (1.64-2.91)	2.77 (1.88-3.60)
60-min	0.430 (0.372-0.504)	0.541 (0.471-0.637)	0.738 (0.639-0.867)	0.919 (0.789-1.08)	1.22 (1.02-1.44)	1.49 (1.21-1.78)	1.82 (1.43-2.20)	2.21 (1.67-2.72)	2.84 (2.03-3.60)	3.43 (2.33-4.46)
2-hr	0.554 (0.488-0.637)	0.692 (0.612-0.798)	0.895 (0.786-1.03)	1.09 (0.944-1.26)	1.41 (1.19-1.64)	1.70 (1.41-2.00)	2.05 (1.64-2.44)	2.46 (1.90-3.00)	3.14 (2.28-3.93)	3.76 (2.61-4.82)
3-hr	0.641 (0.574-0.726)	0.790 (0.708-0.898)	0.988 (0.879-1.12)	1.18 (1.04-1.34)	1.48 (1.28-1.69)	1.76 (1.49-2.04)	2.10 (1.73-2.47)	2.51 (2.00-3.01)	3.18 (2.42-3.97)	3.80 (2.77-4.87)
6-hr	0.851 (0.778-0.938)	1.04 (0.949-1.15)	1.26 (1.14-1.39)	1.46 (1.31-1.61)	1.75 (1.56-1.96)	2.00 (1.76-2.25)	2.30 (1.98-2.62)	2.65 (2.22-3.06)	3.32 (2.69-4.01)	3.92 (3.09-4.92)
12-hr	1.08 (0.989-1.19)	1.32 (1.21-1.46)	1.60 (1.45-1.76)	1.83 (1.66-2.02)	2.19 (1.96-2.44)	2.49 (2.20-2.79)	2.81 (2.43-3.19)	3.15 (2.68-3.63)	3.71 (3.06-4.38)	4.18 (3.36-5.03)
24-hr	1.32 (1.22-1.43)	1.61 (1.49-1.76)	1.93 (1.78-2.10)	2.19 (2.02-2.39)	2.55 (2.34-2.78)	2.83 (2.59-3.08)	3.11 (2.84-3.39)	3.40 (3.08-3.71)	3.78 (3.40-4.42)	4.22 (3.64-5.08)
2-day	1.54 (1.43-1.67)	1.89 (1.75-2.05)	2.26 (2.09-2.45)	2.55 (2.36-2.77)	2.96 (2.73-3.21)	3.27 (3.00-3.55)	3.58 (3.28-3.90)	3.90 (3.54-4.25)	4.31 (3.88-4.72)	4.62 (4.14-5.12)
3-day	1.68 (1.56-1.82)	2.07 (1.92-2.24)	2.47 (2.29-2.67)	2.81 (2.60-3.03)	3.26 (3.01-3.53)	3.61 (3.32-3.91)	3.97 (3.63-4.31)	4.34 (3.94-4.72)	4.82 (4.34-5.27)	5.19 (4.64-5.71)
4-day	1.83 (1.70-1.97)	2.24 (2.08-2.42)	2.69 (2.50-2.90)	3.06 (2.83-3.30)	3.56 (3.29-3.84)	3.96 (3.64-4.28)	4.36 (3.99-4.72)	4.78 (4.34-5.19)	5.32 (4.80-5.81)	5.75 (5.14-6.31)
7-day	2.19 (2.03-2.36)	2.68 (2.49-2.89)	3.21 (2.99-3.46)	3.64 (3.39-3.92)	4.23 (3.92-4.55)	4.68 (4.32-5.04)	5.14 (4.72-5.55)	5.60 (5.12-6.08)	6.22 (5.63-6.78)	6.68 (6.00-7.33)
10-day	2.49 (2.31-2.68)	3.06 (2.84-3.29)	3.64 (3.39-3.91)	4.11 (3.82-4.41)	4.72 (4.38-5.07)	5.17 (4.78-5.56)	5.62 (5.18-6.05)	6.06 (5.56-6.55)	6.62 (6.04-7.18)	7.03 (6.38-7.66)
20-day	3.25 (3.03-3.48)	3.99 (3.72-4.28)	4.73 (4.41-5.07)	5.29 (4.94-5.67)	6.00 (5.60-6.43)	6.52 (6.06-6.98)	7.01 (6.51-7.52)	7.47 (6.91-8.02)	8.04 (7.41-8.67)	8.44 (7.75-9.13)
30-day	3.94 (3.68-4.21)	4.83 (4.51-5.17)	5.68 (5.32-6.08)	6.34 (5.92-6.77)	7.17 (6.69-7.66)	7.77 (7.23-8.30)	8.35 (7.74-8.94)	8.88 (8.22-9.54)	9.55 (8.79-10.3)	10.0 (9.19-10.8)
45-day	4.88 (4.55-5.22)	5.97 (5.57-6.40)	7.01 (6.54-7.51)	7.82 (7.30-8.36)	8.84 (8.24-9.45)	9.58 (8.91-10.2)	10.3 (9.54-11.0)	10.9 (10.1-11.7)	11.7 (10.8-12.6)	12.3 (11.3-13.2)
60-day	5.78 (5.40-6.19)	7.08 (6.61-7.59)	8.32 (7.77-8.90)	9.27 (8.66-9.90)	10.5 (9.76-11.2)	11.3 (10.5-12.1)	12.1 (11.3-13.0)	12.9 (11.9-13.8)	13.8 (12.7-14.8)	14.4 (13.3-15.5)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 41.1059°, Longitude: -112.0254°

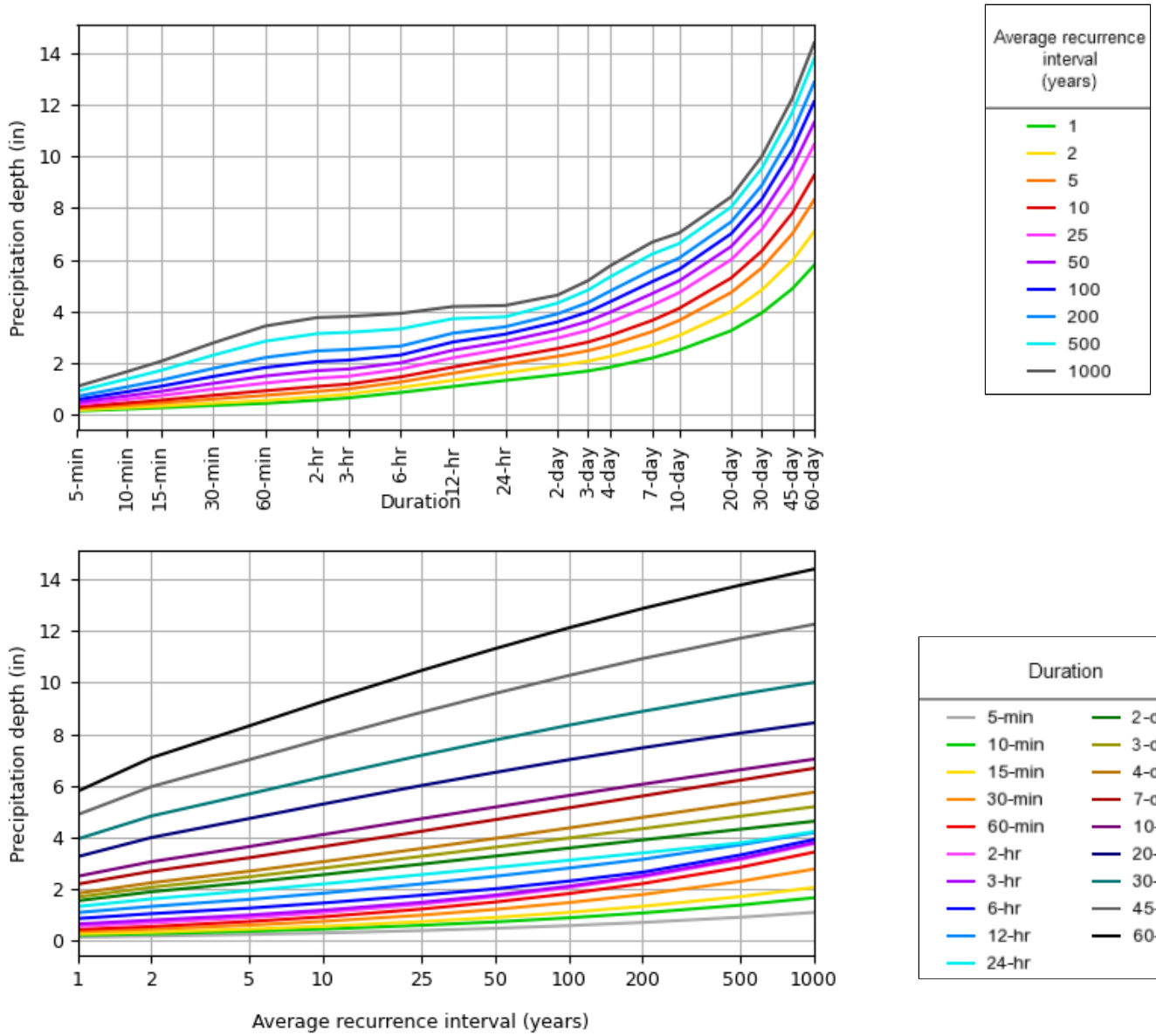

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EXHIBIT 3 – SUMMARY OF ALLOWABLE LID BMPs

Summary of LID BMPs and Recommendations on Where to Allow from *A Guide to Low Impact Development within Utah*

https://deq.utah.gov/water-quality/low-impact-development

				Primary Functions				Where Permitted				
LID BMP Category	LID BMP Type	Fact Sheet ID	Removal Effectiveness[1]	Bioretention	Volume Retention	Biofiltration	Maintenance Effort	Residential - Public Roads	Residential - Private Roads	Residential - Multi-family	Commercial	Industrial
Bioretention	Rain Garden	BR-1	high	yes	yes	yes	low-med	no	yes	yes	yes	yes
	Bioretention Cell	BR-2	high	yes	yes	yes	low-med	yes	yes	yes	yes	yes
	Bioswale	BR-3	medium	yes	some	yes	low	yes	yes	yes	yes	yes
	Vegetated Strip	BR-4	med-high	yes	some	yes	low	yes	yes	yes	yes	yes
	Tree Box Filter	BR-5	med-high	yes	varies	yes	medium	yes	yes	yes	yes	yes
	Green Roof	BR-6	med-high	yes	yes	yes	med-high	no[2]	no[2]	no[2]	yes	yes
Pervious Surfaces	Pervious Surfaces	PS-1	high	yes	yes	some	low-med	no[2]	no[2]	yes	yes	yes
Infiltration Devices[5]	Infiltration Basin[3]	ID-1	high	yes	yes	yes	low	yes	yes	yes	yes	yes
	Infiltration Trench	ID-2	high	yes	yes	some	low	yes	yes	yes	yes	no
	Dry Well[3,4]	ID-3	high	yes	yes	no	low-med	no	yes	yes	yes	no
	Underground Infiltration Gallery[3,4]	ID-4	high	yes	yes	no	low-med	no	yes	yes	yes	yes
Harvest and Reuse	Harvest and Reuse[6]	HR-1	varies	varies	yes	varies	low	no[2]	no[2]	no[2]	yes	yes

Notes

[1] Sediment, Nutrients, Metals, Bacteria, Oil/Grease

[2] Individual homes may utilitize BMP, but it will not count towards LID and retention requirement for development.

[3] Requires pre-treatment

[4] Requires UIC Class V injection well permit from State of Utah

[5] Other factors (e.g. drinking water source protection zone, contaminated groundwater, etc.) may limit use.

[6] Requires registration with DWRi

APPENDIX B – GEOTECHNICAL INVESTIGATION REPORT MINIMUM REQUIREMENTS

APPENDIX B

GEOTECHNICAL INVESTIGATION REPORT MINIMUM REQUIREMENTS

B1. General Provisions

A. All reports shall include the Minimum Testing Requirements and use the Design Parameters as detailed below.

B. All reports shall be signed and sealed by a registered Professional Engineer licensed in Utah.

B2. Report Contents

A. Geotechnical Investigation Report submitted to Clearfield City shall generally include the following contents, as applicable.

CONTENTS

6.7 Utility Trenches
6.8 Re-use of Excavated Soil Materials
7.0 Foundations
7.1 Foundation Recommendations
7.2 Installation Requirements
7.3 Estimated Settlement
7.4 Lateral Resistance
8.0 Static and Seismic Lateral Earth Pressures (Active, Moderately Yielding, At-Rest, and Passive Conditions)
9.0 Floor Slabs
10.0 Drainage Recommendations
10.1 Surface
10.2 Subsurface
10.3 Foundation Drains/Subdrains
11.0 Pavement Section
11.1 (See Section B4)
11.2 Exterior Concrete Flatwork
12.0 Retaining Walls (Required for all retaining walls taller than 4 feet, when used)
12.1 Surface and Subsurface Drainage
12.2 Internal and Global Stability (Static and Seismic Loading)
12.3 Dimensions and Elevations
12.4 Settlements
12.5 Construction Inspection
13.0 Slope Stability (Required for slopes greater than 25%)
14.0 References
Tables
Figures
A. Project Location/Site Map
B. Boring/Test Pit Locations
C. Boring/Test Pit Logs
D. Key to Symbols for Boring/Test Pit Logs
Appendices, as needed

B3. Minimum Testing Requirements

A. Borings (B) and Test Pits (TP), either known as a "hole"
1. Total: Minimum 1 hole per 2 acres, rounded up
a. Example: 5.5 acre site: 5.5÷2 = 2.75, round up to 3 holes
2. Roadway: 1 hole + 1 hole per 500 lf of roadway (rounded up, along centerline alignment) (counts towards Total)
a. Example: 10.5 acre subdivision with 1,850 lf of roadway centerline
i. Roadway: 1 + (1,850÷500) = 4.7, round up to 5 holes
ii. Total, minimum: 10.5÷2 = 5.25, round up to 6 holes

iii. Therefore, 6 total holes are required for subdivision, with 5 of the holes being along the roadway alignment.

3. Commercial sites: 1 hole + 1 hole per 5,000 square feet (rounded up) for buildings
   a. Example: 13,500 sf building: 1 + (13,500÷5,000) = 3.7, round up to 4 holes
4. Additional borings or test pits as may be required for a representative sampling of the site, as determined by the geotechnical engineer.

B4. Minimum Design Parameters for Pavement

A. Local/Residential
   1. 75,000 ESALS per year
   2. 20-yr design life
   3. 3% growth factor

B. Cul-de-Sac
   1. 50,000 ESALS per year
   2. 20-yr design life
   3. 3% growth factor

C. Minor Collector
   1. 300,000 ESALS per year
   2. 20-yr design life
   3. 3% growth factor

D. Major Collector / Minor Arterial
   1. Contact City for traffic requirements

APPENDIX C – TRAFFIC IMPACT STUDY MINIMUM REQUIREMENTS

APPENDIX C

TRAFFIC IMPACT STUDY MINIMUM REQUIREMENTS

TABLE OF CONTENTS

C1. Purpose and General Provisions

A. The level of the Traffic Impact Study (TIS) is based upon the size and magnitude of the proposed project.

B. The purpose of the TIS is to identify the system and immediate area impacts associated with the proposed connection(s). Identification of impacts and appropriate mitigation measures allows the City to assess the existing and future system safety, performance, maintenance, and capacity needs.

C. Threshold criteria for different levels of projects have been developed to avoid placing undue burden on applicants with small projects, while ensuring that large projects with significant impacts are thoroughly evaluated.

D. Any proposed access onto a state road will be subject to all applicable UDOT provisions. In addition to any study required by UDOT, the City may require a separate TIS to identify impacts unique to the City's interests.

E. All reports shall include the minimum requirements and use the study level parameters as detailed below.

F. All reports shall be signed and sealed by a registered Professional Engineer licensed in Utah.

C2. Report Contents

A. Traffic Impact Study submitted to Clearfield City shall generally include the following contents, as applicable.

CONTENTS

B. The following items shall be documented in the Study:

1. Site location – showing area roadways.

2. Site Plan.
   a. Identify geometric / physical concerns relating to area, site and specific access points.
   b. Include adjacent street and access points.

3. Existing roadway and traffic control features:
   a. Number of lanes
   b. Lane widths
   c. Alignment
   d. Location of traffic signals
   e. Signs
   f. Off system features as related to site plan and access point(s)

4. Existing daily volumes (directional if possible) and peak hour training volumes.
   a. Discuss traffic characteristics (vehicle mix, % makeup, and any special vehicle requirements)

5. Collection diagram summary.

6. Site generated trip summary.
   a. Discuss trip vehicle make-up and any special vehicle requirements
   b. Discuss trip reduction strategies (if applicable)

7. Directional distribution of site generated traffic.

8. Assignment of non-site related traffic (existing, background, and future).
   a. Document both existing and committed development, and when appropriate other background planned development traffic
   b. Assignment of total future non-site traffic for design year

9. Assignment of site traffic.

10. Traffic capacity analysis.
    a. Projected levels of service without the project – coincide with development phase years
    b. Projected levels of service with the project (by development phase year)
    c. Recommended mitigation / improvement(s)

11. Scaled schematic drawings illustrating:
    a. Alignment
    b. Number of lanes
    c. Lane widths
    d. Signing
    e. Pavement markings
    f. Signal phasing
    g. Signal head locations
    h. Lane markings

C3. Level of Study

The following guidelines shall be used when determining the level of study required:

Study Level	Threshold	Typical Land Use Intensity Threshold (ITE Trip Generation)	
1	Projected Site Traffic < 100 ADT **AND** No proposed modifications to traffic signals or elements of the roadway	Single Family Apartment Lodging General Office Retail	< 10 units < 15 units < 11 occupied rooms < 9,000 square feet < 2,500 square feet
2	Projected Site Traffic 100 to 3,000 ADT **OR** Projected Peak Hour Traffic < 500 **AND** Minor modifications to traffic signals or elements of the roadway	Single Family Apartment Lodging General Office Retail Gas Station Fast Food Restaurant	10 to 315 units 15 to 450 units 11 to 330 occupied rooms 9,000 to 27,000 square feet 2,500 to 70,000 square feet 1 to 18 fueling positions 1,000 to 6,000 square feet 1,000 to 26,00 square feet
3	Projects Site Traffic 3,000 to 10,000 ADT **OR** Projected Peak Hour Traffic 500 to 1,200 **OR** Proposed installation or modification to traffic signals or elements of the roadway, regardless of project size	Single Family Apartment Lodging General Office Retail Fast Food	315 to 1,000 units 450 to 1,500 units 330 to 1,100 occupied rooms 270,000 to 900,000 square feet 70,000 to 230,000 square feet 6,000 to 20,000 square feet
4	Projected Site Traffic > 10,000 ADT **OR** Proposed installation / modification of two or more traffic signals, addition of travel lanes or proposed modification of highway or freeway, or interchange, regardless of project size	Single Family Apartment Lodging General Office Retail	> 1,000 units > 1,500 units > 1,100 occupied rooms > 900,000 square feet > 230,000 square feet

C4. Level 1 Study Requirements

A. When Required

1. Project ADT < 100 trips
2. No proposed modifications to traffic signals or roadway elements or geometry.

B. Minimum Study Requirements

1. Incorporate traffic engineering principles and standards as required in the City Standards, State Standards, and national practices. Additional requirements and investigation may be imposed upon the applicant as deemed necessary by the City.
2. Study Area
    a. Depending on the size and intensity of the development and surrounding development, the study area may be identified by parcel boundary, area of immediate influence, or reasonable travel time boundary.
    b. May be limited to or include property frontage and include neighboring and adjacent parcels.
    c. Shall identify site, cross, and all adjacent up and down stream access points within 1,000-ft of property boundaries.
    d. May be extended or revised by the City Engineer, as deemed necessary.
3. Design Year
    a. Current year of the project.
4. Analysis Conditions and Period
    a. Identify site traffic volumes and characteristics.
    b. Identify adjacent street(s) traffic volume and characteristics.
5. Right-of-Way Access
    a. Identify right-of-way, geometric boundaries, and physical conflicts.
    b. Investigate existence of federal or state, no access, or limited access control line.
6. Data Collection
    a. Generate access point capacity analysis as necessary.
    b. Analyze site and adjacent traffic for the following time periods:
        i. Weekday AM and PM peak hours
        ii. Saturday peak hours
    c. Identify special event peak hour as necessary (per roadway peak and site peak)

7. Trip Generation
    a. Use equations or rates available in latest edition of ITE Trip Generation.
    b. Where developed equations are unavailable for intended land use, perform trip rate study and estimation following ITE procedures or develop justified trip rate agreed to by the City.
8. Design and Mitigation
    a. Identify operational concerns and mitigation measures to ensure safe and efficient operation in accordance with industry standards and the City's adopted minimum level of service.

C5. Level 2 Study Requirements (small)

A. When Required
    1. Project ADT 100 to 3,000 trips

B. Minimum Study Requirements
    1. Incorporate traffic engineering principles and standards as required in the City Standards, State Standards, and national practices. Additional requirements and investigation may be imposed upon the applicant as deemed necessary by the City.
    2. Study Area
        a. Defined by the Traffic Engineer completing the TIS.
        b. Depending on the size and intensity of the development and surrounding development, the study area may be identified by parcel boundary, area of immediate influence, or reasonable travel time boundary.
        c. Intersection of site access drives with state highways and any signalized and unsignalized intersection within 1,500-ft of property line.
        d. Include any identified queuing distance at site and study intersection.
        e. May be extended or revised by the City Engineer, as deemed necessary.
    3. Design Year
        a. Current year of the project.
    4. Analysis Conditions and Period
        a. Identify site and adjacent road traffic work weekday AM and PM peak hours.
    5. Data Collection
        a. Identify site and adjacent street roadway and intersection geometries.
        b. Identify adjacent street(s) traffic volume and characteristics.

6. Trip Generation
    a. Use equations or rates available in latest edition of ITE Trip Generation.
    b. Where developed equations are unavailable for intended land use, perform trip rate study and estimation following ITE procedures or develop justified trip rate agreed to by the City.
7. Conflict / Capacity Analysis
    a. Diagram flow of traffic at access point(s) for site and adjacent development.
    b. Perform capacity analysis as determined by Traffic Engineer completing the TIS.
8. Right-of-Way Access
    a. Identify right-of-way, geometric boundaries, and physical conflicts.
    b. Investigate existence of federal or state, no access, or limited access control line.
9. Design and Mitigation
    a. Determine and document safe and efficient operational design needs based on site and study data.
    b. Identify operational concerns and mitigation measures to ensure safe and efficient operation in accordance with industry standards and the City's adopted minimum level of service.

C6. Level 2 Study Requirements (large)

A. When Required
    1. Project ADT 100 to 3,000 trips
    2. Peak hour < 500 trips
    3. Any proposed modification to traffic signals or roadway elements or geometry.

B. Minimum Study Requirements
    1. Incorporate traffic engineering principles and standards as presented in the City Standards, State Standards, and national practices. Additional requirements and investigation may be imposed upon the applicant as deemed necessary by the City.
    2. Study Area
        a. Defined by Traffic Engineer completing the TIS.
        b. Depending on the size and intensity of the development and surrounding development, the study area may be identified by parcel boundary, area of immediate influence, or reasonable travel time boundary.
            i. An acceptable traffic study boundary, based on travel time, may be identified as a 10 to 20 minutes travel time or by market area influence.

c. Intersection of site access drives with state highways and any signalized and unsignalized intersection within 2,000-ft of property line.

d. Include any identified queuing distance at site and study intersection.

e. May be extended or revised by the City Engineer, as deemed necessary.

3. Design Year

   a. Current year of the project.

   b. 5 years after project completion.

   c. Document and include all phases of development.

4. Analysis Period

   a. Analyze site and adjacent road traffic for weekday AM and PM peak hours including Saturday peak hours.

   b. Identify special event peak hours as necessary (adjacent roadway peak and site peak).

5. Data Collection

   a. Daily and turning movement counts.

   b. Identify site and adjacent street roadway and intersection geometries.

   c. Traffic control devices including traffic signals and regulatory signs.

   d. Traffic accident data within the last 10 years.

6. Trip Generation

   a. Use equations or rates available in latest edition of ITE Trip Generation.

   b. Where developed equations are unavailable for intended land use, perform trip rate study and estimation following ITE procedures or develop justified trip rate agreed to by the City.

7. Trip Distribution and Assignment

   a. Document distribution and assignment of existing site, background, and future traffic volumes or surrounding network of study area.

8. Conflict / Capacity Analysis

   a. Diagram flow of traffic at access point(s) for site and adjacent development.

   b. Perform capacity analysis for daily and peak hour volumes.

9. Right-of-Way Access

   a. Identify right-of-way, geometric boundaries, and physical conflicts.

   b. Investigate existence of federal or state, no access, or limited access control line.

10. Design and Mitigation
    a. Determine and document safe and efficient operational design needs based on site and study data.
    b. Identify operational concerns and mitigation measures to ensure safe and efficient operation in accordance with industry standards and the City's adopted minimum level of service.

C7. Level 3 Study Requirements

A. When Required

1. Project ADT 3,000 to 10,000 trips
2. Peak hour 500 to 1,200 trips
3. Any proposed installation or modification to traffic signals or roadway elements or geometry – regardless of project size or trip generation.

B. Minimum Study Requirements

1. Incorporate traffic engineering principles and standards as presented in the City Standards, State standards, and national practices. Additional requirements and investigation may be imposed upon the applicant as deemed necessary by the City.
2. Study Area
    a. Defined by Traffic Engineer completing the TIS.
    b. Depending on the size and intensity of the development and surrounding development, the study area may be identified by parcel boundary, area of immediate influence, or reasonable travel time boundary.
        i. An acceptable traffic study boundary, based on travel time, may be identified as a 10 to 20 minutes travel time or by market area influence.
    c. Intersection of site access drives with state highways and any intersection within ½ mile of property line on each side of project site.
    d. May be extended or revised by the City Engineer, as deemed necessary.
3. Design Year
    a. Current year of the project.
    b. 5 years after project completion.
    c. Document and include all phases of development.
4. Analysis Period
    a. Analyze site and adjacent road traffic for weekday AM and PM peak hours including Saturday peak hours.

b. Identify special event peak hours as necessary (adjacent roadway peak and site peak).

5. Data Collection
    a. Daily and turning movement counts.
    b. Identify site and adjacent street roadway and intersection geometries.
    c. Traffic control devices including traffic signals and regulatory signs.
    d. Automatic continuous traffic counts for at least 48 hours.
    e. Traffic accident data within the last 10 years.
6. Trip Generation
    a. Use equations or rates available in latest edition of ITE Trip Generation.
    b. Where developed equations are unavailable for intended land use, perform trip rate study and estimation following ITE procedures or develop justified trip rate agreed to by the City.
7. Trip Distribution and Assignment
    a. Document distribution and assignment of existing site, background, and future traffic volumes or surrounding network of study area.
8. Conflict / Capacity Analysis
    a. Level of Service (LOS) for all intersections.
    b. LOS for existing conditions, design year without project, design year with project.
9. Traffic Signal Impacts (for proposed traffic signals) shall follow all UDOT requirements and include:
    a. Traffic signal warrants as identified.
    b. Traffic signal drawings as identified.
    c. Queuing analysis.
    d. Traffic systems analysis (includes acceleration, deceleration, and weaving).
    e. Traffic coordination analysis.
10. Right-of-Way Access
    a. Identify right-of-way, geometric boundaries, and physical conflicts.
    b. Investigate existence of federal or state, no access, or limited access control line.
11. Accident and Traffic Safety Analysis
    a. Existing vs. proposed development.

12. Design and Mitigation
    a. Determine and document safe and efficient operational design needs based on site and study data.
    b. Identify operational concerns and mitigation measures to ensure safe and efficient operation in accordance with industry standards and the City's adopted minimum level of service.

C8. Level 4 Study Requirements

A. When Required

1. Project ADT > 10,000 trips
2. Peak hour > 1,200 vehicles per hour
3. Any proposed installation or modification of 2 or more traffic signals
4. Addition of traffic lanes
5. Modification of freeway interchange

B. Minimum Study Requirements

1. Incorporate traffic engineering principles and standards as presented in the City Standards, State standards, and national practices. Additional requirements and investigation may be imposed upon the applicant as deemed necessary by the City.
2. Study Area
    a. Defined by Traffic Engineer completing the TIS.
    b. Depending on the size and intensity of the development and surrounding development, the study area may be identified by parcel boundary, area of immediate influence, or reasonable travel time boundary.
        i. An acceptable traffic study boundary, based on travel time, may be identified as a 10 to 20 minutes travel time or by market area influence.
    c. Intersection of site access drives with state highways and any intersection within ½ mile of property line on each side of project site.
    d. Any intersection or freeway interchange impacted by more than 500 peak hour trips.
    e. May be extended or revised by the City Engineer, as deemed necessary.
3. Design Year
    a. Current year of the project.
    b. 5 years after project completion.

c. Document and include all phases of development.

4. Analysis Period
    a. Analyze site and adjacent road traffic for weekday AM and PM peak hours including Saturday peak hours.
    b. Identify special event peak hours as necessary (adjacent roadway peak and site peak).
5. Data Collection
    a. Daily and turning movement counts.
    b. Identify site and adjacent street roadway and intersection geometries.
    c. Traffic control devices including traffic signals and regulatory signs.
    d. Automatic continuous traffic counts for at least 48 hours.
    e. Traffic accident data within the last 10 years.
6. Trip Generation
    a. Use equations or rates available in latest edition of ITE Trip Generation.
    b. Where developed equations are unavailable for intended land use, perform trip rate study and estimation following ITE procedures or develop justified trip rate agreed to by the City.
7. Trip Distribution and Assignment
    a. Document distribution and assignment of existing site, background, and future traffic volumes or surrounding network of study area.
8. Conflict / Capacity Analysis
    a. Level of Service (LOS) for all intersections.
    b. LOS for existing conditions, design year without project, design year with project.
9. Traffic Signal Impacts (for proposed traffic signals) shall follow all UDOT requirements and include:
    a. Traffic signal warrants.
    b. Traffic signal drawings.
    c. Queuing analysis.
    d. Traffic systems analysis (includes acceleration, deceleration, and weaving).
    e. Traffic coordination analysis.
10. Right-of-Way Access
    a. Identify right-of-way, geometric boundaries, and physical conflicts.

b. Investigate existence of federal or state, no access, or limited access control line.

11. Accident and Traffic Safey Analysis

    a. Existing vs. proposed development.

12. Design and Mitigation

    a. Determine and document safe and efficient operational design needs based on site and study data.

    b. Identify operational concerns and mitigation measures to ensure safe and efficient operation in accordance with industry standards and the City's adopted minimum level of service.

APPENDIX D – MINIMUM STANDARDS FOR EFFICIENT LANDSCAPE IRRIGATION SYSTEM DESIGN AND INSTALLATION

APPENDIX D

MINIMUM STANDARDS FOR EFFICIENT LANDSCAPE IRRIGATION SYSTEM DESIGN AND INSTALLATION

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D1. Introduction and General Scope

A. The purpose of these irrigation standards is to promote efficient irrigation design and installation. Emphasis on conserving water through modern irrigation practices is underscored throughout these standards.

B. Irrigation systems shall be subject to construction and completion inspections as specified by the system designer prior to turning the system over to the city.

C. Irrigation drawings shall include but not be limited to zone size, operating pressure, and scheduled flow rates.

D. The city shall be provided with a complete scaled as-built drawing upon project completion (see Section D8).

D2. System Characteristics

A. Design and construction of irrigation systems must meet all applicable codes. Components of the irrigation system shall be designed and installed in accordance with guidelines set forth by manufacturers.
B. Spray or overhead type systems shall be designed to match / provide efficient watering cycles utilizing E.T. as the baseline.
C. Systems shall be designed to provide a minimum of 60% Distribution Uniformity (DU) for spray type heads and 70% DU for rotor type heads.
D. Pressure regulation devices will be installed to allow the entire system, including all remote-control valves and all sprinkler heads, to operate at optimum pressure designated by the product manufacturer. Pressure regulation devices may include one or all the following:
    1. Pressure regulation valve at main line POC
    2. Pressure regulation device on / at remote control valve
    3. Pressure regulation device on individual sprinkler heads
    4. Regulation of low volume drip / micro systems
E. Booster pumps shall be installed on systems where supply pressure does not meet the minimum recommended pressures of sprinkler manufacturers.
F. Systems shall be able to complete watering in 10 hours or less per night (applies to post established landscapes).
G. Provide separate zones for turf, shrubs, and drip.
H. Provide separate zones for different exposures (e.g. north side of building vs. south side).
I. Match appropriate zones for plant material to irrigation.
J. Provide separate zones for sloped areas. When irrigating slopes, take runoff at slope bottom into consideration. Run lateral lines parallel to slope.
K. Systems shall contain check valves to prevent low point drainage where applicable.
L. Provide separate zones for variations in site soil types.
M. Design and / or install with reduced head spacing or low angle nozzles for windy conditions.

N. Each zone shall have its own station on the controller.
O. No single zone shall be designed or installed with sprinklers of differing pressure requirements or precipitation rates. Rotors, spray heads, or drip emitters may not be mixed within the same zone.
P. All sprinkler heads shall be spaced at a maximum of 50% of the design performance diameter of the sprinkler. Spacing shall be reduced below 50% of the design performance diameter when conditions demand.
Q. Irrigation systems with 1" POC or 2500 square feet or larger of landscaped area shall have a master valve installed.
R. The UIA endorses the use of non-potable color indicators (equipment) for heads, valves, valve boxes, quick couplers, piping, etc., when irrigation systems are supplied by secondary or other non-potable water sources.

D3. Point of Connection

A. Systems with irrigated area of 1 acre and larger shall have a master valve that is normally closed. Where necessary, the master valve shall be capable of manual operation to allow manual use of the irrigation system. A normally open master valve is acceptable if the controller can shut the valve off in the event of an unscheduled flow.

B. Recommended Point of Connection component installation order:

1. Connection to Source
2. Stope & Waste Valve or Shut off
3. Wye Strainer
4. Pressure Regulator
5. Backflow Preventer
6. Quick Couple Blowout
7. Master Valve
8. Flow Meter (if required)

C. In situations of secondary water supply, provide filtration system necessary to clean water supply and protect irrigation system components. Provide accessible pressure gauges immediately upstream and downstream of the filtration device (non-self-cleaning units).

D. The UIA recommends with 1 ½" POC systems, an additional separate water meter be installed for use with the landscape.

D4. Controller / Wire

A. Controller shall be able to provide separate programs for turf zones, shrub zones, and drip zones.

B. Controllers shall be capable of temporarily shutting down the system by utilizing internal / external options such as rain, wind, and freeze devices.

C. Controllers shall be programmable for multiple start times for repeat and rest periods and shall be capable of water budget adjustment.

D. Power wire and control wire shall not be contained in the same conduit.

E. Controller wiring with outdoor exposure shall be contained in steel rigid conduit. Indoor controller wiring shall be contained in EMT conduit.

F. Remote control valve wiring shall be a minimum of 14-gauge UF UL or PE UL rated.

G. All wire connections shall be made with watertight connectors and contained within a valve box.

H. Provide slack / extra control wire at all changes in directions.

I. Provide 36 inches of slack wire at each remote-control valve in valve box.

J. Remote control valve wiring shall be installed with the main line pipe where possible, taped to the underside of the mainline pipe at regular intervals.

K. Remote control valve wiring shall have separate colors for common, control, and spare wires.

L. Provide a minimum of one spare wire for every five remote control valves in the system. The spare wire shall be available at all valve manifolds or clusters. All spare wires shall be a "home run" to the respective controller, with the end run common.

M. Outdoor controllers shall be lockable and weather resistant.

N. All wiring under hardscape shall be contained in sleeving.

D5. Pipe / Fittings

A. All PVC pipe shall be rated ASTM D 1784 or 1785.

B. Minimum standards for PVC Main line pipe:

1. Schedule 40 for ¾" through 1 ½"
2. Schedule 80 for 2" through 3"

C. Minimum standards for PVC pipe:

1. Schedule 40 for ¾" through 3"
2. Class 200 for sizes 4" and larger
3. ½" PVC pipe is not allowed

D. Maximum flow velocity in any pipe shall not exceed 5 f/s (feet per second). Pressure Polyethylene pipe shall be ASTM D 2239 rated and is acceptable for lateral and drip tubing.

E. All piping under hardscape shall be contained in sleeving separate from wire sleeving.

F. All piping will be capable of winterization by air blowout with 1” quick coupler.

G. Manual drains may be used in main line pipe applications.

H. Minimum pipe depths:

1. Lateral pipe – 12” cover
2. Main line pipe – 18” cover
3. Sleeving – 18” cover

I. All piping will be backfilled with clean material, settled, and compacted to proper finish grade.

J. All solvent weld joints shall be installed according to manufacturer specifications.

K. All insert fittings shall be installed according to manufacturer specifications.

L. PVC main lines shall use a minimum of:

1. Push on ductile or mechanical cast iron fittings shall be used on PVC main line fittings 4” and larger.
2. Proper thrust blocking shall be installed on all fittings 3” and larger.

D6. Valves

A. Remote control valves shall be sized according to the zone demand requirement, lateral piping downstream, and manufacturer’s specifications.

B. All remote-control valves shall have flow control adjustment.

C. Non potable (secondary) systems shall use compatible (dirty water) remote control valves.

D. Control valves will be installed in a standard or larger, manufactured valve / meter box, capable of being bolted closed after installation.

E. Remote control valve in valve box shall have ample space for service and to remove valve cover.

F. Isolation valves shall be installed before control valves.

G. Manifolds shall be built with Action gasket Valve release.

D7. Sprinkler Heads

A. All sprinkler heads shall be attached to lateral line pipe with a flexible / adjustable swing assembly.

B. Spray heads shall pop up a minimum of 4” in turf areas.

C. Sprinkler heads adjacent to hardscape paving shall be spaced 1” to 3” away from paving. Sprinklers adjacent to walls, buildings, fences, or other structures shall be spaced a minimum of 6” away from structures.

D. All sprinklers within a zone shall have matched precipitation rates.

E. Shrub heads located adjacent to pedestrian areas shall be of the pop-up variety.

F. Sprinklers in turf areas shall be fully spring / gear driven retractable and pop up a minimum of 4”.

D8. Irrigation As-Built Drawings, Operations and Maintenance Manuals

A. The following shall be included on Irrigation As-Built Drawings. In addition, provide a reduced color-coded drawing(s) showing all zones and assigned valves.

B. Note all points of connection (POC), including tap size, line size, and static water pressure of service in pounds per square inch (PSI).

C. Provide the name and phone number of the servicing water purveyor. Include the date the installation was completed and the date the as-built drawing was approved.

D. Accurately locate all the following major components (including their size) installed on the project:

1. Water Meters
2. Backflow Preventers
3. Pressure Reducing Valves (note pressure settings)
4. Filters
5. Stop and Waste
6. Master Control Valves
7. Isolation and Gate Valves
8. Flow Sensors
9. Remote Control Valves (note station assignment, size, flow rate, pressure settings, D.U. and actual flow rates if available from water audit).
10. Drip System Pressure Regulators and Filters
11. Quick Couplers and Hose Bibs
12. Pressure Main Lines and Sizes
13. Main Line Sleeves and Sizes
14. Capped Main Lines and Future POC’s
15. Manual Drain Valves and Sumps

16. Remote Control Wire
17. Controller Location(s) – note manufacturer, model, size, and number of stations used
18. Rain Sensors
19. Moisture Sensors
20. Note and identify location(s) of existing utility systems as encountered during installation, e.g. gas, phone, power, drain lines, water, sewer, etc.

E. Locate the following additional components installed on the project:

1. All Sprinkler Heads
2. Lateral Lines and Sizes
3. Lateral Line Sleeves and Sizes
4. Manual or Automatic Flush Valves
5. Air Release Valves / Blowouts

F. Operations and Maintenance Manual

1. A signed and dated written description of the contractor's warranty and warranty period. Include name, address, phone number and license number.
2. A description of system start-up and winterization process.
3. All product literature and customer service information for products used / installed on the project.

APPENDIX E - MODIFICATIONS AND ADDITIONS TO MANUAL OF STANDARD SPECIFICATIONS

APPENDIX E

MODIFICATIONS AND ADDITIONS TO THE 2017 MANUAL OF STANDARD SPECIFICATIONS

as published by:
Utah LTAP Center
Utah State University
Logan Utah
2017

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SECTION 03 20 00 M
CONCRETE REINFORCING (MODIFIED)

PART 3 EXECUTION

3.1 **PLACING**

Add paragraphs F and G as follows:

F. No steel shall extend from or be visible on any finished surface.

G. All steel shall have a minimum of 1.5-inches of concrete cover.

SECTION 03 30 04 M
CONCRETE (Modified)

PART 2 PRODUCTS

2.4 Add paragraph F as follows:

F. Fiber Reinforcement: A minimum of 1.0 pounds per cubic yard of polyolefin fiber reinforcement shall be evenly distributed into the mix. Mixing shall be as recommended by the manufacturer/supplier such that the fibers do not ball up. Polyolefin fibers shall meet the requirements of ASTM C1116 and ASTM D7508.

2.5 **MIX DESIGN**

Replace Paragraph A with the following:

A. **Class:** When not specified in the plans or project specifications, use the following table to select the class of concrete required for the application:

Class	Application
5,000	Reinforced Structural Concrete
4,000	Sidewalks, curb, gutter, cross gutters, waterways, pavements, and unreinforced footings and foundations
3,000	Thrust blocks
2,000	Anchors, mass concrete

SECTION 03 30 10 M
CONCRETE PLACEMENT (Modified)

PART 3 EXECUTION

3.2 PREPARATION

Add paragraph F as follows:

F. No concrete shall be placed until the surfaces have been inspected and approved by the City Engineer or City Inspector.

SECTION 31 23 16 M
EXCAVATION (Modified)

PART 3 EXECUTION

3.3 GENERAL EXCAVATION REQUIREMENT

Add paragraph I as follows:

I. Excavation for pipelines under existing curb and gutter, concrete slabs, or sidewalks shall be open cut. Neither tunneling nor water jetting is allowed. At the option of the City Engineer, jacking or boring under permanent facilities may be allowed based on his/her direction.

Add Section 31 23 20 Fill

SECTION 31 23 20
FILL

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-structural fill materials.

B. Non-structural placement and compaction.

1.2 REFERENCES

A. **ASTM Standards**

D 698	Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3)).
D 1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).
D 2922	Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

A. When requested by ENGINEER, submit laboratory dry density and optimum laboratory moisture content for each type of fill to be used.

1.4 QUALITY ASSURANCE

A. Do not change material sources without ENGINEER's knowledge.

B. Reject material that does not comply with the requirements specified in this Section.

1.5 STORAGE

A. Safely stockpile materials.

B. Separate differing fill materials, prevent mixing, and maintain optimum moisture content of materials.

1.6 SITE CONDITIONS

A. Do not place, spread, or roll any fill material over material that is damaged by water. Remove and replace damaged material at no additional cost to OWNER.

B. Control erosion. Keep area free of trash and debris. Repair settled, eroded, and rutted areas.

C. Reshape and compact damaged structural section to required density.

1.7 ACCEPTANCE

A. General: Native material may be wasted if there is no additional cost to substitute material acceptable to ENGINEER.

B. Lift thickness: One test per Lot.

C. Compaction: One test per Lot. Verify density using nuclear tests, ASTM D 2922. Compaction and Lot sizes as follows:

1. Compact to 92% Standard Proctor
2. One Lot = 1500 square feet per lift

1.8 **WARRANTY**

A. Repair settlement damage at no additional cost to OWNER.

PART 2 PRODUCTS

2.1 **FILL MATERIALS**

A. Material shall be free from sod, grass, trash, rocks larger than four (4) inches in diameter, and all other material unsuitable for construction of compacted fills.

2.2 **WATER**

A. Make arrangements for sources of water during construction and make arrangements for delivery of water to site.

B. Comply with local Laws and Regulations at no additional cost to OWNER when securing water from water utility company.

PART 3 EXECUTION

3.1 **PREPARATION**

A. Implement the traffic control plan requirements, Section 01 55 26.

B. Verify material meets maximum size requirements.

C. If ground water is in the intended fill zone, dewater.

3.2 **PROTECTION**

A. Protect existing trees, shrubs, lawns, structures, fences, roads, sidewalks, paving, curb and gutter and other features.

B. Protect above or below grade utilities. Contact utility companies to repair utility damage. Pay all cost of repairs.

C. Avoid displacement of and damage to existing installations while compacting or operating equipment.

D. Do not use compaction equipment adjacent to walls or retaining walls that may cause wall to become over-stressed or moved from alignment.

E. Restore any damaged structure to its original strength and condition.

3.3 **LAYOUT**

A. Identify required line, levels, contours, and datum.

B. Stake and flag locations of underground utilities.

C. Upon discovery of unknown utility or concealed conditions, notify ENGINEER.

D. Maintain all benchmarks, control monuments and stakes, whether newly established by surveyor or previously existing. Protect from damage and dislocation.

E. If discrepancy is found between Contract Documents and site, ENGINEER shall make such minor adjustments in the Work as necessary to accomplish the intent of Contract Documents without increasing the Cost of the Work to CONTRACTOR or OWNER.

3.4 **SUBGRADE**

A. Protect Subgrade from desiccation, flooding, and freezing.

B. Before placing fill over Subgrade, get ENGINEER's inspection of subgrade surface preparations.

C. If Subgrade is not readily compactable get ENGINEER’s permission to stabilize the subgrade.

3.5 **TOLERANCES**

A. Compaction: Ninety-two (92) percent minimum relative to a standard proctor density, Section 31 23 26.

B. Lift Thickness (before compaction):

1. Eight (8) inches when using riding compaction equipment.

2. Six (6) inches when using hand held compaction equipment.

3.6 **CLEANING**

A. Remove stockpiles from site. Grade site surface to prevent free standing surface water.

B. Leave borrow areas clean and neat.

END OF SECTION

SECTION 31 41 00 M
SHORING (Modified)

PART 1 GENERAL

1.2 PRICE – MEASUREMENT AND PAYMENT

A. In Trenching, Shoring:

Revise subparagraph 1 to read as follows:

1. A two (2) part Protective System is required if each Side of the Trench is to be shored. The use of a Trench Box shall be classified as one Protective System.

1.4 DESIGN OF PROTECTIVE SYSTEMS

Add paragraphs C and D as follows:

C. Trenches five (5) feet deep or greater require a protective system unless the excavation is made entirely in stable rock. If less than five (5) feet deep, a competent person may determine that a protective system is not required.

D. Trenches 20 feet deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional engineer in accordance with 1926.652(b) and (c).

1.5 SUBMITTALS

Revise paragraph A to read as follows:

A. Submit a Protective System plan:

1. When excavation is over twenty (20) feet deep, or
2. When requested by ENGINEER.

Add Article 1.6 as follows:

1.6 REFERENCES

A. 29 CFR Part 1910 – Occupational Safety and Health Standards

B. 29 CFR Part 1926 Subpart P – Excavations

PART 3 EXECUTION

3.4 INSPECTIONS

Add paragraph C as follows:

C. OWNER and/or ENGINEER may order an immediate work stoppage if working conditions are thought to be unsafe. Work may resume only after proper safety precautions are implemented.

SECTION 32 01 06 M
STREET NAME SIGNS (Modified)

PART 1 GENERAL

1.2 **REFERENCES**

Add paragraph C as follows:

C. **CLEARFIELD CITY Public Works Standard Drawings**

SECTION 32 01 13.64 M
CHIP SEAL with CAPE SEAL (Modified)

PART 1 GENERAL

1.2 **REFERENCES**

A. **ASTM Standards:**

Add the following to paragraph A:

C 29 Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate

C 330 Standard Specification for Lightweight Aggregates for Structural Concrete

Rename Article 1.5 as follows:

1.5 **WEATHER AND CONDITIONS**

D. Temperature

Add subparagraph 4 as follows:

4. Do not place if forecasted temperature is expected to drop below 40 deg F within 72 hours of placement.

B. Moisture and Wind:

Add subparagraph 1 as follows:

1. Do not place chip seal coat if surface moisture is present.

PART 2 PRODUCTS

2.1 **ASPHALT BINDER**

Revise paragraph B as follows:

A. Emulsified Asphalt: CRS-2P or LMCRS, Section 32 12 03. Use any of the following additives to match aggregate particle charge, weather conditions, and mix design:

(Subparagraphs 1-5 remain unchanged.)

2.2 **COVER AGGREGATE**

A. Material:

Revise subparagraph 2 to read as follows:

2. 100% Crusher processed rotary kiln lightweight expanded shale chips (Utelite or approved equal).

Replace Table 1 with the following:

Table 1 – Physical Properties of Lightweight Aggregate (ASTM C330)			
Property	**ASTM**	**Min.**	**Max.**
Clay Lumps and Friable Particles, percent	C142	-	2
Bulk Density Dry Loose Condition, lb/ft^3	C29	-	55

B. Gradation: Analyzed on a dry weight and percent passing basis.

Replace Table 2 with the following:

Table 2 – Master Grading Band for Lightweight Aggregate		
Sieve	**ASTM**	**C330 Requirement**
1/2”	C136	100
3/8”		80-100
No. 4		5-40
No. 8		0-20
No 16		0-10
No. 200		0-10

Replace Article 2.3 with the following:

2.3 **CAPE SEAL**

A. Material: Use Frictional Mastic Surface Treatment (FMST).

Add Article 2.4 as follows:

2.4 **MIX DESIGN**

A. Select Type and grade of emulsified asphalt, ASTM D 3628.

B. Use the following application rates, or submit mix design for approval by Engineer.

1. Emulsion: Use Table 3.

Table 3 – Emulsion Application Rate	
Emulsion	Application Rate (gal/sy)
CRS-2P	0.32 – 0.35
LMCRS-2	0.32 – 0.35

2. Cover Material: Use Table 4.

Table 4 – Cover Material Application Rate	
Emulsion	Application Rate (lbs/sy)
CRS-2P	10.0 – 12.0
LMCRS-2	10.0 – 12.0

3. Cape Seal: As specified, see FMST.

PART 3 EXECUTION

3.2 PREPARATION

Add paragraph F as follows:

F. Cover manholes, valves boxes, storm drain inlets, and other service utility features before placing any chip seal coat – match size and shape of existing concrete collar such that a minimum of 90 percent of the collar remains exposed after treatment.

3.4 APPLICATION

Revise paragraph A to read as follows:

A. Asphalt Emulsion: Keep viscosity between 50 and 100 centistokes during application, ASTM D 2170. Keep temperature to a minimum of 145 deg F.

Revise Article 3.6 to read as follows:

3.6 FOG SEAL

A. Fog Seal NOT SPECIFIED.

Revise Article 3.7 to read as follows:

3.7 CAPE SEAL

A. Cape Seal SPECIFIED. Remove loose chips (by sweeping), and apply FMST within 48 hours of chip seal application.

SECTION 32 12 05 M
BITUMINOUS CONCRETE (MODIFIED)
(Amendment 2 of the 2017 Edition APWA Specifications)

PART 1 GENERAL

1.4 SUBMITTALS

Revise paragraph C as follows:

Replace item 11 with the following:

11. Tensile Strength Ratio or Hamburg Rut Test results.

Add the following item:

14. Unless otherwise specified, Road Class II shall be used for the selection of Mix Design parameters.

SECTION 32 16 13 M
DRIVEWAY, SIDEWALK, CURB, GUTTER (Modified)

PART 3 EXECUTION

3.4 CONTRACTION JOINTS

D. Curb, Gutter, Waterway:

Revise subparagraph 1 to read as follows:

1. Place joints at intervals not exceeding 10 feet.

3.5 EXPANSION JOINTS

B. Sidewalks:

Add subparagraph 5 as follows:

5. Expansion joints are to be placed at 50-foot intervals (minimum) or wherever new sidewalk adjoins existing sidewalks, driveways, or aprons.

C. Curb, Gutter, Waterway:

Add subparagraph 4 as follows:

4. Place expansion joint where new curb and gutter adjoins existing curb and gutter.

SECTION 32 31 13 M
CHAIN LINK FENCES AND GATES (Modified)

PART 2 PRODUCTS

2.6 POSTS, CAPS, RAILS, COUPLINGS

A. Posts, Frames, Stiffeners, Rails: ASTM F 1043:

Revise applicable rows of Table 1 to read as follows:

Top Rail	1-5/8" pipe

PART 3 EXECUTION

3.6 INSTALLATION OF FENCE FABRIC

Revise paragraph A to read as follows:

A. Place fence fabric on roadway side of posts unless otherwise specified. Place fabric approximately 1 inch above the grounds. Maintain a straight grade between posts by excavating ground high points and filling depressions with soil.

SECTION 32 31 16 M
WELDED WIRE FENCES AND GATES (Modified)

PART 1 GENERAL

1.2 **REFERENCES**

Add paragraph D as follows:

D. UDOT Standard Drawing

FG 2A Right of Way Fence and Gates (Metal Post)

FG 2B Right of Way Fence and Gates (Metal Post)

PART 3 EXECUTION

3.2 **INSTALLATION**

Add paragraph N as follows:

N. Install per UDOT Standard Drawings FG 2A and FG 2B.

Add Section 32 31 23 Poly(Vinyl Chloride)(PVC) Fences and Gates

SECTION 32 31 23
POLY(VINYL CHLORIDE)(PVC) FENCES AND GATES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. PVC fencing, posts, gates, and appurtenances.

1.2 REFERENCES

A. **ASTM Standards:**

D 1784	Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
F 626	Fence Fittings
F 964	Rigid Poly(Vinyl Chloride)(PVC) Exterior Profiles Used for Fencing and Railing
F 1999	Installation of Rigid Poly(Vinyl Chloride)(PVC) Fence Systems

1.3 SUBMITTALS

A. Drawings: Indicate plan layout, grid, size and spacing of components, accessories, fittings, anchorage, and post section.

B. Data: Submit manufacturer's installation instructions and procedures, including details of fence and gate installation.

C. Submit sample of fence fabric and typical accessories.

PART 2 PRODUCTS

2.1 GENERAL

A. Products from other qualified manufacturers having a minimum of 5 years' experience manufacturing PVC fencing will be acceptable by the architect as equal, if approved in writing, ten days prior to bidding, and if they meet the following specifications for design, size, and fabrication. PVC Profiles, lineals, and extrusions used as components must "meet or exceed" the minimum performance guidelines laid out in ASTM 964.

2.2 PVC FENCE

A. Pickets, rails, and posts fabricated from PVC extrusion. The PVC extrusions shall comply with ASTM D 1784, Class 14344B and have the following characteristics:

Specific Gravity (+/- 0.02)	1.4
Using 0.125 specimen Izod impact ft. lbs./in. notch	23.0
Tensile strength, PSI	6,910
Tensile modulus, PSI	336,000
Flexural yield strength, PSI	10,104
Flexural modulus, PSI	385,000
DTUL at 264 PSI	67˚C

B. All fence parts made from PVC shall have a minimum thickness of 0.17 in except where specified otherwise.

2.3 **POST CAPS**

A. Molded, one piece.

B. Cross Section: Match post or gate upright cross section.

C. Thickness: 0.095" minimum.

D. Configuration: Flat or four-sided as required for installation to top of posts and gate.

2.4 **ACCESSORIES**

A. Standard gate brace, screw caps, rail end reinforcers, and other accessories as required.

2.5 **MISCELLANEOUS MATERIALS**

A. Stiffener Chemicals: Galvanized steel structural channel. Configure channels for concealed installation within PVC rails with pre-drilled holes for drainage. Aluminum extruded channel available upon request.

1. Cross Section: 3.00" x 3.00" x 1.500" hourglass shape to grip picket.

2. Thickness: 0.040 Gauge (minimum)

B. Fasteners and Anchorage: Stainless Steel. All fasteners to be concealed or colored heads to match. Provide sizes as recommended by fence manufacturer.

C. PVC Cement: As recommended by fence manufacturer.

2.6 **GATE HARDWARE AND ACCESSORIES**

A. General: Provide hardware and accessories for each gate according to the following requirements.

B. Hinges: Size and material to suit gate size, non-lift-off type, self-closing, glass filled nylon with stainless steel adjuster plate, offset to permit 120 degree gate opening. Provide one pair of hinges for each gate.

1. Stainless Steel, painted with carbo zinc base.

2. Finish: Pre-painted, 2 coats "Polane."

3. Color: Black Gravity Latch or dual access gravity latch.

C. Latch: Manufacturers' standard self-latching, thumb latch, pre-finished steel, or stainless steel gravity latch. Provide one latch per gate.

1. Finish: Match gate hinge finish.

D. Hardware: Stainless Steel. Provide sizes as recommended by fence manufacturer.

1. Finish: Match gate hinge finish.

2.7 **CONCRETE**

A. Use Class 3000 concrete. Section 03 30 04.

2.8 **REINFORCING FOR FILLED POSTS**

A. Steel Reinforcing:

1. Steel Reinforcing Bars: ASTM A 615. Grade 60. Deformed (#4 or ½").
2. Install 2 bars for each corner or gate post as specified in the drawings.

PART 3 EXECUTION

3.1 **PREPARATION**

A. Locate and preserve utilities, Section 31 23 16.

B. Excavation, Section 31 23 16.

C. Review to ASTM F 567 and CLFMI products manual for chain link fence installation.

D. Protect roots and branches of trees and plants to remain.

E. Limit amount of clearing and grading along fence line to permit proper installation.

3.2 **LAYOUT OF WORK**

A. Accurately locate and stake locations and points necessary for installation of fence and gates.

B. General arrangements and location of fence and gates are indicated. Install except for minor changes required by unforeseen conflicts with work of other trades.

3.3 **INSTALLATION – GENERAL**

A. Install fence in compliance with manufacturer's written instructions.

B. PVC components shall be carefully handled and stored to avoid contact with abrasive surfaces.

C. Install components in sequence as recommended by fence manufacturer.

D. Install fencing as indicated on the drawings provided.

E. Variations from the installation indicated must be approved.

F. Variations from the fence and gate installation indicated and all costs for removal and replacement will be the responsibility of the CONTRACTOR.

3.4 **INSTALLATION OF POSTS**

A. Excavation

1. Drill or hand-excavate (using post hole digger) holes for posts to diameters and spacings indicated, in firm, undisturbed or compacted soil.

2. If not indicated on drawings, excavate holes for each post to a minimum diameter of 12 inches.
3. Unless otherwise indicated, excavate hole depths not less than 30 inches or to frost line.

B. Posts

1. Install posts in one piece, plumb and in line. Space as noted in the drawings. Enlarge excavation as required to provide clearance indicated between post and side of excavation.
2. Protect portion of posts above ground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment and hold in position during placement and finishing operations.
   a. Unless otherwise indicated, terminate top of concrete footings 3 inches below adjacent grade and trowel to a crown to shed water.
   b. Secure posts in position for manufacturer's recommendations until concrete sets.
   c. After installation of rails and unless otherwise indicated, install reinforcing in posts in opposing corners of post as shown and fill end and gate posts with concrete to level as indicated. Concrete fill shall completely cover the reinforcing steel and gate hardware fasteners. Consolidate the concrete by striking the post face with a rubber mallet, carefully tamping around the exposed post bottom.
   d. Install post caps. Use #8 screws, nylon washers and snap caps.
   e. Remove concrete splatters from PVC fence materials with care to avoid scratching.

3.5 INSTALLATION OF RAILS

A. Top and Bottom Rails

1. Install rails in one piece into routed hole fabricated into posts to receive top and bottom rails, and middle where necessary. Except at sloping terrain, install rails level.
   a. Prior to installation of rails into posts, insert concealed steel channel stiffeners in top rail, where necessary. Bottom rails shall include minimum 2-¼" drainage holes.
   b. At posts to receive concrete fill, tape rail ends to prevent seepage when filling post with concrete.

B. Middle Rails:

1. Where necessary, install middle rails in one piece into routed hole in posts with larger holes facing down. Except at sloping terrain, install middle rails level. Secure mid rail to pickets with 2-#8 x 1-1/2" screws evenly spaced.
   a. At posts to receive concrete fill, tape rail ends to prevent seepage when filling post with concrete.

3.6 INSTALLATION OF FENCE FABRIC/PICKETS

A. Pickets: Install pickets in one piece as per manufacturer recommendations. Install pickets plumb.

3.7 **INSTALLATION ON SLOPING TERRAIN**

A. At sloping terrain rails may be racked (sloped) or stepped to comply with manufacturer's recommendations.

3.8 **INSTALLATION OF GATES**

A. Prior to installation of rails into posts, apply PVC cement into sockets per manufacturer's recommendations. Bottom rail shall include minimum 2-¼" drainage holes.

B. Assemble gate prior to fence installation to accurately locate hinge and latch post. Align gate horizontal rails with fence horizontal rails.

C. Install gates plumb, level, and secure for full opening without interference according to manufacturer's instructions.

D. Gate Latch Installation. Install gate latch according to manufacturer's instructions.

E. Allow minimum 72 hours to let concrete set-up before opening gates.

END OF SECTION

SECTION 32 92 00 M
TURF AND GRASS (Modified)

PART 1 GENERAL

1.3 SUBMITTALS

Add paragraph C as follows:

C. Submit seed mix if proposing alternate seed mix shown in paragraph 2.1.0 below.

PART 2 PRODUCTS

2.1 SEED

Add paragraph D as follows:

D. Seed Mix:

SEED #	BOTANICAL NAME	COMMON NAME	% by Weight
1	Agropyron cristatum 'Fairway'	Fairway Crested Wheatgrass	15%
2	Agropyron riparium 'Sodar'	Streambank Wheatgrass	20%
3	Bromus inermis 'Manchar'	Smooth Brome	32%
4	Fescue rubra 'Fortress'	Red Fescue	25%
5	Poa compressa 'Reuben's'	Reuben's Canadian Bluegrass	6%
6	Trifolium repens	White Dutch Cover	2%

PART 3 EXECUTION

3.4 SEEDING

Revise paragraph A to read as follows:

A. Apply seed at a rate of eight (8) pounds per 1,000 square feet evenly in two (2) intersecting directions. Rake in lightly.

Add Section 33 05 12 Conductive Tracer Wire for Pipe Installation

SECTION 33 05 12
CONDUCTIVE TRACER WIRE FOR PIPE INSTALLATION

PART 1 GENERAL

1.1 **SUMMARY**
This section covers the requirements for installation of a conductive tracer wire with underground pipe

1.2 **SYSTEM DESCRIPTION**
Install electrically continuous tracer wire with access points as described herein to be used for locating pipe with an electronic pipe locator after installation.

PART 2 PRODUCTS

2.1 Tracer wire shall be twelve (12) gauge minimum solid copper with thermoplastic insulation recommended for direct burial. Wire connectors shall be 3M DBR, or approved equal, and shall be watertight and provide electrical continuity.

PART 3 EXECUTION

3.1 **ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION**
A. General: Tracer wire shall be installed in the same trench and inside bored holes and casing with pipe during pipe installation. It shall be secured to the pipe as required to insure that the wire remains adjacent to the pipe. The tracer wire shall be securely bonded together at all wire joints with an approved watertight connector to provide electrical continuity, and it shall be accessible at all new water valve boxes, water meter boxes, fire hydrants, sewer manholes, and sewer cleanouts as applicable to the utility line being installed.

B. Manholes: The wire shall be installed from the exterior of the manhole to the interior by installing the wire underneath the manhole frame.

3.2 **TESTING**
CONTRACTOR shall perform a continuity test on all tracer wire in the presence of ENGINEER of ENGINEER's representative. Testing shall be performed prior to road construction.

3.3 **REPAIR / RESTORATION**
If the tracer wire is found to be not continuous after testing, CONTRACTOR shall repair or replace the failed segment of wire.

END OF SECTION

SECTION 33 05 25 M
PAVEMENT RESTORATION (Modified)

PART 1 GENERAL

1.2 REFERENCES

Replace paragraph A to read as follows:

A. **CLEARFIELD CITY Public Works Standard Drawings**

PART 2 PRODUCTS

2.2 ASPHALT PAVEMENT

Revise paragraph A to read as follows:

A. Permanent Warm Weather Asphalt Concrete: Section 32 12 05 M unless indicated otherwise.

Revise paragraph C to read as follows:

C. Pavement Sealing:

1. Crack Seal: Section 32 01 17
2. Chip Seal: Section 32 01 13.64 and 32 01 13.64 M.
3. Fog Seal: Section 32 01 13.50.

PART 3 EXECUTION

3.5 ASPHALT PAVEMENT RESTORATION

Revise paragraphs A and B to read as follows:

A. Follow CLEARFIELD CITY Public Works Standard Drawings.

B. Match existing pavement thickness or 4-inches minimum, whichever is greater.

SECTION 33 08 00 M
COMMISSIONING OF WATER UTILITIES (Modified)

PART 3 EXECUTION

3.5 **INFILTRATION TEST**

Revise paragraph A to read as follows:

A. General: 150 gallons per inch diameter per mile per day. If the ground water table is less than two (2) feet above the crown of the pipe, the infiltration test is not required.

Revise Article 3.6 in its entirety to read as follows:

3.6 **EXFILTRATION TEST**

A. Non-Pressurized System:

1. General: Air test or hydrostatic test is CONTRACTOR's choice.
2. Air Test:
   a. Plastic Pipe: ASTM F 1417.
      (i) For pipe up to 30 inches diameter, pressure drop is 0.5 psi.
      (ii) For pipe larger than 30 inches diameter, isolated joint test is 3.5 psi maximum pressure drop is 1.0 psi in 5 seconds.
   b. Concrete Pipe:
      (i) ASTM C 1214 for concrete pipe 4" to 24" diameter.
      (ii) ASTM C 1103 for concrete pipe 27" and larger.
3. Hydrostatic Test: Provide air release taps at pipeline's highest elevations and expel all air before the test. Insert permanent plugs after test has been completed.
   a. Plastic Pipe: ASTM F 2497.
   b. Concrete Pipe: ASTM C 497. Abide by Section 3 and Section 16 in the ASTM standard and applicable recommendations of manufacturer.

B. Pressurized System:

1. Pressure Test: All newly laid pipe segments and their valves, unless otherwise specified, shall be subjected to a hydrostatic pressure test of 225 psi or 50 psi above working pressure, whichever is higher. The hydrostatic pressure test shall be conducted after the pipe segments have been partially backfilled.
2. Duration of Pressure Test: The duration of each hydrostatic pressure test shall be at least two (2) hours.
3. Test Procedure: Each pipe segment shall be slowly filled with water and the specified test pressure, measured at the point of lowest elevation, shall be applied by means of a pump connected to the pipe in a satisfactory manner. Testing against closed valves will be allowed. The pump, pipe connection, and all necessary apparatus including gauges

and meters shall be furnished by the CONTRACTOR. CONTRACTOR shall provide all labor and equipment necessary to perform the test.

4. Expelling Air Before Test: Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, air release mechanisms shall be installed, if necessary, at points of highest elevation, and afterwards tightly capped.

5. Examination Under Pressure: All pipes, fittings, valves, hydrants, joints, and other hardware will be subject to examination under pressure during the hydrostatic test. Any defective pipes, fittings, hydrants, valves, or other hardware discovered in consequence of this pressure test shall be removed and replaced by the CONTRACTOR with sound material, at no expense to the OWNER, and the test shall be repeated until the ENGINEER is satisfied.

6. No piping installation will be acceptable until the leakage is less than the amount allowed by industry standards for the type of pipe material being tested. Or, if no standard prevails, than the number of gallons per hour is determined by the formula:

$$Q = \frac{LD\sqrt{P}}{148{,}000}$$

Where: Q = allowable leakage, gallons per hour

L = length of pipe under test, feet

D = diameter of pipe, inches

P = average test pressure, psig

SECTION 33 11 00 M
WATER DISTRIBUTION AND TRANSMISSION (Modified)

PART 1 GENERAL

1.2 REFERENCES

Revise paragraph B to read as follows:

B. **Clearfield City Public Works Standard Drawings**

Add to paragraph C. AWWA Standards:

C105	Polyethylene Encasement for Ductile Iron Pipe Systems
C110	Ductile-Iron and Gray-Iron Fittings
C111	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
C223	Fabricated Steel and Stainless-Steel Tapping Sleeves
M14	AWWA Recommended Practice for Backflow Prevention and Cross-Connection Control

Add paragraph F and G as follows:

F. ANSI/NSF Standards:

61	Drinking Water System Components

G. Utah Administrative Code

R309	Drinking Water

1.3 PERFORMANCE REQUIREMENTS

Replace paragraph A with the following:

A. Depth of Cover:

1. Minimum as indicated on the drawings. If minimum cannot be achieved, contact ENGINEER.
2. Maximum of 72 inches unless indicated on the plans or approved by ENGINEER.

1.5 SITE CONDITIONS

Revise paragraph D to read as follows:

D. Do not operate <u>any</u> water valve until its owner and water company's permission is secured.

PART 2 PRODUCTS

2.1 PIPES AND FITTINGS

Revise paragraph A to read as follows:

A. Provide piping materials and factory fabricated piping products of sizes, types, pressure ratings, and capacities indicated. Use only NSF 61 approved products in drinking water systems. All such products shall be appropriately stamped with the NSF logo.

Add paragraphs E and F as follows:

E. Mechanical Joint Fittings: Ductile iron, Class 250

F. Flanged Fittings: Ductile iron, Class 250

2.3 VALVE BOX

Revise paragraph A to read as follows:

A. Buried Valves in Traffic Areas: Cast iron two (2) piece slip sleeve type, 5-1/4 inch shaft, with a drop lid, rated for HL-93 loading.

Add Articles 2.9 and 2.10 as follows:

2.9 TAPPING SLEEVE AND VALVE

A. AWWA C223.

B. Sleeve shall be full circumferential seat with all stainless steel tapping sleeve.

C. Flanged outlet with flanged by MJ valve.

2.10 FIRE SPRINKLER/SUPPRESSION LINES

A. Lines:

1. Ductile iron, Class 51, or as approved in writing by OWNER or ENGINEER.
2. Meet all specifications for main lines.

B. Valve:

1. All fire lines shall be equipped with an isolation gate valve located at the main line.

PART 2 EXECUTION

3.3 LAYOUT

Replace paragraph B with the following:

B. The Utah Division of Drinking Water must grant an exception where a potable water line crosses under a sanitary sewer line.

3.4 INSTALLATION – PIPE AND FITTING

A. General:

Add subparagraphs 3 through 7 as follows:

3. Encase all buried ductile iron valves, fitting, connections, and specialties in minimum 8 mil. polyethylene sheets in accordance with AWWA C105.
4. Waterline shall be laid and maintained to lines and grades established by the drawings, with fittings and valves at the required locations. Deviations as approved in writing by OWNER or ENGINEER.
5. Lay water lines on a continuous grade to avoid high points except as shown on the plans.
6. Cut edges and rough ends shall be ground smooth. Bevel end for push-on connections.
7. Do not drop pipe or fittings into trench.

Add paragraph I as follows:

I. Tie-Ins:

1. All tie-ins shall be made dry and not on a day proceeding a weekend or holiday.
2. OWNER requires 48-hours' notice for water turn-off.
3. At least 24-hours prior to a service disruption, CONTRACTOR shall notify all affected water users.
4. Where shutting down a line is not feasible as determine by OWNER or ENGINEER, CONTRACTOR shall make a wet tap using a tapping sleeve and valve.

3.5 INSTALLATION – CONCRETE THRUST BLOCK

Revise paragraph A to read as follows:

A. Clearfield City Public Works Standard Drawings.

3.8 INSTALLATION – TAPS

Revise paragraph A to read as follows:

A. Clearfield City Public Works Standard Drawings.

3.9 INSTALLATION – SERVICE LINE

Revise paragraph C to read as follows:

C. Meter Box: Clearfield City Public Works Standard Drawings.

Add paragraph D as follows:

D. New Water Service Line

1. 1" Service

a. All laterals must be of one continuous copper tube between the corp stop and the meter box. No joints or copper to copper connectors are allowed.

2. 1.5" and 2" Services

a. All solder joints shall be 95-5 solder or better, or Mueller compression fittings.

3.10 INSTALLATION – WATERMAIN LOOP (SYPHON)

Revise paragraph A to read as follows:

A. Clearfield City Public Works Standard Drawings.

3.12 BACKFILLING

B. Trenches: Section 33 05 20:

Revise subparagraphs 1 and 2 to read as follows:

1. Pipe zone backfill, Clearfield City Public Works Standard Drawings.
2. Trench backfill, Clearfield City Public Works Standard Drawings.

3.13 SURFACING RESTORATION

A. Roadway Trenches and Patches: Section 33 05 25:

Revise subparagraphs 1 and 2 to read as follows:

1. Asphalt concrete patch, Clearfield City Public Works Standard Drawings.
2. Concrete pavement patch, contact OWNER for instructions.

Add new Article 3.14 as follows:

3.14 FIRE SPRINKLER/SUPPRESSION LINES

A. Notify OWNER 48 hours prior to installation.

B. Unless written authorization is given by OWNER, no services shall be connected to the fire sprinkler/suppression lines.

C. Location: As approved by OWNER.

SECTION 33 12 16 M
WATER VALVES (Modified)

PART 1 GENERAL

1.2 **REFERENCES**

Modify the fourth (4th) item in paragraph A to read as follows:

C509 Resilient-Seated Gate Valves for Water Supply Service

Add paragraph B as follows:

B. **Clearfield Public Works Standard Drawings**

PART 2 PRODUCTS

2.1 **VALVES – GENERAL**

A. Underground:

Add subparagraph 3 as follows:

3. Valves over five (5) feet in depth shall have a valve nut extension stem.

2.2 **GATE VALVES**

Add paragraph D as follows:

D. Model: Mueller A-2361

Add Article 2.10 as follows:

2.10 **AIR/VACUUM RELIEF VALVES**

A. Operation: Relieve air build-up and/or allow intrusion of air to prevent vacuum conditions within pipe.

B. Location: Valve and vent placement location as approved by OWNER or ENGINEER.

C. Connection: Service saddle.

PART 3 EXECUTION

3.1 **INSTALLATION**

Add paragraphs D, E, and F as follows:

D. Prior to installation, inspect valves for direction of opening, freedom of operation, tightness of pressure-containing bolting, and cleanliness of valve ports and seating surfaces.

E. Examine all valves for damage or defects immediately prior to installation.

F. Mark and hold defective materials for inspection by OWNER or ENGINEER. Replace rejected materials.

SECTION 33 12 19 M
HYDRANTS (Modified)

PART 1 GENERAL

1.2 REFERENCES

Revise paragraph A to read as follows:

A. **Clearfield City Public Works Standard Drawings**

PART 2 PRODUCTS

2.1 DRY-BARREL FIRE HYDRANT

Add paragraph C as follows:

C. Model: Mueller Super Centurion.

2.2 VALVES

Revise paragraph A to read as follows:

C. Gate Valve: Section 33 12 16.

2.3 ACCESSORIES

Revise paragraph D to read as follows:

D. Valve Box, Valve Chamber: Section 33 11 00.

PART 3 EXECUTION

3.2 INSTALLATION

Revise paragraph A to read as follows:

C. Install hydrant according to Clearfield City Public Works Standard Drawings and AWWA M17.

Revise paragraph H to read as follows:

H. Install thrust block according to Clearfield City Public Works Standard Drawings.

SECTION 33 12 33 M
WATER METER (Modified)

PART 1 GENERAL

1.2 **REFERENCES**

Add paragraph B as follows:

E. **Clearfield City Public Works Standard Drawings.**

PART 2 PRODUCTS

2.2 **METERS FOR SERVICE PIPING**

Revise paragraph A to read as follows:

F. OWNER shall provide all meters for City Projects. CONTRACTOR shall install all meters for City Projects. OWNER shall provide and install all meters for Development Projects. DEVELOPER is responsible to pay for all meters for Development Projects.

2.3 **SERVICE LINE, VALVES, AND FITTINGS**

Revise paragraph A to read as follows:

A. Service Pipe: Smooth wall polyethylene, Section 33 05 06.

Revise paragraph B to read as follows:

B. Service Valves and Fittings:

1. AWWA C800.
2. ¾-Inch and 1-Inch Service Laterals – Brass corporation stops with CC thread.
3. 1.5-Inch and 2-Inch Service Laterals – Copper or brass screw-type fittings (ball valves, strainers, nipples, tees, bends, etc.).
4. 3-Inch and 4-Inch Service Laterals
    a. Ductile iron pipe.
    b. Cast iron, flanged valves and fittings.
5. Greater than 4-Inch – Coordinate with and obtain approval from OWNER and ENGINEER.

Replace Article 2.4 with the following:

2.4 **METER BOXES**

A. See Clearfield City Public Works Standard Drawings.

PART 3 EXECUTION

3.1 INSTALLATION

Revise paragraph D to read as follows:

D. OWNER Supplied Meters: Installed by OWNER unless indicated otherwise.

Add paragraphs E and F as follows:

E. Install one solid piece of Poly DR9 CTS Pipe from main to meter.

F. Install service laterals with 60-inches of cover, minimum.

SECTION 33 13 00 M
DISINFECTION (Modified)

PART 1 GENERAL

1.2 REFERENCES

Modify paragraph B to read as follows:

B. Utah Administrative Code

R309 Drinking Water

Add paragraph C as follows:

C. NSF/ANSI Standards:

60 Drinking Water Treatment Chemicals – Health Effects

1.4 SUBMITTALS

Delete paragraphs B, C, and D in their entirety.

Add Article 1.8 as follows:

1.8 WORK PERFORMED BY OWNER

A. OWNER will perform bacteriological and high chlorine sampling and testing. CONTRACTOR shall provide all other work associated with this Section.

PART 2 PRODUCTS

1.1 DISINFECTANT

Add paragraph E as follows:

E. All products shall comply with NSF/ANSI 60.

PART 3 EXECUTION

3.1 PREPARATION

Add paragraphs C and D as follows:

C. Notify OWNER at least 72 hours prior to any flushing or disinfecting.

D. Install temporary connections for flushing water lines after disinfection. After the satisfactory completion of the flushing work, remove and plug the temporary connection.

3.2 **DISINFECTION OF WATER LINES**

Revise paragraph D to read as follows:

D. Coordinate with OWNER to collect a bacteriological water sample at end of line to be tested. If sample fails bacteriological test, flush system and retest. Continue flushing and retesting until sample passes test.

Revise paragraph G to read as follows:

G. After a passing bacteriological test sample is obtained, let the system relax for 24 hours. Flush and coordinate with OWNER to collect a subsequent bacteriological sample for testing. If the subsequent test passes, then water line is acceptable.

3.5 **FIELD QUALITY CONTROL**

A. Bacteriological Test:

Revise subparagraphs 1 and 2 to read as follows:

1. Coordinate with OWNER to collect samples for testing no sooner than 16 hours after system flushing.
2. OWNER will have water samples analyzed per State of Utah requirements.

Add Article 3.6 as follows:

3.6 **SPECIAL PROCEDURE FOR TAPPING SLEEVES**

A. Before a tapping sleeve is installed, the exterior of the main to be tapped shall be thoroughly cleaned, and the interior surface of the sleeve shall be lightly dusted with calcium hypochlorite powder.

APPENDIX F – CLEARFIELD CITY PUBLIC WORKS STANDARD DRAWINGS

CLEARFIELD CITY CORPORATION
CONSTRUCTION AND DEVELOPMENT STANDARD DRAWINGS

SUBMITTED & RECOMMENDED

BRANDON K. JONES, P.E.
JONES & ASSOCIATES CONSULTING ENGINEERS

REGISTERED PROFESSIONAL ENGINEER
3-8-2024
BRANDON KENT JONES
No. 5148788
State of Utah

Clearfield City
Public Works

APPROVAL

MARK SHEPHERD CLEARFIELD CITY MAYOR	DATE
ADAM FAVERO CLEARFIELD CITY PUBLIC WORKS DIRECTOR	DATE
BRADEN FELIX, P.E. CLEARFIELD CITY ENGINEER	DATE
ATTEST, CLEARFIELD CITY RECORDER	DATE

JONES & ASSOCIATES
CONSULTING ENGINEERS

SPECIAL STANDARD NOTES:

A. THE CITY ADOPTS THE FOLLOWING AS STANDARDS FOR ALL ISSUES RELATED TO THE DESIGN, CONSTRUCTION, AND MAINTENANCE OF IMPROVEMENTS NOT SPECIFICALLY COVERED BY THIS MANUAL:

1. APWA: MANUAL OF STANDARD SPECIFICATIONS (CURRENT EDITION) AND ALL ADOPTED AMENDMENTS
2. APWA: MANUAL OF STANDARD PLANS (CURRENT EDITION)

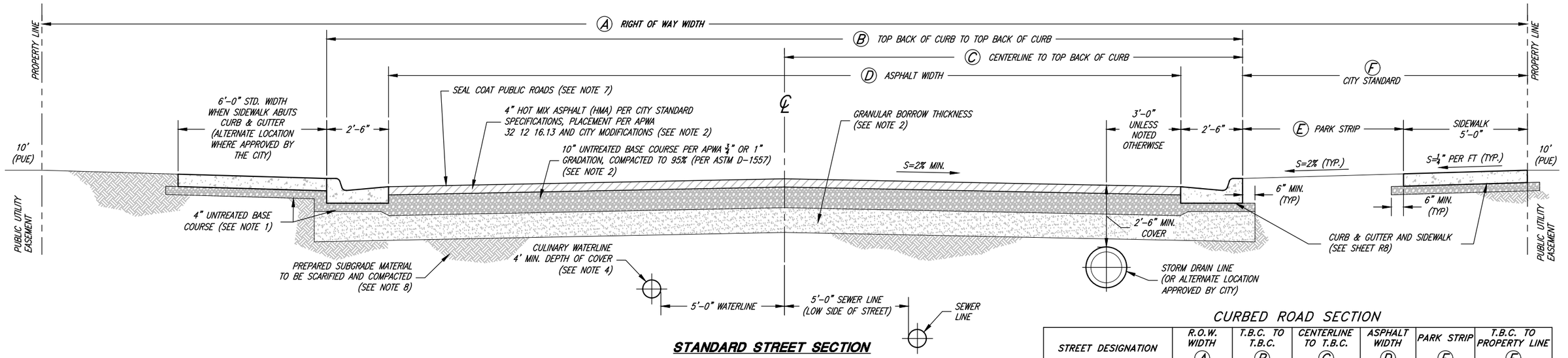
B. AS TO ANY PARTICULAR ISSUE, IF A CONFLICT EXISTS BETWEEN ANY OF THE FOREGOING STANDARDS, THE CITY STANDARDS TAKE PRECEDENCE.

C. AT THE CITY'S SOLE DISCRETION, ALTERNATE METHODS OF CONSTRUCTION OR DEVIATIONS FROM THESE STANDARDS MAY BE REQUIRED OR APPROVED BY THE CITY ENGINEER AND PUBLIC WORKS DIRECTOR (OR THEIR DESIGNEE), WHEN SUCH ARE NECESSARY TO MEET THE BEST INTERESTS OF THE CITY.

D. WHEN CITY APPROVAL IS REQUIRED, IT SHALL MEAN APPROVAL FROM THE ADMINISTRATIVE LAND USE AUTHORITY, PUBLIC WORKS DIRECTOR, CITY ENGINEER, OR THEIR DESIGNEE.

MARCH 2024

INDEX OF DRAWINGS (39 Sheets)



STANDARD STREET SECTION

GENERAL NOTES:

1. PROVIDE 4" THICKNESS OF 3/4" OR 1" UNTREATED BASE COURSE UNDER SIDEWALK, DRIVEWAY APPROACHES AND CURB & GUTTER, COMPACTED TO 95%, PER ASTM D-1557.
2. THE PAVEMENT THICKNESS SHALL BE CONSIDERED AS CITY MINIMUMS AND MAY BE REQUIRED TO BE ADJUSTED WHEN A GREATER DEPTH IS NECESSARY TO PROVIDE STABILITY, OR PER THE GEOTECHNICAL REPORT OR CITY. DESIGNER AND/OR DEVELOPER MAY SUBMIT AN ALTERNATIVE PAVEMENT DESIGN BASED ON A DETAILED SOILS ANALYSIS FOR APPROVAL BY THE CITY WHICH MAY MODIFY PAVEMENT THICKNESS, BUT IN NO CASE SHALL THE BITUMINOUS SURFACE COURSE BE LESS THAN 4" THICK AND UNTREATED BASE COURSE LESS THAN 10" THICK. GRANULAR BORROW THICKNESS PER GEOTECHNICAL REPORT.
3. ALL ROAD CUTS SHALL BE PATCHED PER SHEET R9 AND SHEET R10
4. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION FROM ALL SEWER MAINS AND LATERALS OF 10'-0" HORIZONTAL AND 18" VERTICAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER RULES SECTION R309-550-7
5. THE 5'-0" SIDEWALK SHOWN ABOVE IS TO BE CONSIDERED THE "CITY STANDARD." OTHER LOCATIONS AND TYPES OF SIDEWALK AS REQUESTED BY THE DEVELOPER MUST BE APPROVED BY THE CITY. IF SIDEWALK IS LOCATED AGAINST THE T.B.C., IT MUST BE A MINIMUM OF 6'-0" IN WIDTH.
6. NATURAL GAS AND POWER AND COMMUNICATION LINES TYPICALLY LOCATED BEHIND PROPERTY LINES IN THE 10' PUBLIC UTILITY EASEMENT.
7. SEAL COAT NEW PAVEMENT APPROXIMATELY 6 MONTHS TO ONE YEAR AFTER INSTALLATION, PRIOR TO THE END OF THE ONE-YEAR DEVELOPMENT WARRANTY PERIOD, OR AS OTHERWISE DIRECTED BY THE CITY. "SEAL COAT" CONSISTS OF THE FOLLOWING:
   a. TYPE II SLURRY SEAL (RESIDENTIAL ROADS);
   b. CHIP SEAL WITH CAPE SEAL (LIGHTWEIGHT AGGREGATE).
8. IMPORTED FILL UNDER ROADWAY SHALL BE GRANULAR BORROW, 3" MAX.
9. ALL EARTHWORK SHALL BE SUBJECT TO SOIL TESTING.
10. TREES IN PARK STRIPS MUST BE APPROVED BY THE CITY.

GENERAL NOTES CONT.:

11. THE SPECIAL RESIDENTIAL STREET SECTION SHALL BE USED FOR RESIDENTIAL ROADWAYS THAT QUALIFY TO BE WIDER (AS PER UTAH CODE 10-9A-508(51). THE CITY CAN REQUIRE THE INSTALLATION OF PAVEMENT IN EXCESS OF 32 FEET FOR RESIDENTIAL ROADS THAT MEET THE FOLLOWING CONDITIONS:
   - TO ADDRESS SPECIFIC TRAFFIC FLOW CONSTRAINTS AT AN INTERSECTION, MID-BLOCK CROSSINGS, OR OTHER AREAS;
   - TO ADDRESS AN APPLICABLE GENERAL OR MASTER PLAN IMPROVEMENT, INCLUDING TRANSPORTATION, BICYCLE LANES, TRAILS, OR OTHER SIMILAR IMPROVEMENTS THAT ARE NOT INCLUDED WITHIN AN IMPACT FEE AREA;
   - TO ADDRESS TRAFFIC FLOW CONSTRAINTS FOR SERVICE TO OR ABUTTING HIGHER DENSITY DEVELOPMENTS OR USES THAT GENERATE HIGHER TRAFFIC VOLUMES, INCLUDING COMMUNITY CENTERS, SCHOOLS, AND OTHER SIMILAR USES;
   - AS NEEDED FOR THE INSTALLATION OR LOCATION OF A UTILITY WHICH IS MAINTAINED BY THE MUNICIPALITY AND IS CONSIDERED A TRANSMISSION LINE OR REQUIRES ADDITIONAL ROADWAY WIDTH;
   - FOR THIRD-PARTY UTILITY LINES THAT HAVE AN EASEMENT PREVENTING THE INSTALLATION OF UTILITIES MAINTAINED BY THE MUNICIPALITY WITHIN THE ROADWAY;
   - FOR UTILITIES OVER 12 FEET IN DEPTH;
   - FOR ROADWAYS WITH A DESIGN SPEED THAT EXCEEDS 25 MILES PER HOUR;
   - AS NEEDED FOR FLOOD AND STORMWATER ROUTING;
   - AS NEEDED TO MEET FIRE CODE REQUIREMENTS FOR PARKING AND HYDRANTS;
   - OR AS NEEDED TO ACCOMMODATE STREET PARKING.

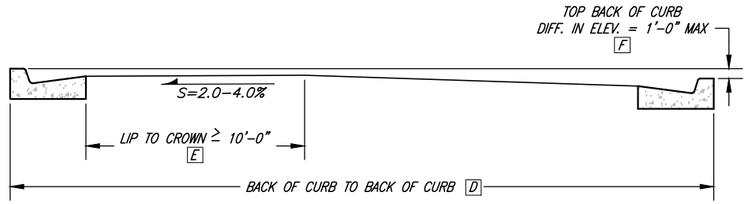
CURBED ROAD SECTION

STREET DESIGNATION	R.O.W. WIDTH Ⓐ	T.B.C. TO T.B.C. Ⓑ	CENTERLINE TO T.B.C. Ⓒ	ASPHALT WIDTH Ⓓ	PARK STRIP Ⓔ	T.B.C. TO PROPERTY LINE Ⓕ
LOCAL RESIDENTIAL	**60'-0"**	37'-0"	18'-6"	32'-0"	6'-6"	11'-6"
SPECIAL RESIDENTIAL (SEE GENERAL NOTE 11)	**60'-0"**	41'-0"	20'-6"	36'-0"	4'-6"	9'-6"
MINOR COLLECTOR	**66'-0"**	47'-0"	23'-6"	42'-0"	4'-6"	9'-6"
MAJOR COLLECTOR	**80'-0"**	61'-0"	30'-6"	56'-0"	4'-6"	9'-6"
ARTERIAL (STATE ROADS/UDOT)	**PER COORDINATION WITH THE CITY AND UDOT**					

NOTES:

B1. THE ROAD SECTION REQUIRED SHALL BE AS DETERMINED BY THE CITY BASED UPON ZONING, GENERAL PLAN, MASTER PLAN, SIZE OF DEVELOPMENT, ESTIMATED TRAFFIC VOLUME, & AMOUNT OF OPEN SPACE ASSOCIATED WITH DEVELOPMENTS, AS WELL AS THE PROXIMITY TO HIGH VOLUME ROADS OR COMMERCIAL ZONING.

B2. LOCATION OF SIDEWALK AND CURB & GUTTER MAY VARY ON INDIVIDUAL ARTERIAL STREETS PER DIRECTION OF THE CITY.



CROWN NOTES:

A1. MAXIMUM DIFFERENCE IN ELEVATION BETWEEN CURBS ON OPPOSITE SIDES OF THE STREET SHALL NOT EXCEED 1'-0" AS SHOWN IN DETAIL AND TABLE.

A2. ON ARTERIAL STREETS AND CERTAIN STREETS APPROVED BY THE CITY ADMINISTRATIVE LAND USE AUTHORITY, THE CITY WILL PROVIDE A PAVEMENT DESIGN. LOCATION OF SIDEWALK AND CURB & GUTTER MAY VARY ON INDIVIDUAL ARTERIAL STREETS PER DIRECTION OF THE CITY.

A3. ALL OTHER PROPOSED STREET CROSS SECTIONS SHALL BE AS APPROVED BY THE CITY.

CROWN LOCATION TABLE		
D	E	F
41'-0"	18'-0"	0'-0"
41'-0"	12'-0"	0'-6"
41'-0"	10'-0"	1'-0"
47'-0"	21'-0"	0'-0"
47'-0"	10'-6"	0'-6"
47'-0"	10'-6"	1'-0"
CUL-DE-SAC		1'-0" MAX.

CROWN LOCATION FOR VARIOUS CROSS SLOPES

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

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Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS
TYPICAL STREET SECTION DETAILS

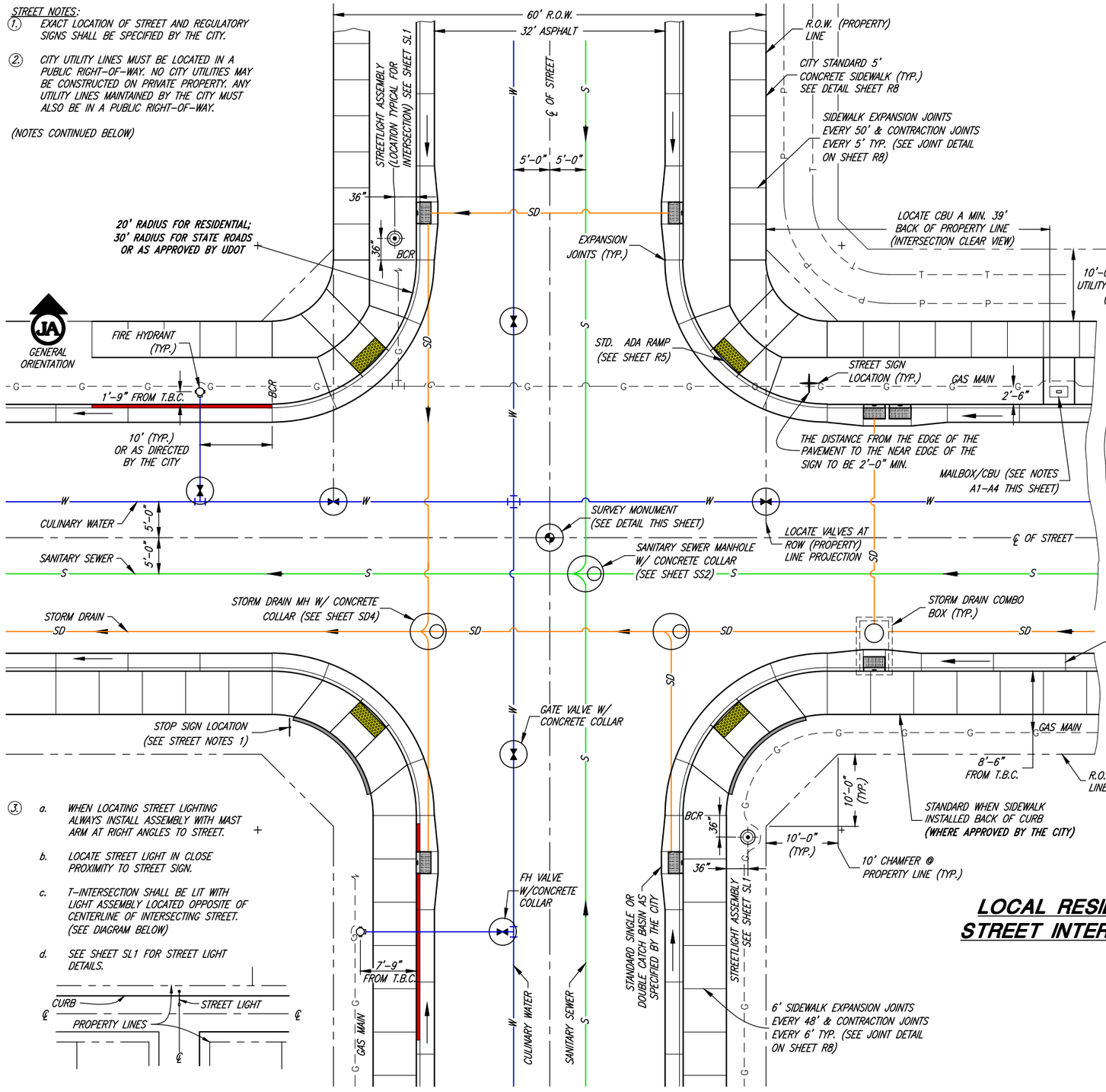
SHEET: R1 OF X SHEETS
0

STREET NOTES:

1. EXACT LOCATION OF STREET AND REGULATORY SIGNS SHALL BE SPECIFIED BY THE CITY.

2. CITY UTILITY LINES MUST BE LOCATED IN A PUBLIC RIGHT-OF-WAY. NO CITY UTILITIES MAY BE CONSTRUCTED ON PRIVATE PROPERTY. ANY UTILITY LINES MAINTAINED BY THE CITY MUST ALSO BE IN A PUBLIC RIGHT-OF-WAY.

(NOTES CONTINUED BELOW)



3. a. WHEN LOCATING STREET LIGHTING ALWAYS INSTALL ASSEMBLY WITH MAST ARM AT RIGHT ANGLES TO STREET.

b. LOCATE STREET LIGHT IN CLOSE PROXIMITY TO STREET SIGN.

c. T-INTERSECTION SHALL BE LIT WITH LIGHT ASSEMBLY LOCATED OPPOSITE OF CENTERLINE OF INTERSECTING STREET. (SEE DIAGRAM BELOW)

d. SEE SHEET SL1 FOR STREET LIGHT DETAILS.

LOCAL RESIDENTIAL STREET INTERSECTION

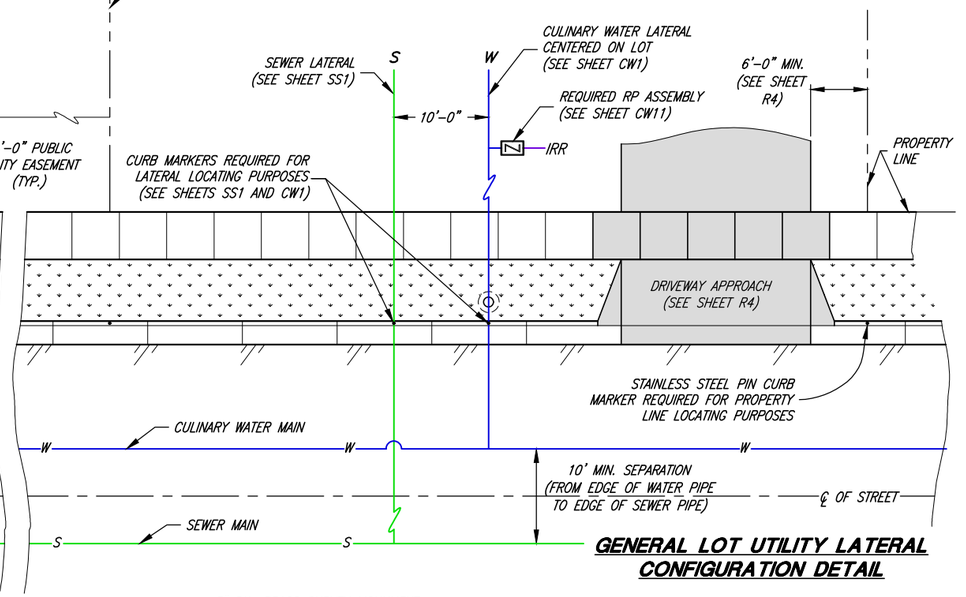
MAILBOX/CBU NOTES:

A1. MAILBOXES SHALL NOT BE PLACED IN THE SIDEWALK. NO MAILBOX OR CBU EDGES SHALL EXTEND PAST THE T.B.C..

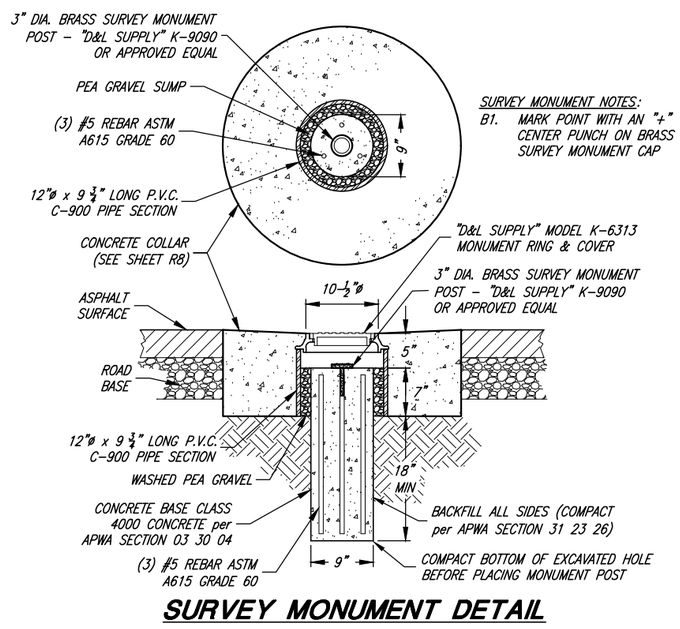
A2. PRIOR TO INSTALLATION, CONTACT THE LOCAL POSTMASTER FOR MAILBOX/CBU LOCATION APPROVAL.

A3. FOLLOW USPS GUIDELINES & POLICIES FOR THE PLACEMENT, INSTALLATION, AND ACCESS REQUIREMENTS FOR ALL MAILBOX AND CBU UNITS.

A4. INDIVIDUAL MAILBOXES SHALL ONLY BE PERMITTED FOR SINGLE FAMILY HOMES BUILT IN SUBDIVISIONS WITH EXISTING SINGLE MAILBOXES.



GENERAL LOT UTILITY LATERAL CONFIGURATION DETAIL



SURVEY MONUMENT NOTES:

B1. MARK POINT WITH AN "+" CENTER PUNCH ON BRASS SURVEY MONUMENT CAP

SURVEY MONUMENT DETAIL

CITY ENGINEER	REV.	DATE	APPR.	SCALE: N.T.S.	CLEARFIELD CITY CORPORATION PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS TYPICAL STREET INTERSECTION, UTILITY LATERAL CONFIGURATION, AND STREET MONUMENT DETAILS
3/8/2024 DATE					SHEET: R2 OF X SHEETS 0

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South Ogden, Utah 84403 (801) 476-9767
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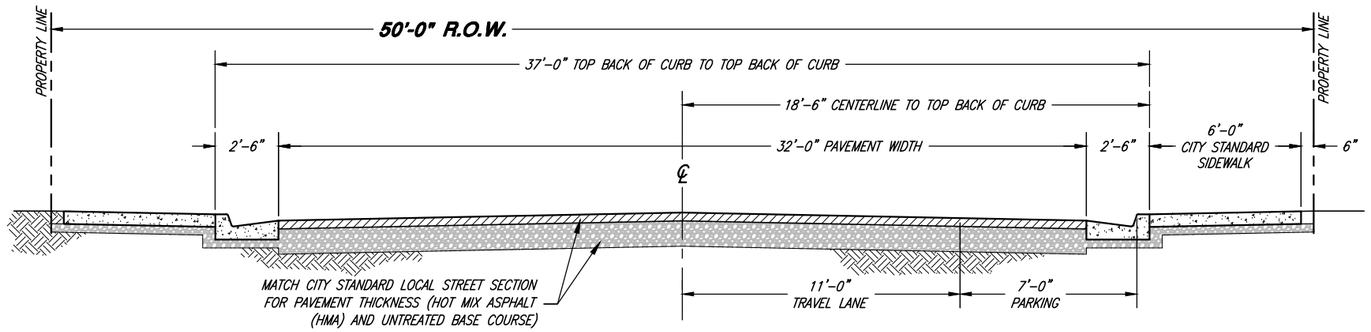
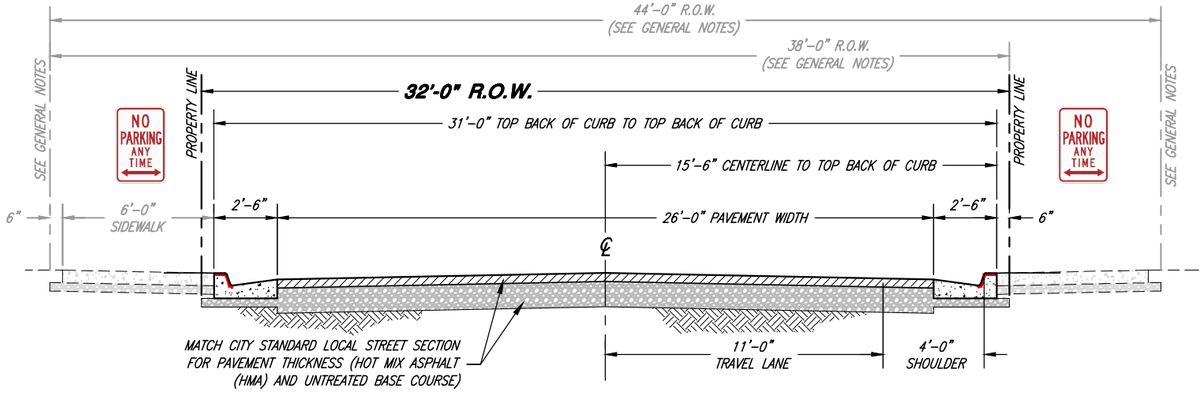
Clearfield City Public Works



50' RIGHT-OF-WAY
PRIVATE ROADWAY STREET SECTION A



32' RIGHT-OF-WAY
PRIVATE ROADWAY STREET SECTION B

GENERAL NOTES:

1. SIDEWALK OR PEDESTRIAN PATH MUST BE MADE AVAILABLE ON THE FRONT FACADE OF RESIDENCE AND CONNECT TO A PUBLIC RIGHT-OF-WAY WITHOUT HAVING TO CROSS A ROAD.
2. IF THE NUMBER OF AND SPACING REQUIRED FOR UTILITIES CANNOT FIT WITHIN THE PAVEMENT WIDTH, THEN THE PAVEMENT WIDTH AND R.O.W. MUST BE WIDENED TO ACCOMMODATE THE UTILITIES.

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

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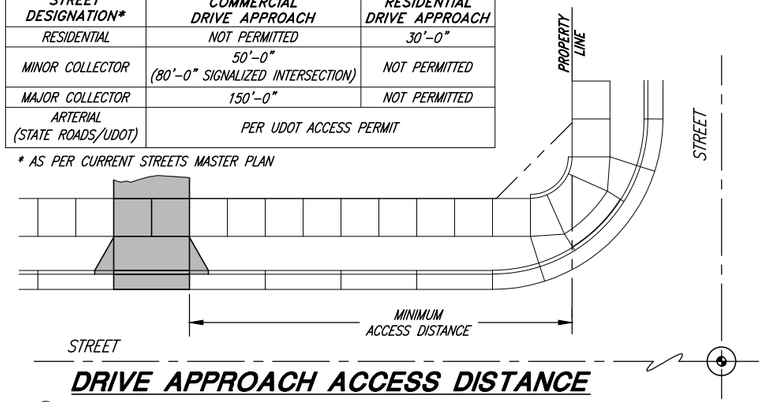
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS
PRIVATE ROADWAY STREET CROSS SECTION DETAILS

SHEET: R3
OF X SHEETS
0

HIGHEST CAPACITY STREET DESIGNATION*	MINIMUM ACCESS DISTANCE (FEET)	
	COMMERCIAL DRIVE APPROACH	RESIDENTIAL DRIVE APPROACH
RESIDENTIAL	NOT PERMITTED	30'–0"
MINOR COLLECTOR	50'–0" (80'–0" SIGNALIZED INTERSECTION)	NOT PERMITTED
MAJOR COLLECTOR	150'–0"	NOT PERMITTED
ARTERIAL (STATE ROADS/UDOT)	PER UDOT ACCESS PERMIT	

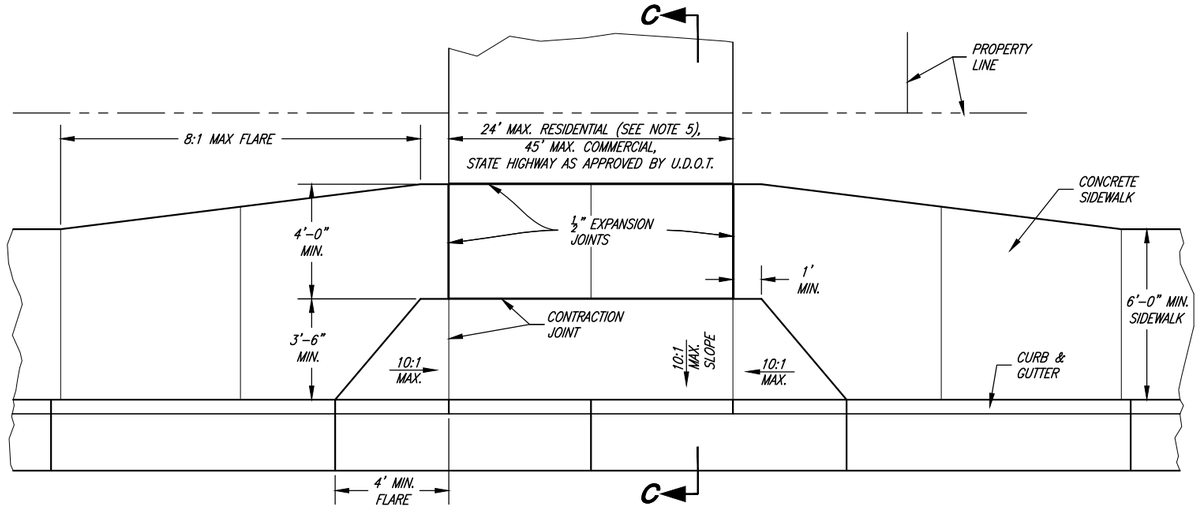
* AS PER CURRENT STREETS MASTER PLAN



DRIVE APPROACH ACCESS DISTANCE

(A) THE MINIMUM ACCESS DISTANCE (DRIVE APPROACH TO THE NEAREST CONNECTING STREET PROPERTY LINE) SHALL BE AS DESCRIBED IN THE DETAIL AND TABLE ABOVE.

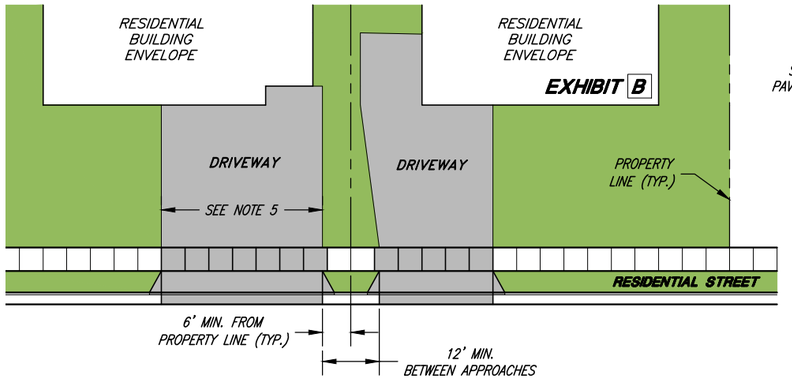
(B) THE ABOVE DISTANCES SHALL BE CONSIDERED AS CITY MINIMUMS. DESIGNER AND/OR DEVELOPER MAY SUBMIT AN ALTERNATE DESIGN BASED ON A DETAILED TRAFFIC STUDY FOR APPROVAL BY THE CITY.

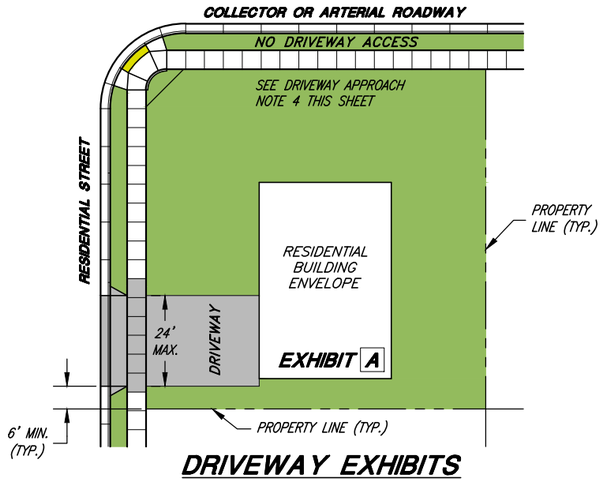


DRIVEWAY APPROACH W/ ADJACENT SIDEWALK

DRIVEWAY APPROACH NOTES:

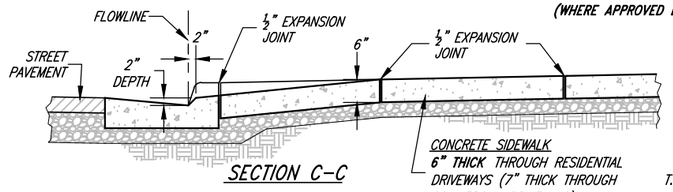
1. IN NEW DEVELOPMENTS WHERE FUTURE DRIVEWAY LOCATIONS ARE UNKNOWN, THE DRIVEWAY APPROACH SHALL BE MADE BY SAW CUTTING THE BACK OF THE EXISTING CURB TO THE REQUIRED DRIVEWAY WIDTH. ALL SAW CUTTING SHALL BE ACCOMPLISHED BY A CITY APPROVED LICENSED CONTRACTOR.
2. SCORE SIDEWALK 1/4 OF SIDEWALK THICKNESS AT EACH 5'–0" OR 6'–0" SECTION. EXPANSION JOINTS AT EACH 50'–0" (5'–0" SIDEWALK) OR 48'–0" (6'–0" SIDEWALK).
4. APPROACHES SHALL NOT BE ALLOWED ON CORNER LOTS WITHIN THE CLEAR VIEW AREA. (SEE CLEAR VIEW DETAIL THIS SHEET)
5. IF A RESIDENTIAL LOT HAS TWO FRONTAGES AND ONE OF THOSE FRONTAGES IS LOCATED ON A COLLECTOR OR ARTERIAL STREET, THE DRIVEWAY SHALL BE LOCATED ON THE RESIDENTIAL STREET ONLY. NO DRIVEWAY ACCESS WILL BE PERMITTED ONTO THE COLLECTOR OR ARTERIAL STREET. (SEE DRIVEWAY EXHIBIT A)
6. WHEN APPROVED BY THE CITY, THE RESIDENTIAL DRIVEWAY MAY BE INCREASED TO A MAX. 34'–0" WIDTH FOR ACCESSORY PARKING (THREE CAR GARAGE, RV PARKING, ETC.). APPROVAL WILL BE CONSIDERED ON A CASE BY CASE BASIS PER PROPERTY SETBACKS, DRIVE APPROACH CLEAR VIEW AREA, AND CITY CODE.



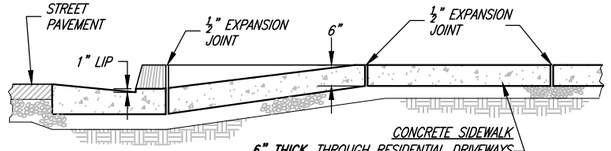


DRIVEWAY EXHIBITS

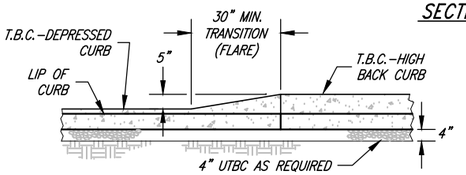
STANDARD WHEN SIDEWALK INSTALLED BACK OF CURB (WHERE APPROVED BY THE CITY)



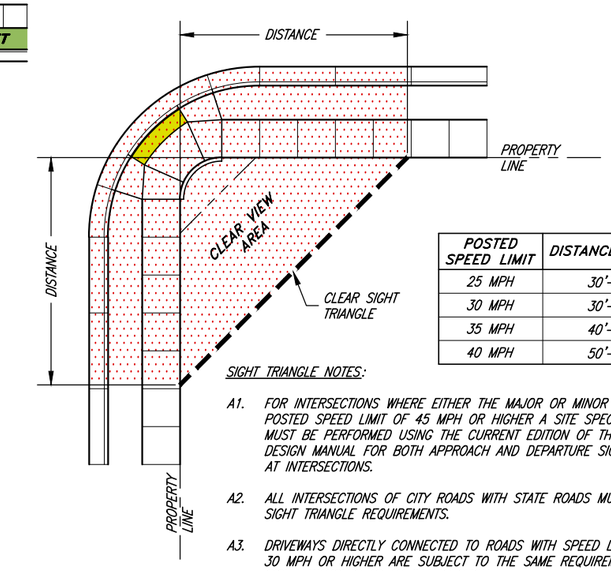
SECTION C–C



SECTION A–A



SECTION B–B



POSTED SPEED LIMIT	DISTANCE (MIN.)
25 MPH	30'–0"
30 MPH	30'–0"
35 MPH	40'–0"
40 MPH	50'–0"

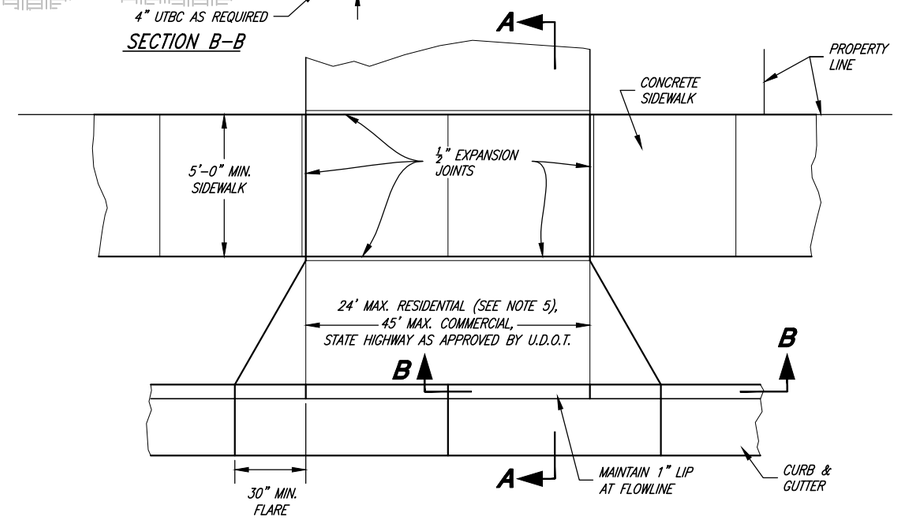
SIGHT TRIANGLE NOTES:

A1. FOR INTERSECTIONS WHERE EITHER THE MAJOR OR MINOR ROAD HAS A POSTED SPEED LIMIT OF 45 MPH OR HIGHER A SITE SPECIFIC ANALYSIS MUST BE PERFORMED USING THE CURRENT EDITION OF THE AASHTO DESIGN MANUAL FOR BOTH APPROACH AND DEPARTURE SIGHT TRIANGLES AT INTERSECTIONS.

A2. ALL INTERSECTIONS OF CITY ROADS WITH STATE ROADS MUST MEET UDOT SIGHT TRIANGLE REQUIREMENTS.

A3. DRIVEWAYS DIRECTLY CONNECTED TO ROADS WITH SPEED LIMITS OF 30 MPH OR HIGHER ARE SUBJECT TO THE SAME REQUIREMENTS FOR SIGHT TRIANGLES AS AN INTERSECTION.

INTERSECTION SIGHT TRIANGLES



DRIVEWAY APPROACH W/ PARK STRIP

DROP DOWN STYLE (CITY STANDARD)

CITY ENGINEER				SCALE:	CONSULTING ENGINEERS
3/8/2024				N.T.S.	6080 Fashion Point Drive
DATE	REV.	DATE	APPR.		South Ogden, Utah 84403 (801) 476–9767
					www.jonescivil.com

JONES & ASSOCIATES

Clearfield City Public Works

CLEARFIELD CITY CORPORATION

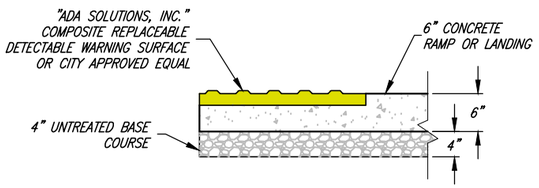
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS

TYPICAL DRIVE APPROACH DETAILS

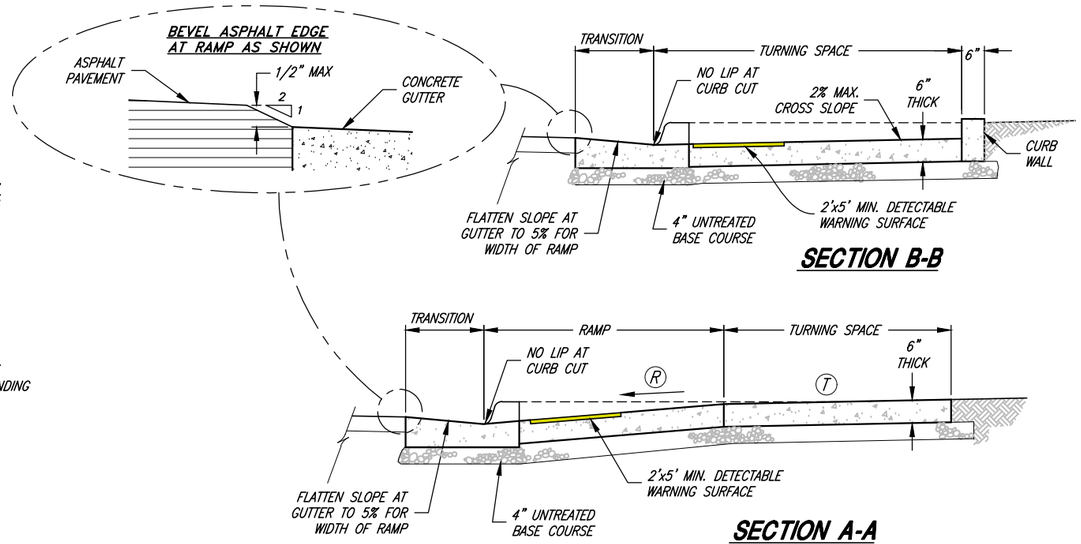
SHEET: R4 OF X SHEETS 0

DETECTABLE WARNING SURFACE NOTES:

1. LOCATE THE DETECTABLE WARNING SURFACE SO THE OUTSIDE CORNER NEAREST THE STREET IS WITHIN 1 INCH OF THE BACK OF CURB (T.B.C.). PROVIDE 2'-0" MINIMUM DEPTH.
2. PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF CURB CUT.
3. THE DETECTABLE WARNING SURFACE DOMES SHALL BE ORIENTED SUCH THAT THE ROWS ARE PARALLEL WITH THE DIRECTION OF PEDESTRIAN TRAVEL TO THE RAMP ON THE OPPOSITE SIDE OF THE STREET.
4. THE STANDARD COLOR FOR THE DETECTABLE WARNING SURFACE SHALL BE YELLOW OR PRE-APPROVED CONTRASTING COLOR. WHEN THE EXISTING SIDEWALK COLOR IS NOT STANDARD CONCRETE, THE COLOR OF THE DETECTABLE WARNING SURFACE SHALL BE DETERMINED BY THE CITY.
5. WHEN A DETECTABLE WARNING SURFACE DOME IS CUT, THE REMAINING PORTION OF THE DOME SHALL BE BEVELED TO A MAXIMUM SLOPE OF 1:2.



DETECTABLE WARNING SURFACE DETAIL



ADA RAMP NOTES:

A. WHERE DESIGNATED BY THE CITY, ALTERNATE UDOT OR APWA RAMP DESIGNS MAY BE USED WITH PRIOR APPROVAL OF THE CITY. SUBMIT ENGINEERED CONSTRUCTION PLANS TO CITY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.

B. SITE CONDITIONS WILL VARY. CONFIGURATION OF RAMP, LANDING, AND TRANSITION MAY BE CHANGED, BUT THEY MUST MEET DIMENSIONS AND SLOPES AS SHOWN IN THE MOST RECENT EDITION OF THE U.D.O.T. STANDARDS & SPECIFICATIONS. THE USE OF FLARES, CURB WALLS, ETC. ARE AT THE DISCRETION OF THE ENGINEER.

C. LOCATE CURB CUT WITHIN CROSSWALK.

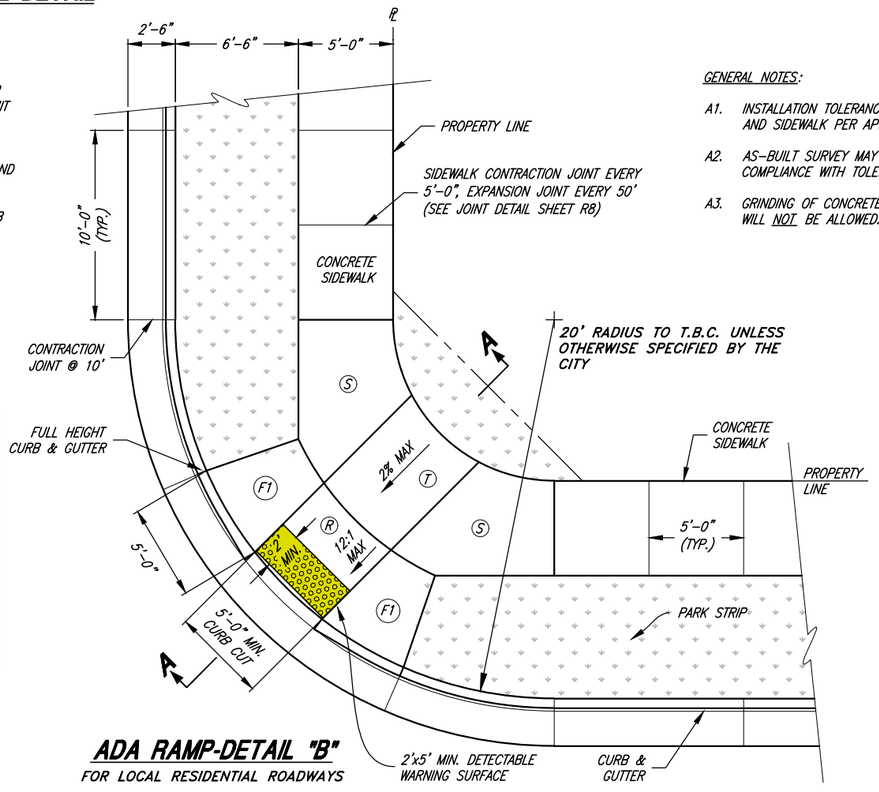
D. RAMP GRADE BREAK MUST BE PERPENDICULAR TO THE RUNNING SLOPE.

SLOPE TABLE			
	ITEM	MAX RUNNING SLOPE*	MAX. CROSS SLOPE*
T	TURNING SPACE [2]	2% (1V:48H)	2% (1V:48H)
R	RAMP	8.3% (1V:12H)	2% (1V:48H)
S	SIDEWALK	5% (1:20) [1]	2% (1V:48H)
F1	TRAVERSABLE SURFACE	10% (1V:10H)	--
F2	NON-TRAVERSABLE SURFACE	25% (1V:4H)	--
B	BLENDED TRANSITION	5% (1V:20H) 2% MIN.	2% (1V:48H)

* RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL. CROSS SLOPE IS PERPENDICULAR TO PEDESTRIAN TRAVEL.

[1] 5% MAX OR NATURAL SLOPE OF LAND

[2] NOT TO EXCEED 2% IN ANY DIRECTION



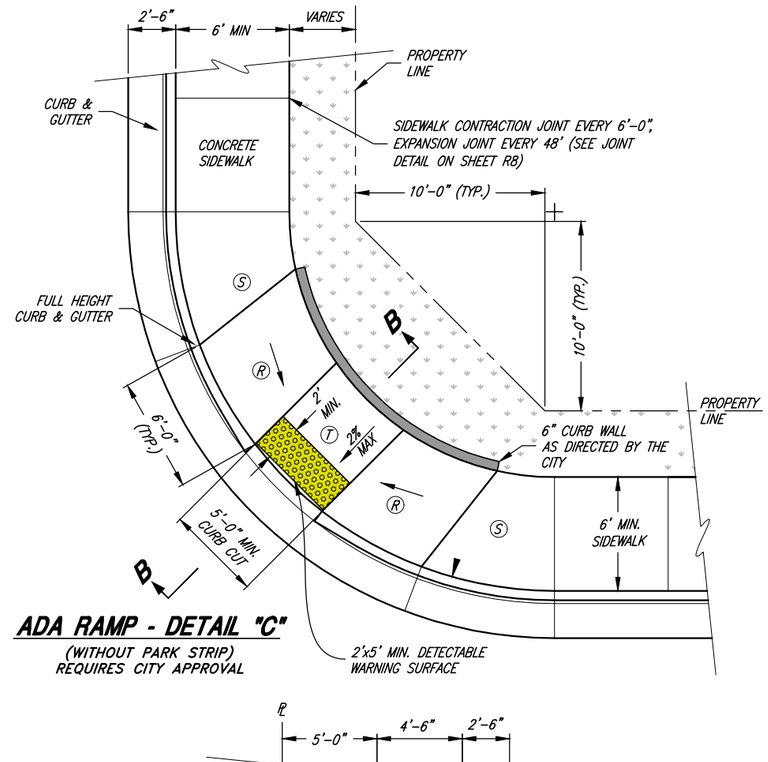
ADA RAMP-DETAIL "B"
FOR LOCAL RESIDENTIAL ROADWAYS

GENERAL NOTES:

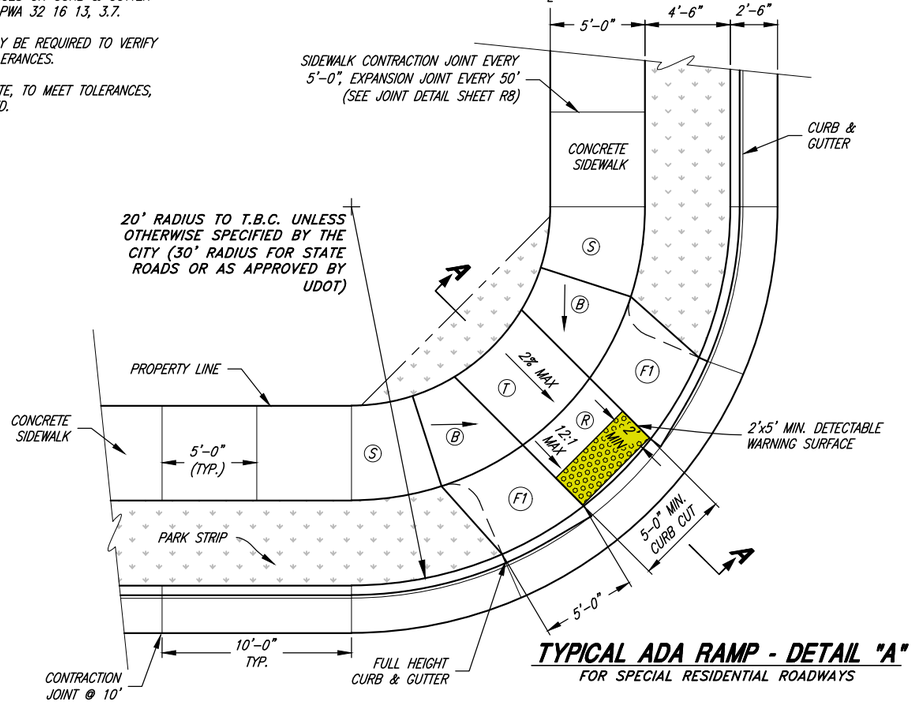
A1. INSTALLATION TOLERANCES ON CURB & GUTTER AND SIDEWALK PER APWA 32 16 13, 3.7.

A2. AS-BUILT SURVEY MAY BE REQUIRED TO VERIFY COMPLIANCE WITH TOLERANCES.

A3. GRINDING OF CONCRETE, TO MEET TOLERANCES, WILL NOT BE ALLOWED.



ADA RAMP - DETAIL "C"
(WITHOUT PARK STRIP)
REQUIRES CITY APPROVAL



TYPICAL ADA RAMP - DETAIL "A"
FOR SPECIAL RESIDENTIAL ROADWAYS

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

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6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767
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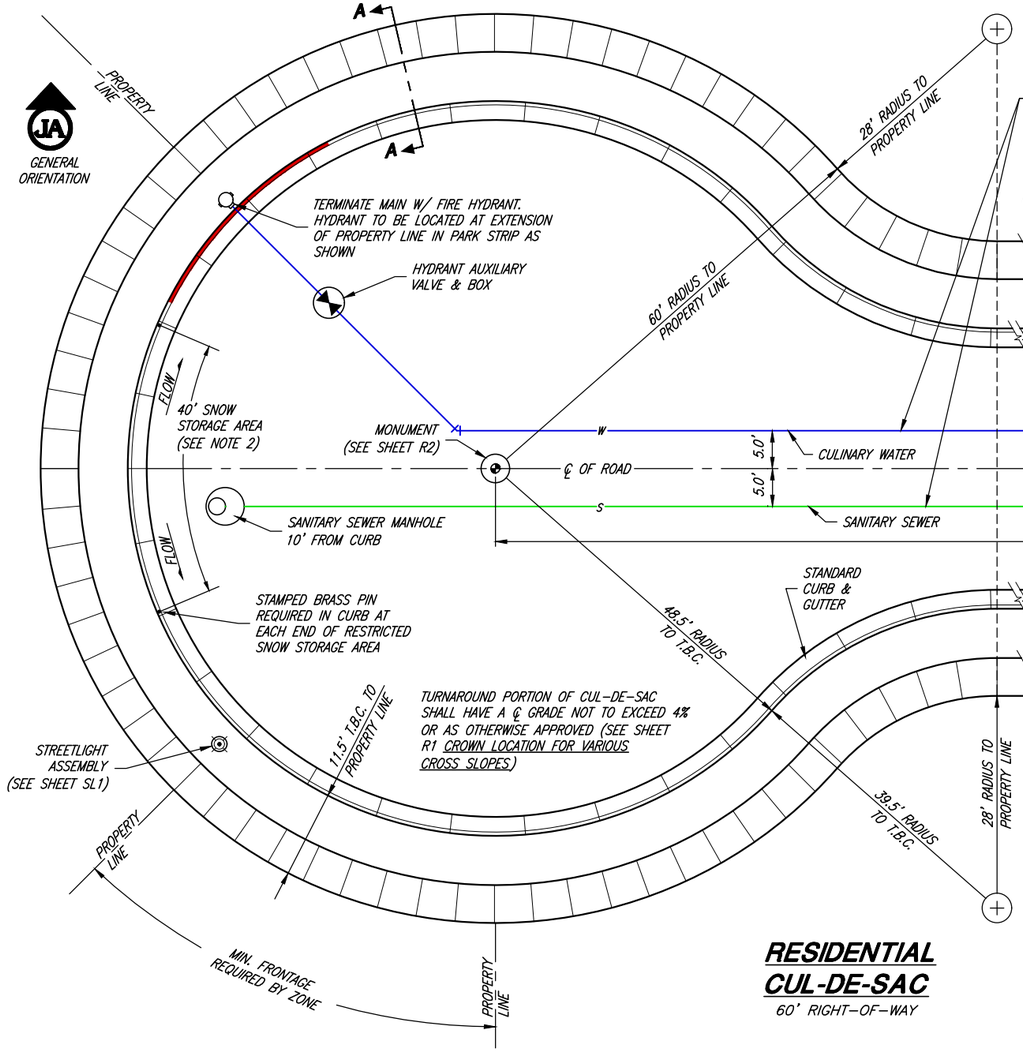
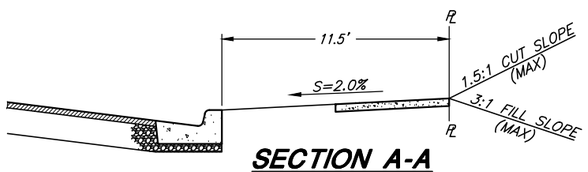
CLEARFIELD CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS
TYPICAL ADA RAMP DETAILS

SHEET: R5
OF X SHEETS
0



RESIDENTIAL CUL-DE-SAC

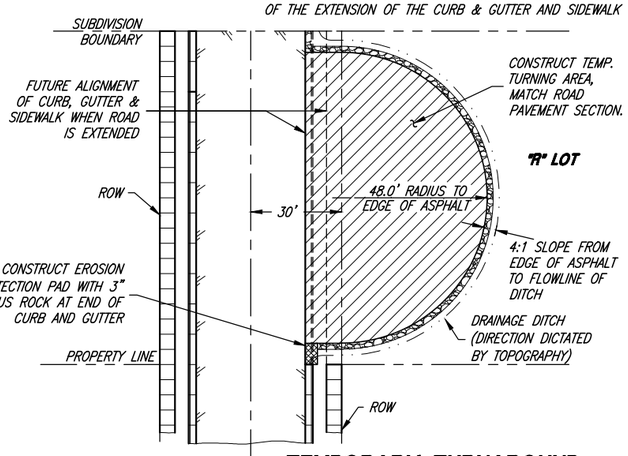
60' RIGHT-OF-WAY



SECTION A-A

REQUIRED GRADING BETWEEN T.B.C. AND PROPERTY LINE

NOTE: DEVELOPER EXTENDING THE ROAD IS REQUIRED TO PAY FOR THE REMOVAL OF THE CIRCLE AND CONSTRUCTION OF THE EXTENSION OF THE CURB & GUTTER AND SIDEWALK



TEMPORARY TURNAROUND

(FOR INSIDE SUBDIVISION BOUNDARY TO BE MAINTAINED BY PROPERTY OWNER)

CITY STANDARD TEMPORARY TURNAROUND

(FOR OUTSIDE OF SUBDIVISION BOUNDARY AND TO BE MAINTAINED BY PROPERTY OR EASEMENT OWNER)

GENERAL NOTES:

1. THE CIRCULAR CUL-DE-SAC LAYOUT ON THIS SHEET IS THE CITY STANDARD DESIGN. OTHER ALTERNATE DESIGNS MAY BE CONSIDERED AS APPROVED BY THE CITY.
2. NO DRIVEWAYS, FIRE HYDRANTS, OR MAIL BOXES ARE PERMITTED WITHIN THE SNOW STORAGE AREA. THE SNOW STORAGE AREA SHALL BE SHOWN ON THE IMPROVEMENT AND/OR CONSTRUCTION PLANS PRIOR TO SUBDIVISION AND/OR CUL-DE-SAC APPROVAL.

TURNAROUND NOTES:

A. THE DRAINAGE DITCH SHALL HAVE A 4 HORZ. TO 1 VERT. (4:1) SIDE SLOPE FROM THE EDGE OF GRAVEL TO THE FLOW LINE OF DITCH.

B. DRAINAGE DITCH MUST HAVE A MIN. GRADE OF 0.5%.

CITY ENGINEER

3/8/2024

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Clearfield City Public Works

CLEARFIELD CITY CORPORATION

PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS

CUL-DE-SAC & TEMPORARY TURNAROUND DETAILS

SHEET: R6

OF X SHEETS

0

STREET SIGN NOTES:

A. STREET SIGN BACKGROUND SHALL BE REGULATORY GREEN, BOTH STREET AND TRAFFIC SIGNS SHALL BE AT THE VERY LEAST HIGH INTENSITY REFLECTIVE SHEETING (9FP-85 TYPE IIIA)

B. LEGEND SHALL BE WHITE LETTERS (FONT: HIGHWAY C), HIGH INTENSITY REFLECTIVE SHEETING (9FP-85 IIIA)

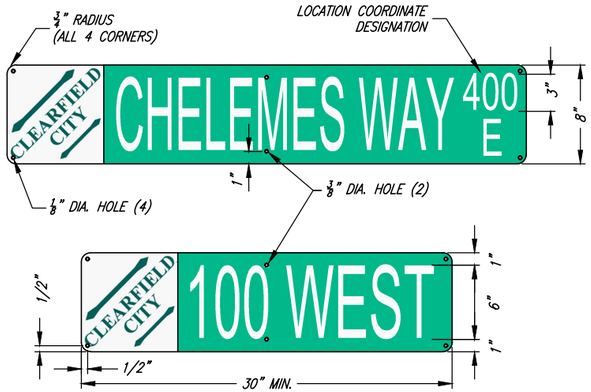
C. SIGN BLANK SHALL BE 6081-T6 HEAT TREATED HIGH TENSILE DEGREASED ALUMINUM W/ ALODINE 1200 FINISH-THICKNESS SHALL BE 0.08"

D. EACH SIGN SHALL CONSIST OF TWO PLATES RIVETED TOGETHER & MOUNTED AS SHOWN

E. SIGNS ON PRIVATE ROADS SHALL MEET ALL SPECIFICATIONS FOR STANDARD SIGNS, EXCEPT BACKGROUND SHALL BE BLUE (PRIVATE SIGNS WILL NOT BE MAINTAINED BY THE CITY.)

F. ALL STREETS WITH NAMES MUST ALSO SHOW COORDINATE DESIGNATION

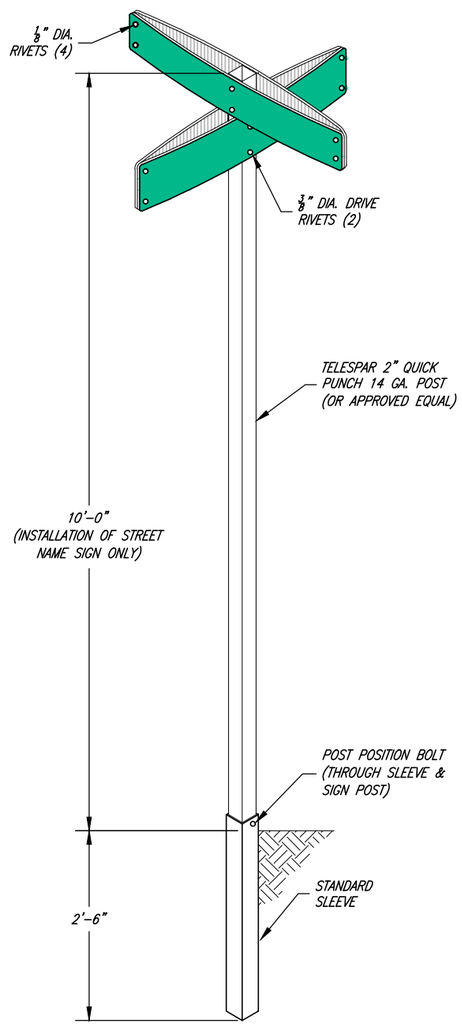
G. ALL SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"



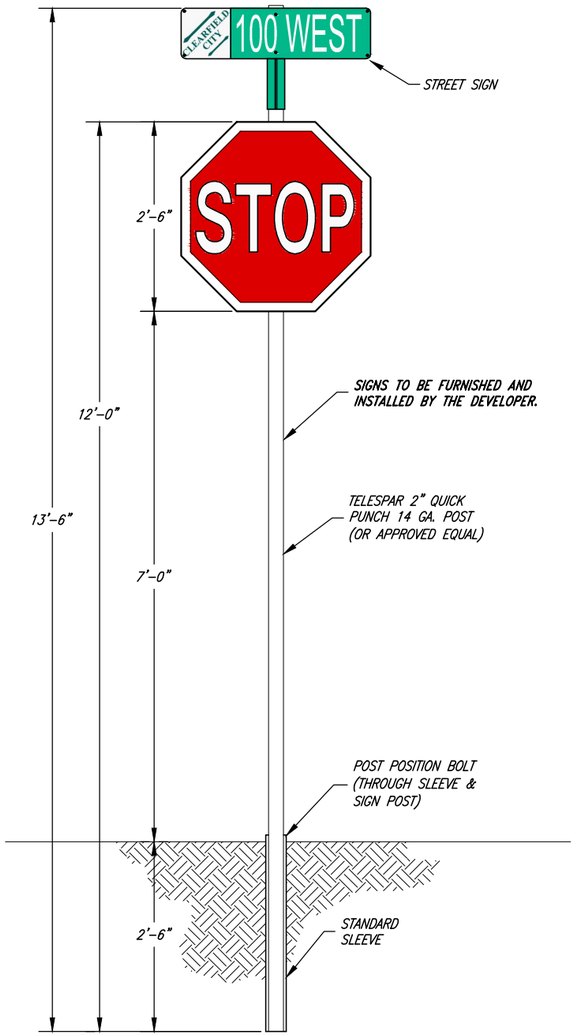
CITY STANDARD PLATE DETAIL

PRIVATE ROAD PLATE DETAIL

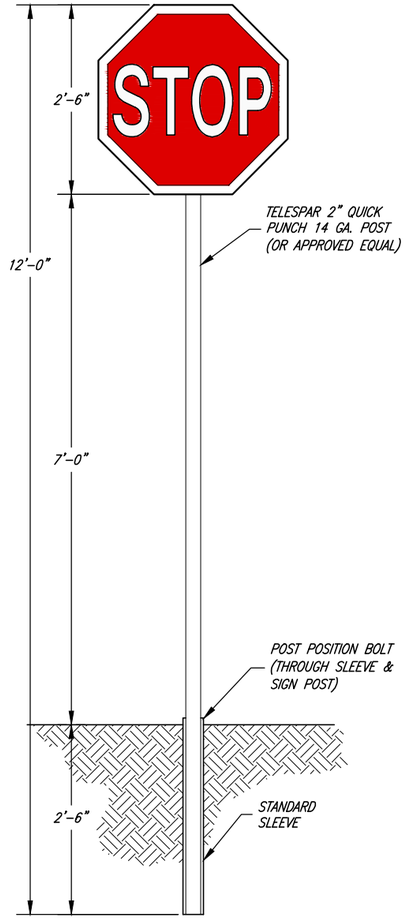
(SEE STREET SIGN NOTE E THIS SHEET)



STREET SIGN & POST



STREET / TRAFFIC SIGN & POST



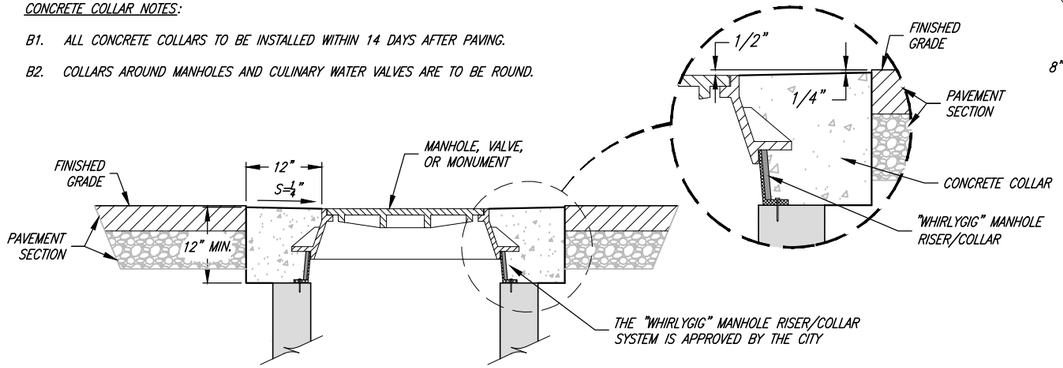
TRAFFIC SIGN & POST

CITY ENGINEER 3/8/2024 DATE	REV.	DATE	APPR.	SCALE: N.T.S.	JONES & ASSOCIATES CONSULTING ENGINEERS 6080 Fashion Point Drive South Ogden, Utah 84403 (801) 476-9767 www.jonescivil.com	Clearfield City Public Works	CLEARFIELD CITY CORPORATION PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS STREET SIGN DETAILS	SHEET: R7 OF X SHEETS 0

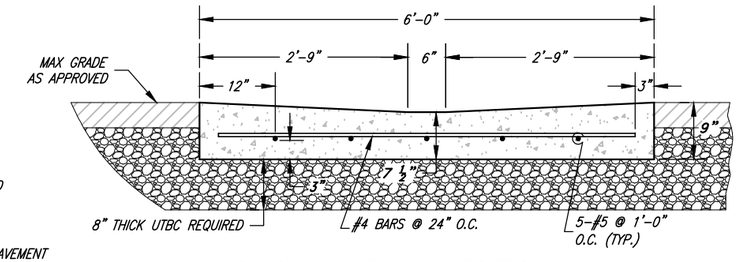
CONCRETE COLLAR NOTES:

B1. ALL CONCRETE COLLARS TO BE INSTALLED WITHIN 14 DAYS AFTER PAVING.

B2. COLLARS AROUND MANHOLES AND CULINARY WATER VALVES ARE TO BE ROUND.

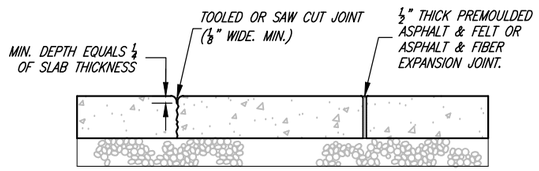


CONCRETE COLLAR DETAIL



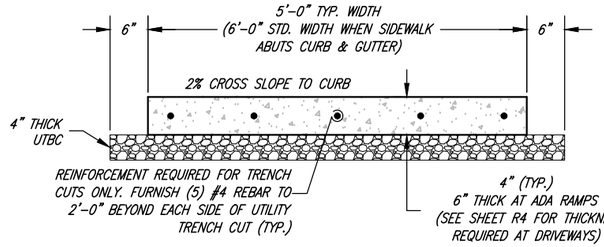
CROSS DRAIN SECTION

(FOR REPLACEMENTS ONLY – NO NEW CONSTRUCTION)



CONTRACTION JOINT (CRACK CONTROL JOINT) **EXPANSION JOINT**

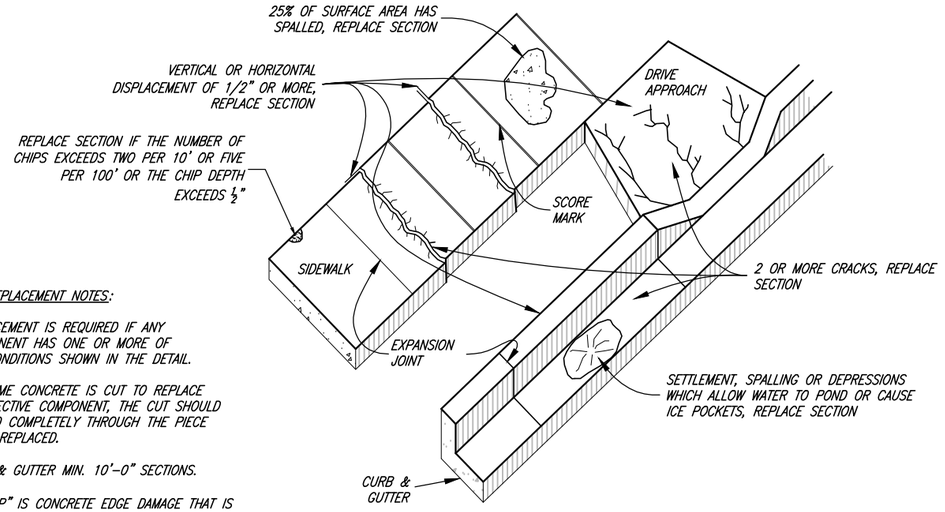
JOINT DETAIL



SIDEWALK SECTION

(CITY STANDARD)

SIDEWALK NOTE:
WHEN REPLACING EXISTING SIDEWALK, MATCH THE EXISTING SIDEWALK WIDTH UNLESS OTHERWISE DIRECTED BY THE CITY.



DEFECTIVE CONCRETE REPLACEMENT CRITERIA

CONCRETE REPLACEMENT NOTES:

A. REPLACEMENT IS REQUIRED IF ANY COMPONENT HAS ONE OR MORE OF THE CONDITIONS SHOWN IN THE DETAIL.

B. ANY TIME CONCRETE IS CUT TO REPLACE A DEFECTIVE COMPONENT, THE CUT SHOULD EXTEND COMPLETELY THROUGH THE PIECE BEING REPLACED.

C. CURB & GUTTER MIN. 10'–0" SECTIONS.

D. A "CHIP" IS CONCRETE EDGE DAMAGE THAT IS DEEPER THAN ¼" AND LARGER THAN 2" DIA.

GENERAL NOTES:

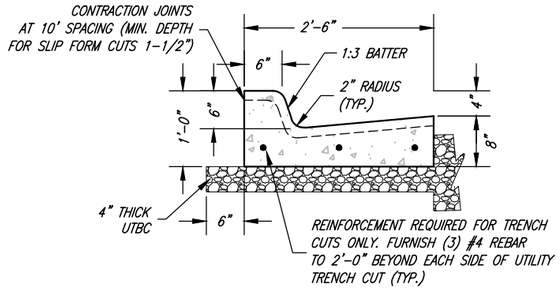
A1. INSTALLATION TOLERANCES ON CURB & GUTTER AND SIDEWALK PER APWA 32 16 13, 3.7.

A2. AS–BUILT SURVEY MAY BE REQUIRED TO VERIFY COMPLIANCE WITH TOLERANCES.

A3. GRINDING OF CONCRETE, TO MEET TOLERANCES, WILL NOT BE ALLOWED.

A4. CONCRETE CLASS: WHEN NOT SPECIFIED IN THE PLANS OR PROJECT SPECIFICATION, USE THE FOLLOWING TABLE TO SELECT THE CLASS OF CONCRETE REQUIRED FOR THE APPLICATION.

CONCRETE CLASS	APPLICATION
5,000	REINFORCED STRUCTURAL CONCRETE
4,000	SIDEWALKS, CURB, GUTTER, CROSS GUTTERS, WATERWAYS, PAVEMENTS, AND UNREINFORCED FOOTINGS AND FOUNDATIONS
3,000	THRUST BLOCKS
2,000	ANCHORS, MASS CONCRETE



CURB & GUTTER SECTION

(CITY STANDARD)

CURB & GUTTER NOTES:

1. WHEN REPLACING CURB DUE TO CONSTRUCTION ACTIVITY, NEW CURB MUST EXTEND 5' MIN. PAST TRENCH ON EACH SIDE.
2. CONCRETE CURB TO BE CONSTRUCTED USING SLIPFORMS, HAND FORMED OR STATIONARY FORMS ARE ONLY ALLOWED FOR CURB TIE–INS.
3. THE SLOPE FOR CURB & GUTTER MUST BE A MINIMUM OF 0.5%.

CITY ENGINEER

3/8/2024

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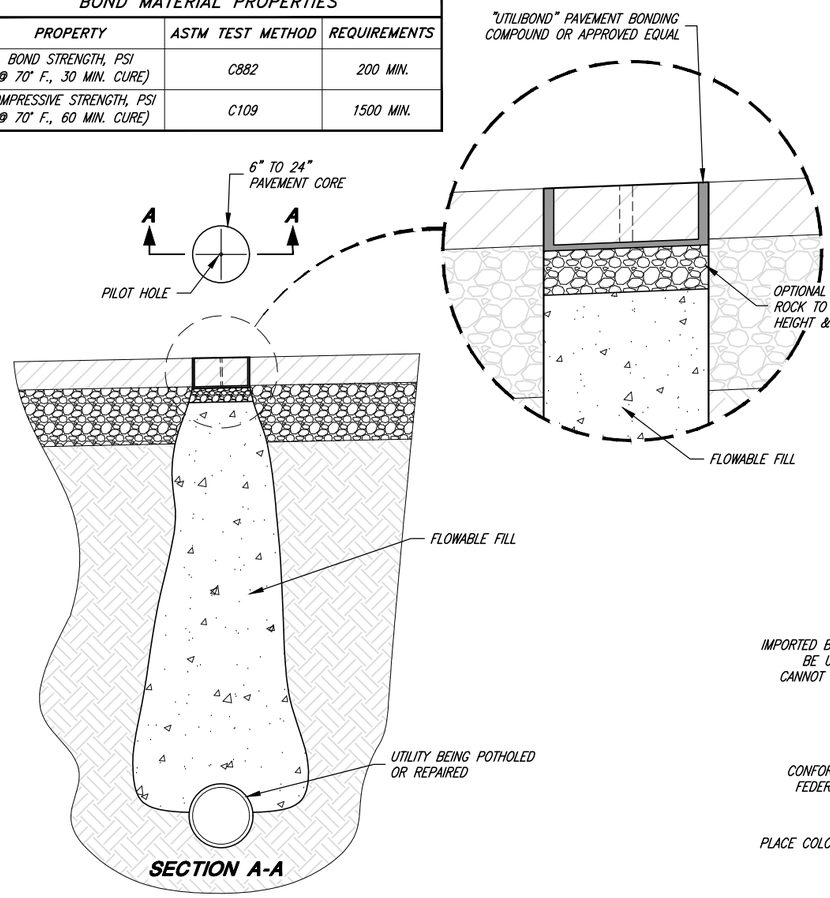
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS

TYPICAL SIDEWALK, CURB & GUTTER, CONCRETE COLLAR, AND DEFECTIVE CONC. REPLACEMENT DETAILS

SHEET: R8 OF X SHEETS

0

BOND MATERIAL PROPERTIES		
PROPERTY	ASTM TEST METHOD	REQUIREMENTS
BOND STRENGTH, PSI (@ 70° F., 30 MIN. CURE)	C882	200 MIN.
COMPRESSIVE STRENGTH, PSI (@ 70° F., 60 MIN. CURE)	C109	1500 MIN.



UTILITY POTHOLING DETAIL

KEYHOLE METHOD

UTILITY POTHOLE NOTES:

A1. CONTRACTOR SHALL PLACE A TEMPORARY PAINT MARK ON THE PAVEMENT TO ASSURE CORE IS REPLACED IN THE SAME ORIENTATION.

A2. CORING SHALL BE COMPLETED PERPENDICULAR TO THE HORIZON (NOT THE PAVEMENT), AND SHALL EXTEND THE FULL ASPHALT DEPTH. CORING SHALL BE COMPLETED USING A KEYHOLE CORING SAW CAPABLE OF REMOVING AN INTACT CORE OF PAVEMENT.

A3. CORES SHALL NOT BE LESS THAN 6 INCHES IN DIAMETER AND NO MORE THAN 24 INCHES IN DIAMETER.

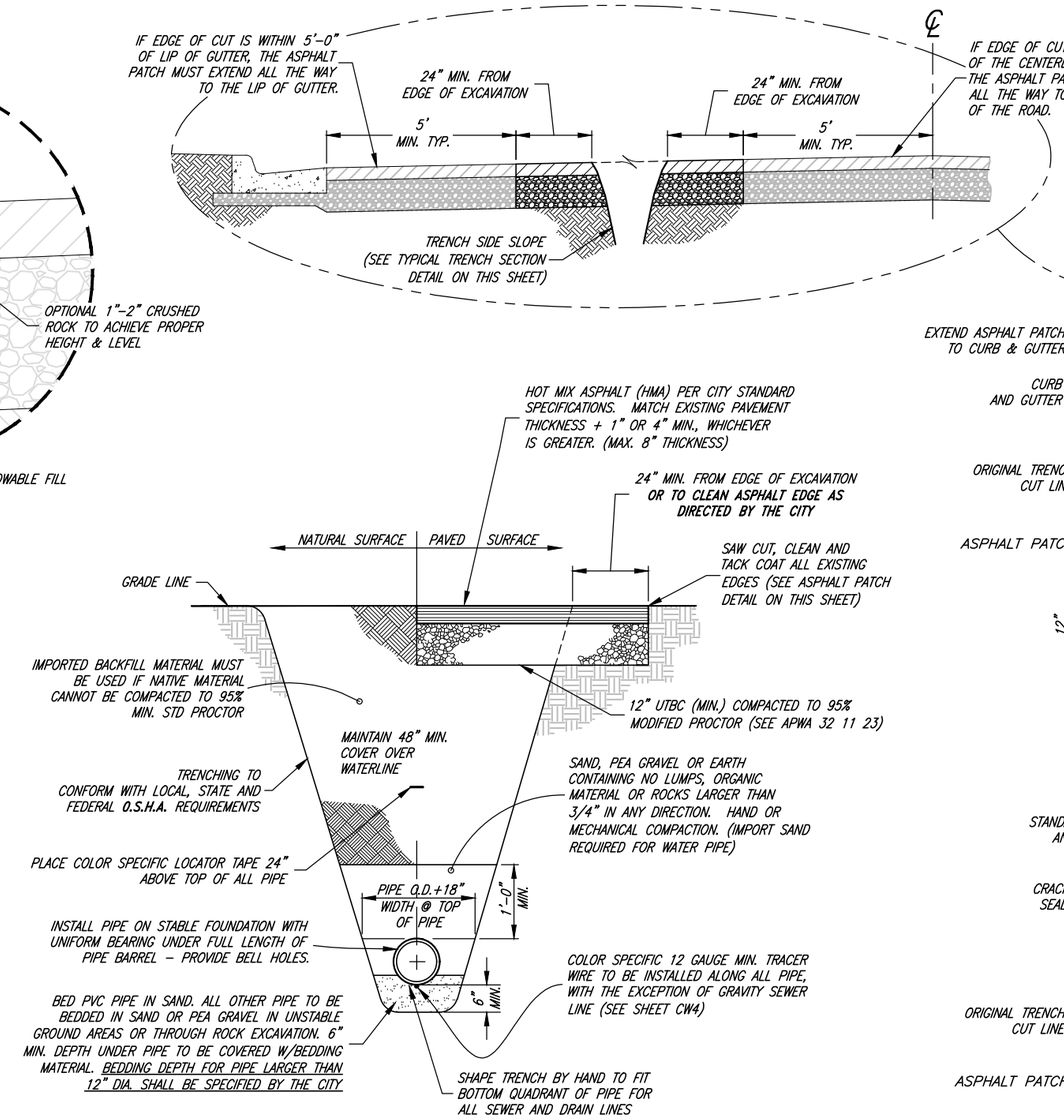
A4. SOIL SHALL BE REMOVED USING AIR/VACUUM EXTRACTION METHODS AND DISPOSED PROPERLY OFF SITE.

A5. FLOWABLE FILL SHALL BE USED TO BACKFILL THE HOLE TO WITHIN ONE TO TWO INCHES OF THE BOTTOM OF THE EXISTING PAVEMENT.

A6. COMPACTED GRAVEL IF NECESSARY SHALL BE USED TO BRING THE POTHOLE TO THE BOTTOM OF PAVEMENT GRADE. THE TEMPORARY PAINT MARK SHALL BE USED TO ALIGN THE CORE TO ITS ORIGINAL POSITION AND THE GRAVEL SHALL BE USED TO LEVEL THE CORE SO THE FINISH GRADE IS FLUSH WITH THE SURROUNDING ASPHALT.

A7. PAVEMENT BONDING COMPOUND SHALL BE USED TO RESTORE THE CORE TO ITS ORIGINAL CONDITION COMPLETELY FLUSH WITH THE SURROUNDING ASPHALT. THE COMPOUND SHALL BE POURED IN THE POTHOLE AND THE CORE PLACE IN AFTER CAUSING THE PAVEMENT BONDING COMPOUND TO FLOW TO THE SURFACE. ALL EXCESS BONDING AGENT SHALL BE REMOVED.

A8. CORES SHALL BE ALLOWED TO CURE PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO OPENING TO TRAFFIC.



TYPICAL TRENCH SECTION

(WATER, SEWER, AND STORM DRAIN)

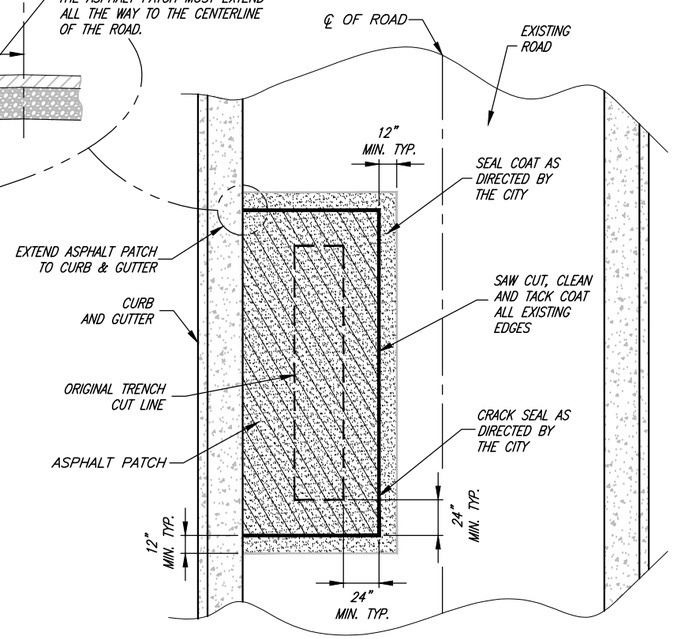
TRENCH NOTES:

A. BACKFILL PER APWA 33 05 20

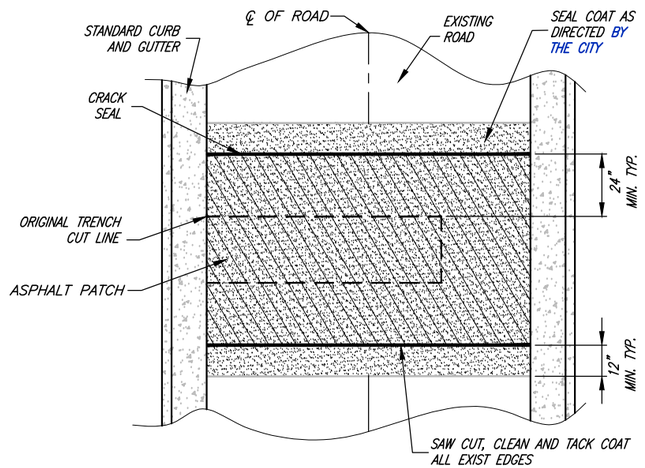
B. PAVEMENT RESTORATION PER APWA 33 05 25 AND CITY MODIFICATIONS.

C. GRAVEL SURFACED AREAS, SUCH AS ROADS AND SHOULDERS, PARKING AREAS, AND UNPAVED DRIVEWAYS, SHALL BE REPAIRED WITH 8" THICK (MIN.) 1" UNTREATED BASE COURSE COMPACTED TO 95% MODIFIED PROCTOR.

D. WATER & SEWER LINES, INCLUDING SERVICE LINES, SHALL NOT BE INSTALLED IN THE SAME TRENCH.



TYPICAL PARALLEL ASPHALT PATCH PLAN



TYPICAL HORIZONTAL ASPHALT PATCH PLAN

ASPHALT PATCH NOTE:

1. ON ANY ROAD PAVED OR OVERLAYED WITHIN THE LAST 10 YEARS, THE PATCH MUST BE COMPLETED PER APWA PLAN 255 BITUMINOUS PAVEMENT T-PATCH. (SEE SHEET R10)

2. NO ANGLED ASPHALT PATCHING ALLOWED.

CITY ENGINEER

3/8/2024

DATE

REV.	DATE	APPR.

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Clearfield City Public Works

CLEARFIELD CITY CORPORATION

PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS

UTILITY TRENCH, UTILITY POTHOLING, AND ASPHALT PATCH PLAN DETAILS

SHEET: R9

OF X SHEETS

0

BITUMINOUS PAVEMENT T-PATCH NOTES:

1. GENERAL:

A. VERTICAL CUTS IN BITUMINOUS PAVEMENT MAY BE DONE BY SAW OR PAVEMENT ZIPPING. IF CUTS GREATER THAN 6 INCHES ARE NECESSARY TO PREVENT PAVEMENT "BREAK OFF" CONSULT CITY ENGINEER FOR DIRECTION ON HANDLING ADDITIONAL COSTS.

B. REPAIR A T-PATCH RESTORATION IF ANY OF THE FOLLOWING CONDITIONS OCCUR PRIOR TO FINAL PAYMENT OR AT THE END OF THE ONE YEAR CORRECTION PERIOD:

1) PAVEMENT SURFACE DISTORTION EXCEEDS 1/4-INCH DEVIATION IN 10 FEET.
REPAIR OPTION - PLANE OFF SURFACE DISTORTIONS. COAT PLANED SURFACE WITH A CATIONIC OR ANIONIC MULSION THAT COMPLIES WITH APWA SECTION 32 12 03.

2) SEPARATION APPEARS AT A CONNECTION TO AN EXITING PAVEMENT OR ANY STREET FIXTURE.
REPAIR OPTION - BLOW SEPARATION CLEAN AND APPLY JOINT SEALANT, PLAN 265.

3) CRACKS AT LEAST 1-FOOT LONG AND 1/4-INCH WIDE OCCUR MORE OFTEN THAN 1 IN 10 SQUARE FEET.
REPAIR OPTION - BLOW CLEAN AND APPLY CRACK SEAL, PLAN 265.

4) PAVEMENT RAVELING IS GREATER THAN 1 SQUARE FOOT PER 100 SQUARE FEET.
REPAIR OPTION - MILL AND INLAY, APWA SECTIONS 32 01 16.71 AND 32 12 05.

2. PRODUCTS:

A. BASE COURSE: UNTREATED BASE COURSE, APWA SECTION 32 11 23. DO NOT USE GRAVEL AS A BASE COURSE WITHOUT ENGINEER'S PERMISSION.

B. FLOWABLE FILL: TARGET IS 60 PSI IN 28 DAYS WITH 90 PSI MAXIMUM IN 28 DAYS, APWA SECTION 31 05 15. IT MUST FLOW EASILY REQUIRING NO VIBRATION FOR CONSOLIDATION.

C. REINFORCEMENT: NO. 5 GALVANIZED OR EPOXY COATED, DEFORMED, 60 KSI YIELD GRADE STEEL, ASTM A615.

D. CONCRETE: CLASS 4000, APWA SECTION 03 30 04.

E. TACK COAT: APWA SECTION 32 12 05.

F. BITUMINOUS CONCRETE: APWA SECTION 32 12 05.

1) WARM WEATHER PATCH: PG64-22-DM-1/2, UNLESS INDICATED OTHERWISE.

2) COLD WEATHER PATCH: MODIFIED MC-250-FM-1 AS INDICATED IN APWA SECTION 33 05 25.

3. EXECUTION:

A. BASE COURSE PLACEMENT: APWA SECTION 32 05 10. MAXIMUM LIFT THICKNESS BEFORE COMPACTION IS 8-INCHES WHEN USING RIDING EQUIPMENT OR 6-INCHES WHEN USING HAND HELD EQUIPMENT. COMPACTION IS 95 PERCENT OR GREATER RELATIVE TO A MODIFIED PROCTOR DENSITY, APWA SECTION 31 23 26.

B. FLOWABLE FILL: CURE TO INITIAL SET BEFORE PLACING AGGREGATE BASE OR BITUMINOUS PAVEMENT. USE IN EXCAVATIONS THAT ARE TOO NARROW TO RECEIVE COMPACTION EQUIPMENT.

C. TACK COAT: CLEAN ALL HORIZONTAL AND VERTICAL SURFACES. APPLY FULL COVERAGE ALL SURFACES.

D. PAVEMENT PLACEMENT: FOLLOW APWA SECTION 32 12 16.13. UNLESS INDICATED OTHERWISE, LIFT THICKNESS IS 3-INCHES MINIMUM AFTER COMPACTION. COMPACT TO 94 PERCENT OF ASTM D2041 (RICE DENSITY) PLUS OR MINUS 2 PERCENT.

E. BITUMINOUS CONCRETE SUBSTITUTION: IF BITUMINOUS CONCRETE IS SUBSTITUTED FOR PORTLAND CEMENT CONCRETE SUBSTRATE, OMIT REBAR AND PROVIDE 1.25 INCHES OF BITUMINOUS CONCRETE FOR EACH 1 INCH OF PORTLAND CEMENT CONCRETE. FOLLOW PARAGRAPH F REQUIREMENTS.

F. REINFORCEMENT: REQUIRED IF THICKNESS OF EXISTING PORTLAND-CEMENT CONCRETE SUBSTRATE IS 6-INCHES OR GREATER. NOT REQUIRED IF:

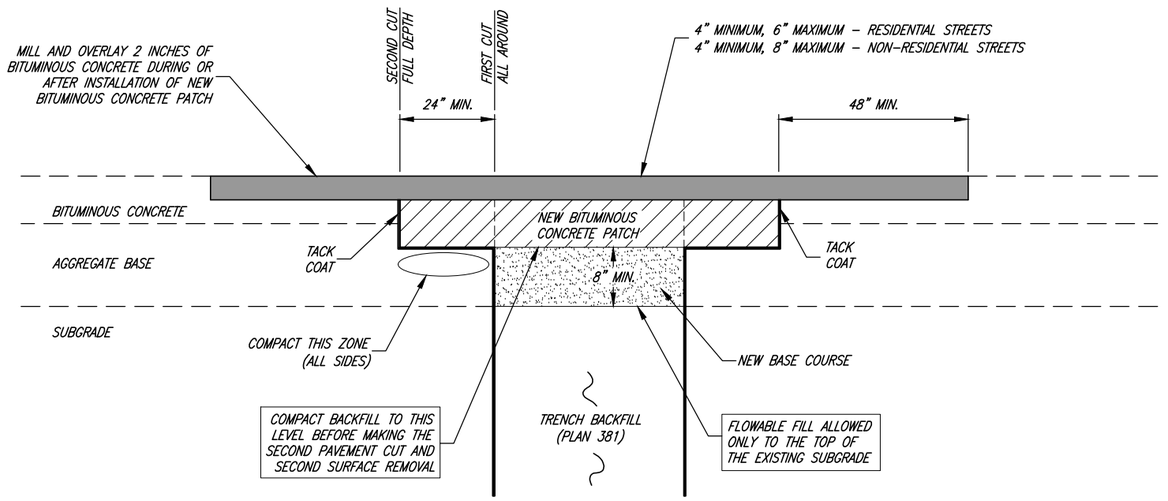
1) LESS THAN 6-INCHES THICK,

2) IF EXISTING CONCRETE IS DETERIORATING,

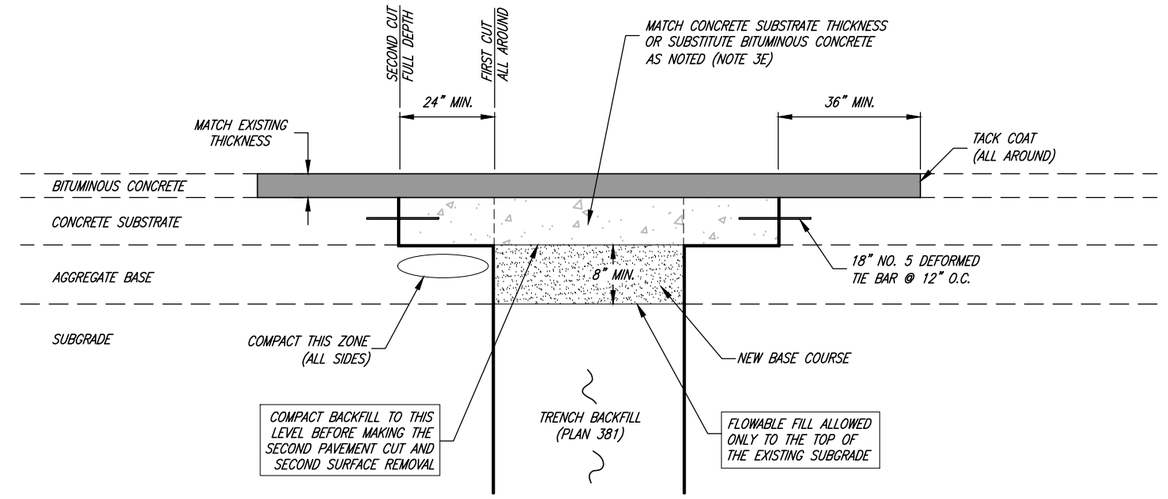
3) IF EXCAVATION IS LESS THAN 3 FEET SQUARE, OR

4) IF BITUMINOUS PAVEMENT IS SUBSTITUTED FOR PORTLAND-CEMENT CONCRETE SUBSTRATE.

G. CONCRETE SUBSTRATE: CURE TO INITIAL SET BEFORE PLACING NEW BITUMINOUS CONCRETE PATCH.



BITUMINOUS CONCRETE RESTORATION



COMPOSITE RESTORATION

APWA Utah Chapter

Bituminous pavement T-patch

Plan 255
November 2015

CITY ENGINEER	REV.	DATE	APPR.	SCALE: N.T.S.	JONES & ASSOCIATES CONSULTING ENGINEERS 6080 Fashion Point Drive South Ogden, Utah 84403 (801) 476-9767 www.jonescivil.com	Clearfield City Public Works

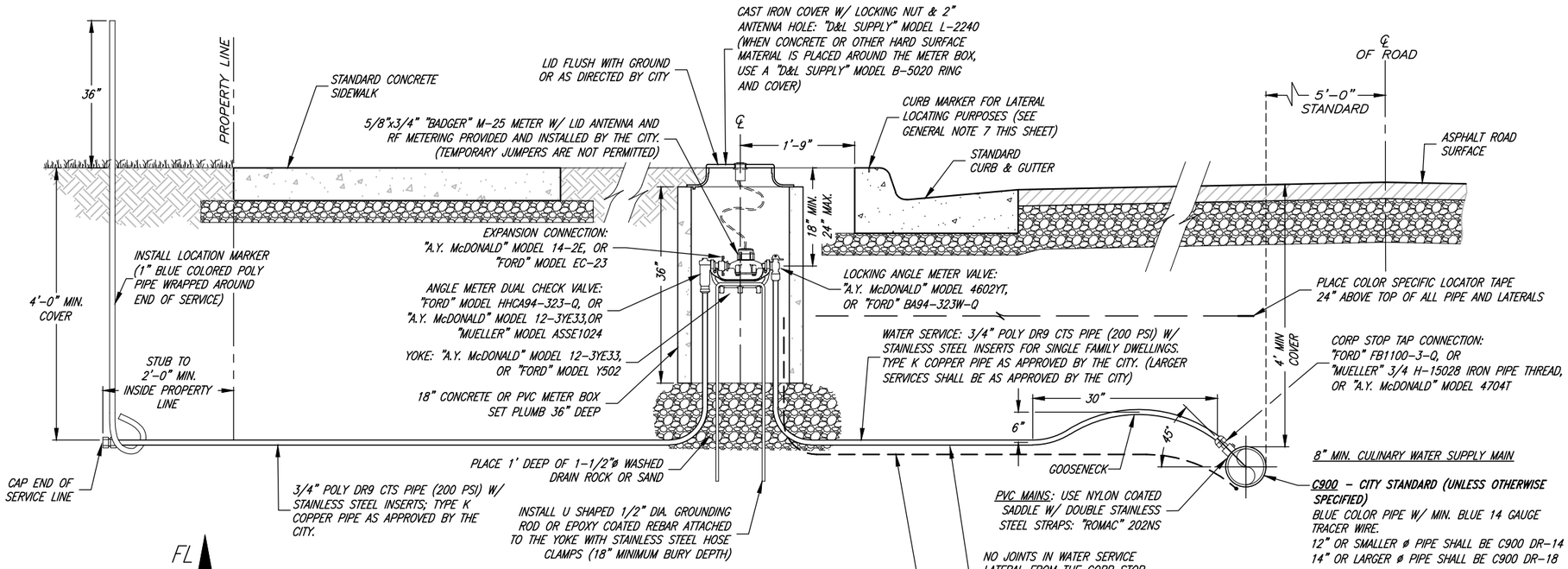
3/8/2024
DATE

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS
APWA PLAN 255 BITUMINOUS PAVEMENT T-PATCH

SHEET: R10
OF X SHEETS
0

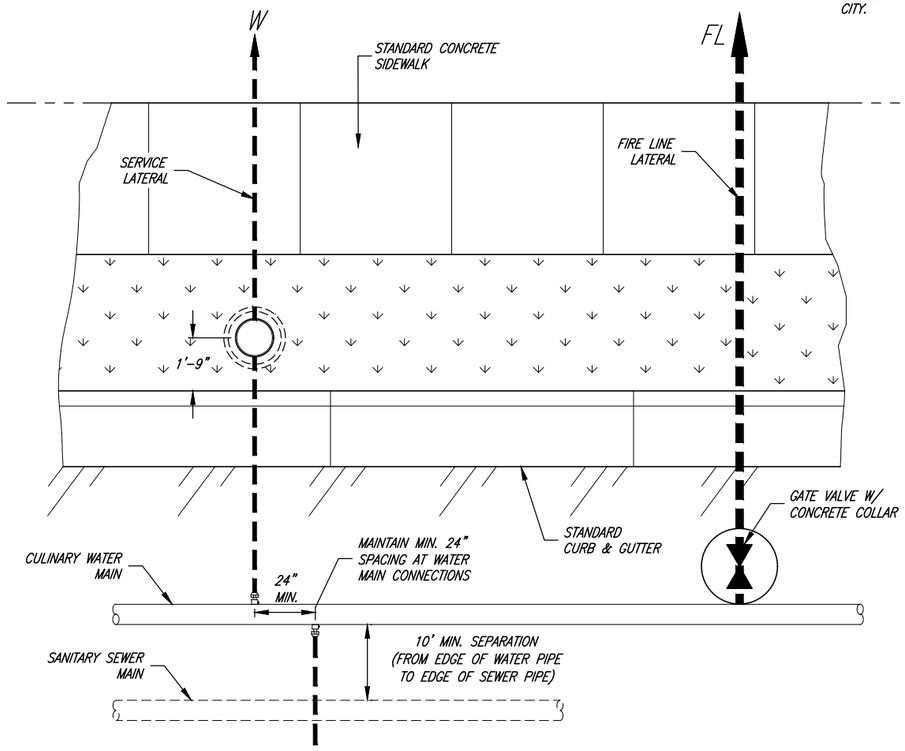
GENERAL NOTES:

1. THE USE OF "MUELLER", "FORD", OR "A.Y. McDONALD" COMPRESSION TYPE FITTINGS IS ACCEPTED BY THE CITY.
2. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.
3. ALL SUPPLIES, LABOR, EQUIPMENT, ETC. SHALL BE SUPPLIED BY THE DEVELOPER/CONTRACTOR EXCEPT THE WATER METERS. WATER METERS SHALL BE **PAID** FOR BY THE DEVELOPER/CONTRACTOR. CLEARFIELD CITY WILL SUPPLY AND SET ALL WATER METERS.
4. ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.
4. INSPECTION OF ALL WATER LINE INSTALLATIONS WILL BE DONE BY THE CITY, WITH A 48 HOUR MINIMUM NOTICE REQUIRED PRIOR TO START OF WORK.
6. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION ABOVE ALL SEWER MAINS AND LATERALS OF 18" VERTICAL AND 10'-0" HORIZONTAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER (DDW) RULES SECTION R309-550-7. EXCEPTIONS MUST BE APPROVED BY DDW.
7. STAMPED STAINLESS STEEL PINS (UTILITY WASHERS) USED FOR LATERAL LOCATING ARE REQUIRED BY THE CITY. PINS SHALL BE PROVIDED BY THE CITY AND INSTALLED BY THE CONTRACTOR DURING ALL NEW CONSTRUCTION OR RESTORED WHEN REPLACING DAMAGED CURB & GUTTER DUE TO ANY CONSTRUCTION RELATED ACTIVITY. PINS SHALL BE STAMPED "S" FOR SANITARY SEWER LATERALS AND "W" FOR CULINARY WATER LATERALS.



RESIDENTIAL WATER SERVICE AND METER

CITY STANDARD



STANDARD WATER METER LOCATION

CULINARY WATER FIRE LINE LATERAL NOTES:

A. THE PROPERTY OWNER IS RESPONSIBLE FOR ALL MATERIALS, INSTALLATION, REPAIR AND FUTURE MAINTENANCE FOR THE ENTIRE FIRE LINE LATERAL FROM THE CITY MAIN WATER LINE TO THE POINT OF CONNECTION WITH THE FIRE SUPPRESSION SYSTEM.

B. ALL FIRE LINES SHALL BE SIZED PER CLEARFIELD CITY FIRE CODE (4", 6", 8" OR AS REQUIRED).

CULINARY WATER SERVICE NOTES:

C. THE PROPERTY OWNER IS RESPONSIBLE FOR ALL INSTALLATION OF THE CULINARY WATER SERVICE LATERAL, INCLUDING METER BOX COMPLETE AND CONNECTION TO MAIN WATERLINE.

D. THE PROPERTY OWNER IS RESPONSIBLE FOR ALL REPAIR AND MAINTENANCE OF THE CULINARY WATER SERVICE LATERAL FROM THE CITY WATER METER TO THE POINT OF CONNECTION WITH THE PRIVATE FACILITIES.

E. ONCE THE METER IS SET, CLEARFIELD CITY IS RESPONSIBLE FOR ALL REPAIR AND MAINTENANCE OF THE CULINARY WATER SERVICE FROM THE CULINARY WATER MAIN PIPE TO AND INCLUDING THE WATER METER, METER BOX, LID & FACILITIES CONTAINED THEREIN.

F. CULINARY WATER METERS SHALL NOT BE LOCATED WITHIN THE DRIVEWAY AREA. IN THE CIRCUMSTANCE THAT A DRIVEWAY IS PLACED OVER AN EXISTING METER, THE PROPERTY OWNER SHALL FOLLOW THE CITY STANDARD GUIDELINES AS OUTLINED IN THE METER LOCATION NOTES ON SHEET CW2.

CITY ENGINEER

3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

JA JONES & ASSOCIATES
CONSULTING ENGINEERS
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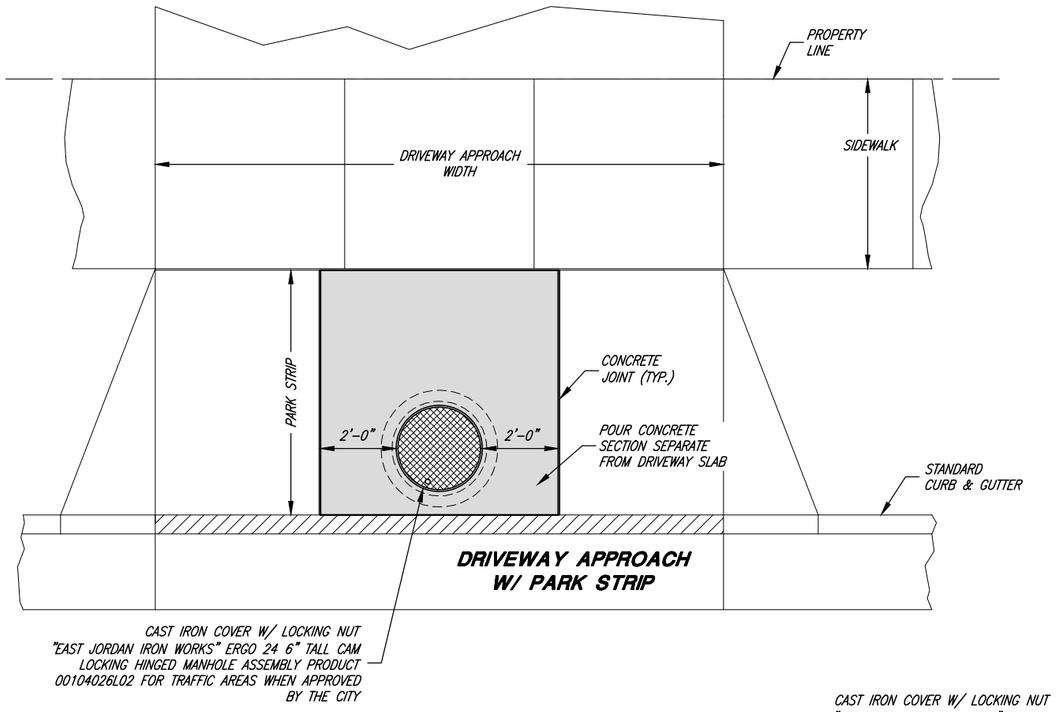
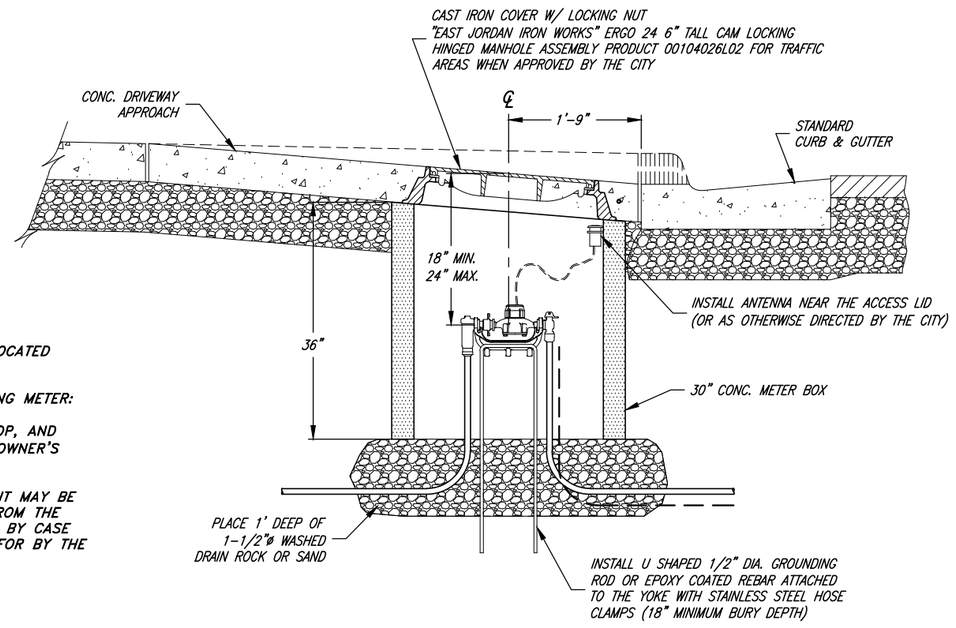
South Ogden, Utah 84403 (801) 476-9767
www.jonescivil.com

Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
RESIDENTIAL WATER SERVICE CONNECTION DETAILS

SHEET: CW1
OF X SHEETS
0





METER LOCATION NOTES:

1. *CULINARY WATER METERS SHALL NOT BE LOCATED WITHIN THE DRIVEWAY AREA.*
2. *IF A DRIVEWAY IS PLACED OVER AN EXISTING METER:*
   a. *THE "ENTIRE" SERVICE LINE, CORP STOP, AND METER SHALL BE RELOCATED AT THE OWNER'S EXPENSE, OR*
   b. *A HIGH TRAFFIC RESIDENTIAL METER PIT MAY BE INSTALLED WITH WRITTEN APPROVAL FROM THE CITY. THIS IS DETERMINED ON A CASE BY CASE BASIS BY THE CITY AND TO BE PAID FOR BY THE OWNER.*

HIGH TRAFFIC RESIDENTIAL METER PIT DETAIL

THE USE OF A HIGH TRAFFIC RESIDENTIAL SERVICE METER PIT IS SITE SPECIFIC AND REQUIRES WRITTEN APPROVAL FROM THE CITY PRIOR TO INSTALLATION

CITY ENGINEER

3/8/2024
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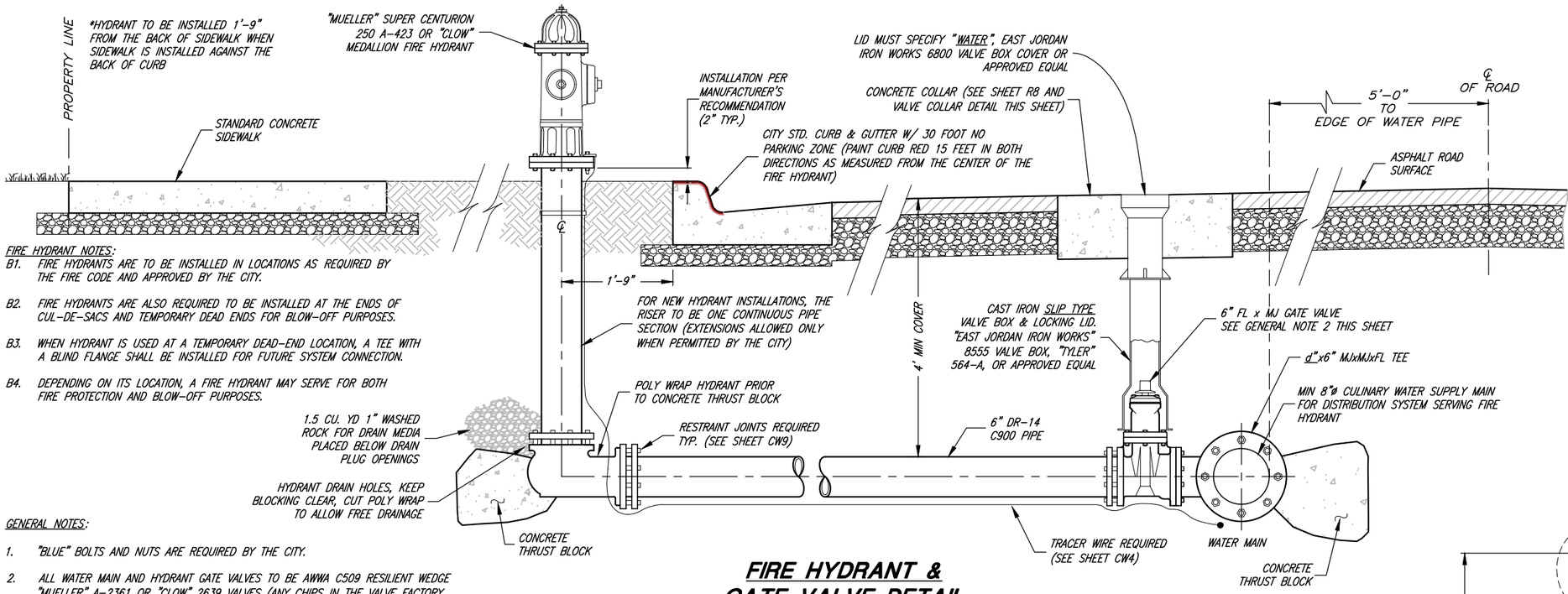
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
HIGH TRAFFIC RESIDENTIAL METER PIT

SHEET: CW2
OF X SHEETS
0



FIRE HYDRANT & GATE VALVE DETAIL

FIRE HYDRANT NOTES:

B1. FIRE HYDRANTS ARE TO BE INSTALLED IN LOCATIONS AS REQUIRED BY THE FIRE CODE AND APPROVED BY THE CITY.

B2. FIRE HYDRANTS ARE ALSO REQUIRED TO BE INSTALLED AT THE ENDS OF CUL-DE-SACS AND TEMPORARY DEAD ENDS FOR BLOW-OFF PURPOSES.

B3. WHEN HYDRANT IS USED AT A TEMPORARY DEAD-END LOCATION, A TEE WITH A BLIND FLANGE SHALL BE INSTALLED FOR FUTURE SYSTEM CONNECTION.

B4. DEPENDING ON ITS LOCATION, A FIRE HYDRANT MAY SERVE FOR BOTH FIRE PROTECTION AND BLOW-OFF PURPOSES.

GENERAL NOTES:

1. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.

2. ALL WATER MAIN AND HYDRANT GATE VALVES TO BE AWWA C509 RESILIENT WEDGE "MUELLER" A-2361 OR "CLOW" 2639 VALVES (ANY CHIPS IN THE VALVE FACTORY COATING DUE TO SHIPPING/INSTALLATION MUST BE REPAIRED USING AN APPROVED EPOXY COATING)

3. ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.

4. PIPES, JOINTS, FITTINGS, VALVES, & FIRE HYDRANTS SHALL CONFORM TO ANSI / NSF 61.

5. FIRE HYDRANTS SHALL NOT BE LOCATED WITHIN 10'-0" OF A SANITARY SEWER OR WITHIN 10'-0" OF STORM DRAIN WHERE POSSIBLE.

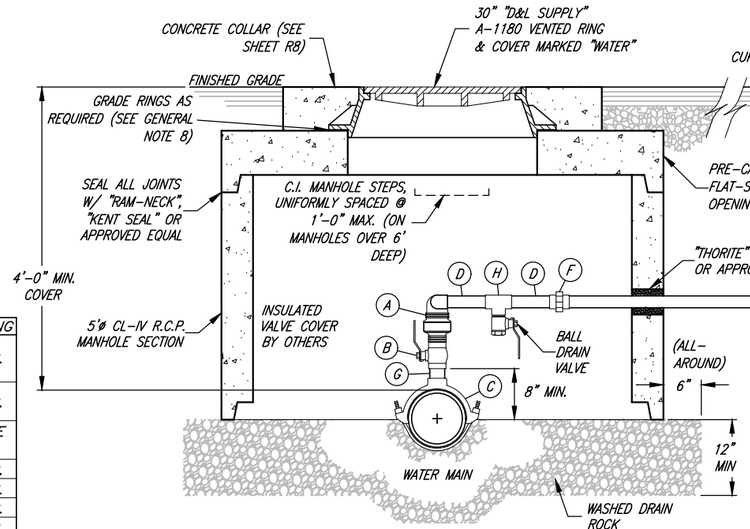
6. ALL WATER SYSTEM MATERIALS SHALL BE NEW (DISCOLORED PIPE OR PIPE MATERIALS STOCKPILED LONGER THAN 1 YEAR WILL NOT BE ACCEPTED BY THE CITY); USED MATERIALS ARE NOT ALLOWED.

7. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION ABOVE ALL SEWER MAINS AND LATERALS OF 18" VERTICAL AND 10'-0" HORIZONTAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER (DDW) RULES SECTION R309-550-7. EXCEPTIONS MUST BE APPROVED BY DDW.

8. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE

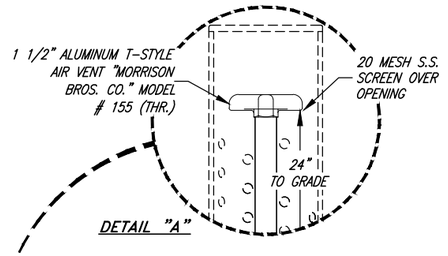
PIPE & FITTING SCHEDULE

NO.	DESCRIPTION	FITTING
A	2" COMBINATION AIR-VACUUM RELIEF VALVE "A.R.I." MODEL D-040 W/ NPT CONNECTIONS	THR.
B	2" BRASS BALL VALVE (1/4 TURN) "FORD" B11-777-HB-67-NL OR APPROVED EQUAL	THR.
C	2" NYLON COATED W/ DOUBLE S.S. STRAPS SERVICE SADDLE "ROMAC" 202NS OR APPROVED EQUAL	
D	1 1/2" SCH. 80 PVC PIPE	THR.
Da	1 1/2" POLY PIPE	THR.
E	1 1/2" GALV. STEEL 90° ELBOW	THR.
F	1 1/2" SCH. 80 PVC UNION	THR.
G	2" BRASS PIPE	THR.
H	1 1/2" SCH. 80 PVC TEE	THR.
I	1 1/2" GALV. STEEL PIPE	THR.

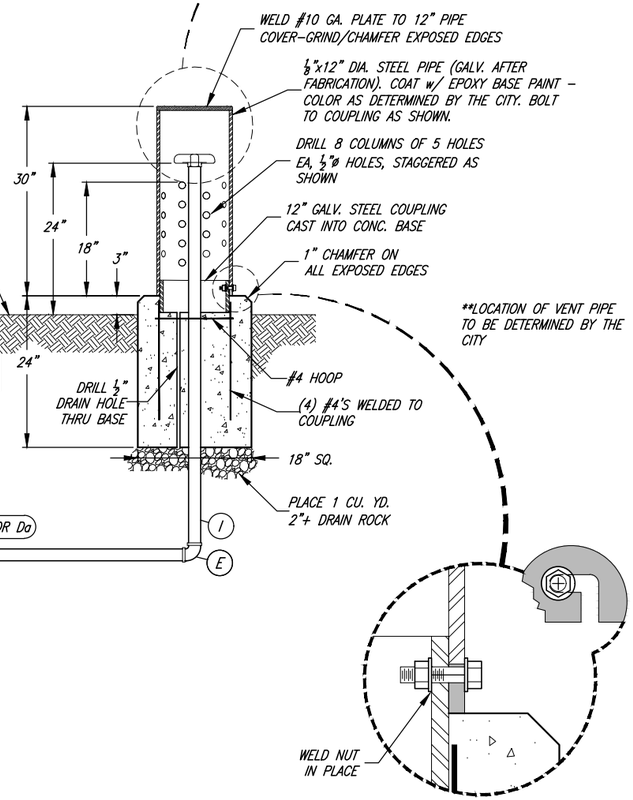


AIR/VACUUM RELIEF STATION

(BURIED WATER MAIN APPLICATION)



DETAIL "A"



DETAIL "B"

CITY ENGINEER

3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

JONES & ASSOCIATES
CONSULTING ENGINEERS
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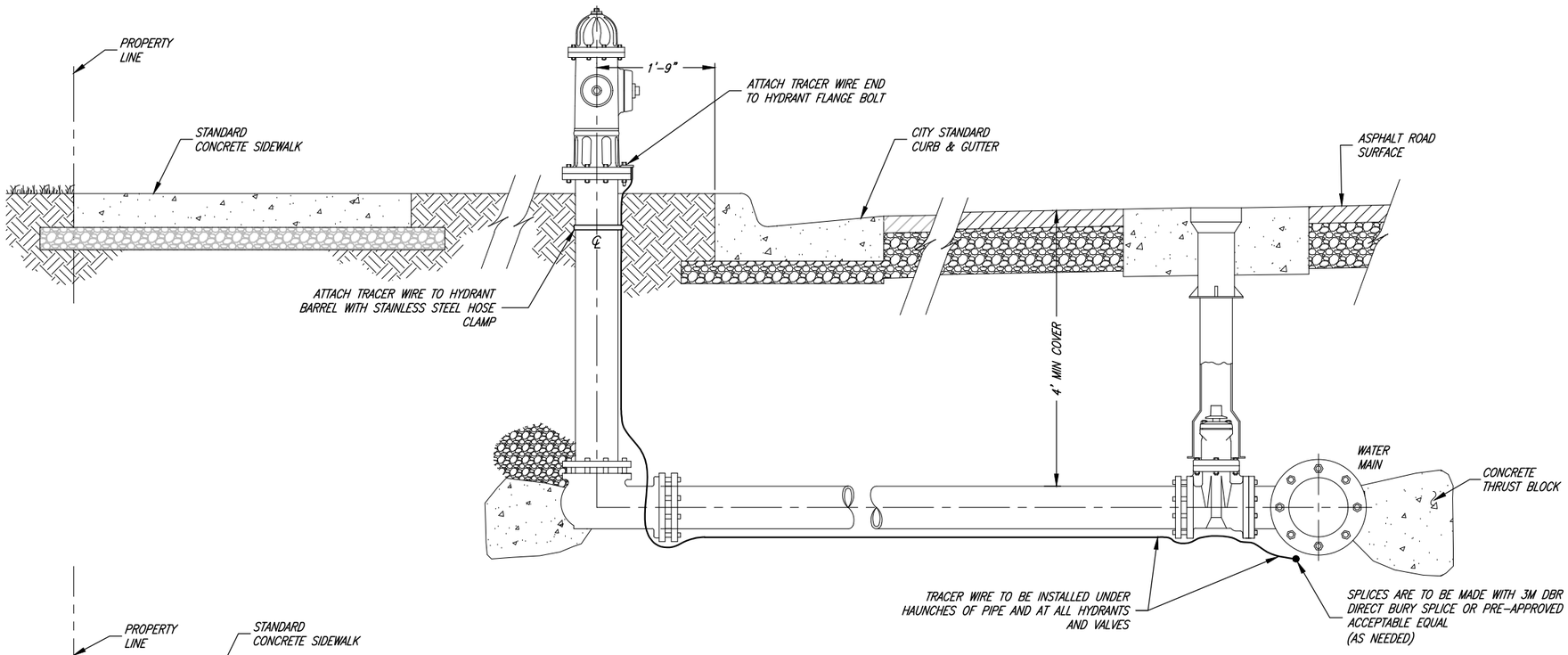
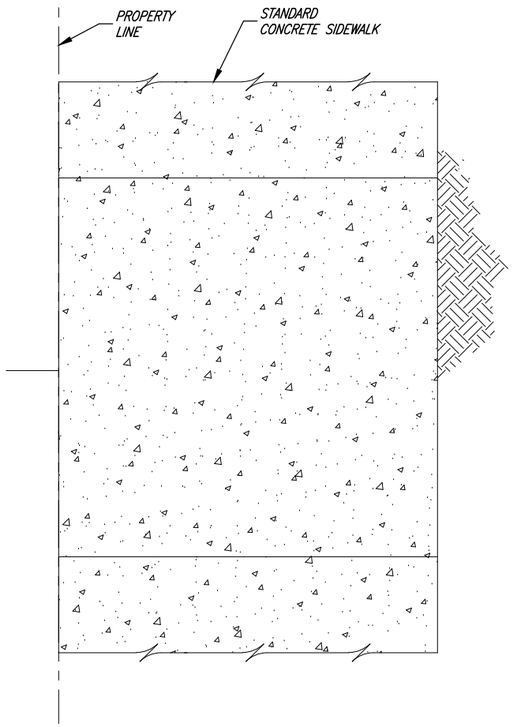
www.jonescivil.com

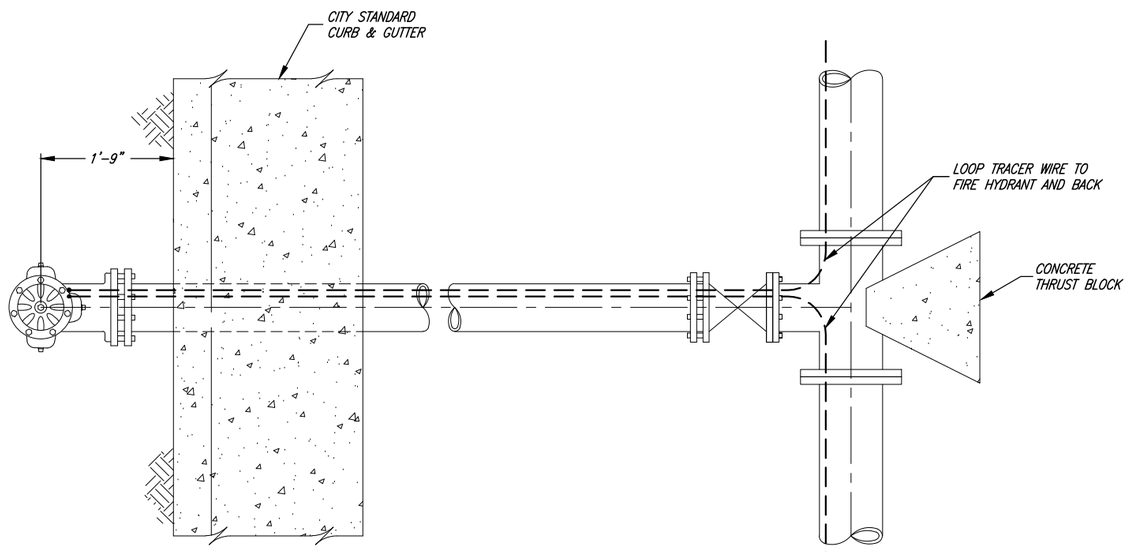
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
FIRE HYDRANT, GATE VALVE, AND AIR/VACUUM RELIEF STATION DETAILS

SHEET: CW3
OF X SHEETS
0







TRACER WIRE INSTALLATION

CITY STANDARD STREET SECTION (CURB & GUTTER)

NOTES:

1. ALL WATERLINES SHALL HAVE A MINIMUM 12 GA. INSULATED TRACER WIRE INSTALLED UNDER THE HAUNCHES OF THE PIPE PRIOR TO BACKFILLING.
2. TRACER WIRES SHALL TERMINATE AT ALL FIRE HYDRANTS. AT SERVICE SADDLES AND TAPPING SLEEVES, THE TRACER WIRE SHALL NOT BE ALLOWED TO BE PLACED BETWEEN THE SADDLE AND THE PIPE. A GROUNDING ROD SHALL BE INSTALLED AT ALL TRACER SYSTEM TERMINAL POINTS.
3. TRACER WIRE SHALL BE COPPER WIRE WITH BLUE INSULATION RATED FOR DIRECT BURIAL. ALL WIRE CONNECTORS SHALL BE 3M DBR DIRECT BURY SPLICE OR PRE-APPROVED ACCEPTABLE EQUAL AND SHALL BE WATERTIGHT TO PROVIDE ELECTRICAL CONTINUITY.
4. ALL TRACER WIRE SHALL BE TESTED FOR CONTINUITY IN THE PRESENCE OF THE CITY PRIOR TO TRENCH BACKFILL. ANY TRACER WIRE FOUND NOT TO BE CONTINUOUS AFTER TESTING SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR PRIOR TO TRENCH BACKFILL.

CITY ENGINEER

3/8/2024
DATE

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SCALE: N.T.S.

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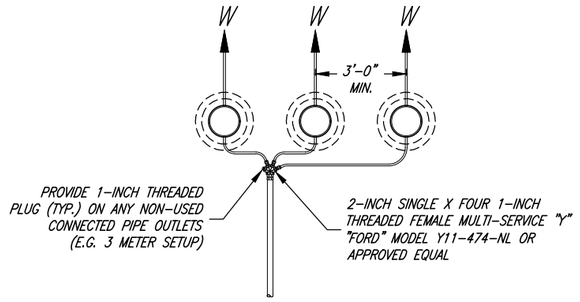
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
TRACER WIRE INSTALLATION DETAILS

SHEET: CW4
OF X SHEETS
0



METER MANIFOLD NOTES:

B1. PIPES AND PIPE FITTINGS MUST MEET THE SPECIFICATIONS OF ANSI/NSF 61

B2. MINIMUM 4'-0" BETWEEN SERVICE SADDLES

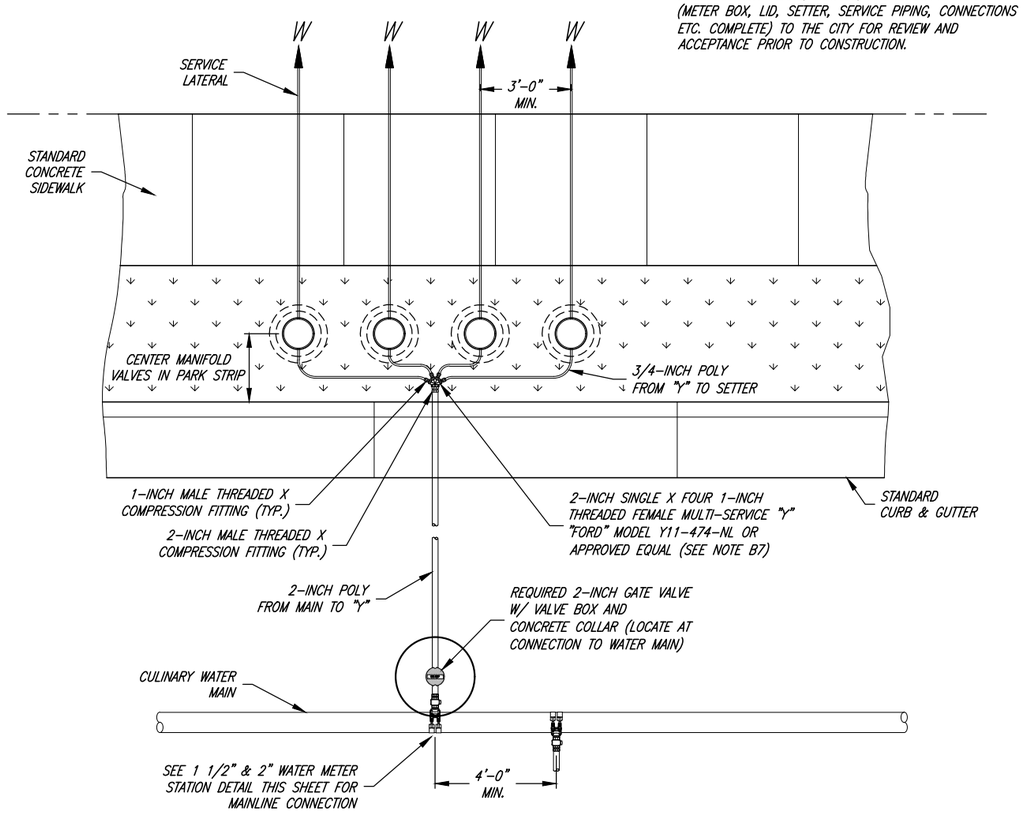
B3. TYPICAL 3'-0" MINIMUM BETWEEN METER BOXES

B4. SEE STANDARD DETAIL SHEETS CW1 FOR WATER SERVICE AND METER BOX DETAILS

B5. FOUR SERVICES MAXIMUM PER MAINLINE CONNECTION

B6. **PROVIDE AN IMPRINTED ALUMINUM TAG TO BE ATTACHED TO EACH YOKE WITH CORRESPONDING UNIT ADDRESS.**

B7. THE "FORD" METERING MANIFOLD MAY BE USED WITH WRITTEN APPROVAL BY THE CITY. SUBMIT ENGINEERED CONSTRUCTION PLANS, DETAILS, AND SPECIFICATIONS (METER BOX, LID, SETTER, SERVICE PIPING, CONNECTIONS ETC. COMPLETE) TO THE CITY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.

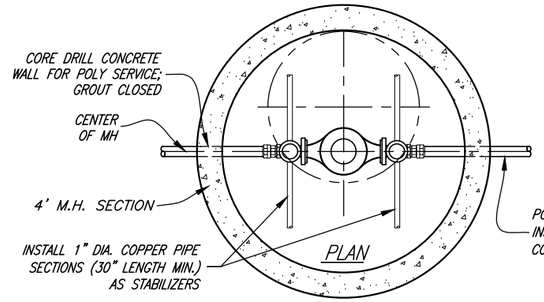


WATER METER MANIFOLD DETAIL

FOR USE WITH TOWNHOME (INDIVIDUAL BILLING) TYPE DEVELOPMENTS (REQUIRES APPROVAL BY THE CITY)

NOTE:
ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.

NO.	DESCRIPTION (1 1/2" & 2" METER STA.)	JOINT TYPE	1 1/2" LINE	2" LINE
A	"BADGER" E-SERIES ULTRASONIC FLOW METER	FL	1 1/2"	2"
B	"FORD" VBHH76-18B-11-66-NL METER SETTER (18" HEIGHT)		1 1/2"	--
	"FORD" VBHH77-18B-11-77-NL METER SETTER (18" HEIGHT)		--	2"
C	"MUELLER" H-15428 ADAPTER	--	1 1/2"	2"



1 1/2" & 2" METER NOTES:

A1. ½" SERVICE LINE-13" METER
2" SERVICE LINE-17" METER

A2. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE

GENERAL NOTES:

C1. PROPERTY OWNER OR CONTRACTOR SHALL PAY FOR ALL COSTS OF INSTALLATION INCLUDING ALL MATERIALS, ALL EXCAVATION AND FILL, ASPHALT REPLACEMENT AND WATER MAIN CONNECTION.

C2. INSPECTION OF ALL WATER LINE INSTALLATIONS WILL BE DONE BY THE CITY, WITH A 48 HOUR MINIMUM NOTICE REQUIRED PRIOR TO START OF WORK.

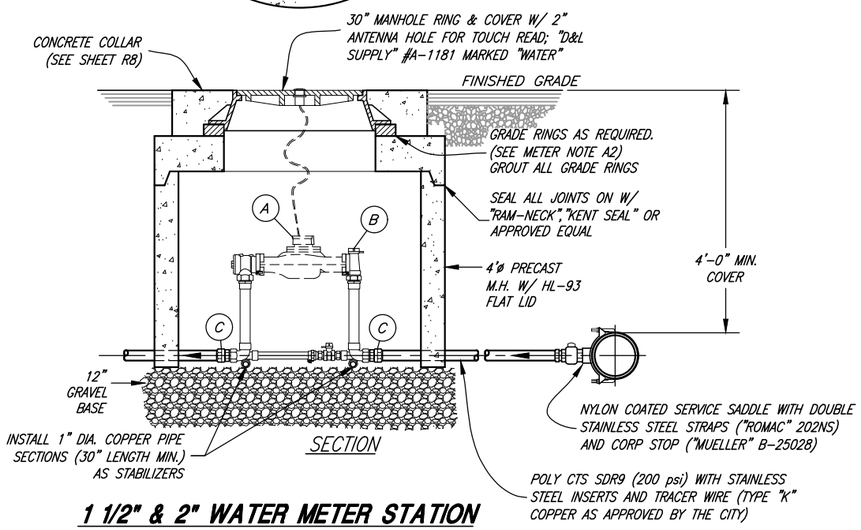
C3. IF APPLICABLE, A CITY EXCAVATION PERMIT MUST BE REQUESTED AND APPROVED PRIOR TO START OF WORK.

C4. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.

C5. ALL SUPPLIES, LABOR, EQUIPMENT, ETC. SHALL BE SUPPLIED BY THE DEVELOPER/CONTRACTOR EXCEPT THE WATER METERS. WATER METERS SHALL BE **PAID** FOR BY THE DEVELOPER/CONTRACTOR. CLEARFIELD CITY WILL SUPPLY AND SET ALL WATER METERS.

C6. FOR METER STATIONS LOCATED IN TRAFFIC AREAS, CONTACT CITY FOR METER LID SPECIFICATIONS.

C7. ALL RADIO-READ ANTENNAS ARE TO BE INSTALLED ABOVE THE ACCESS LID, RECESSED INTO THE MANHOLE OR METER PIT COVER.



1 1/2" & 2" WATER METER STATION

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

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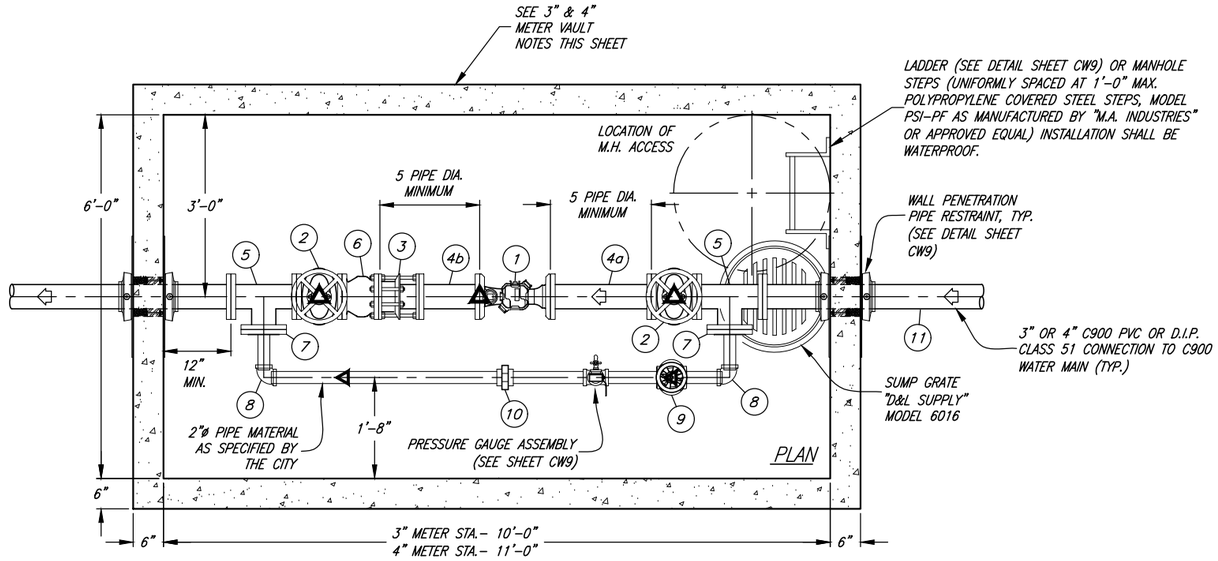
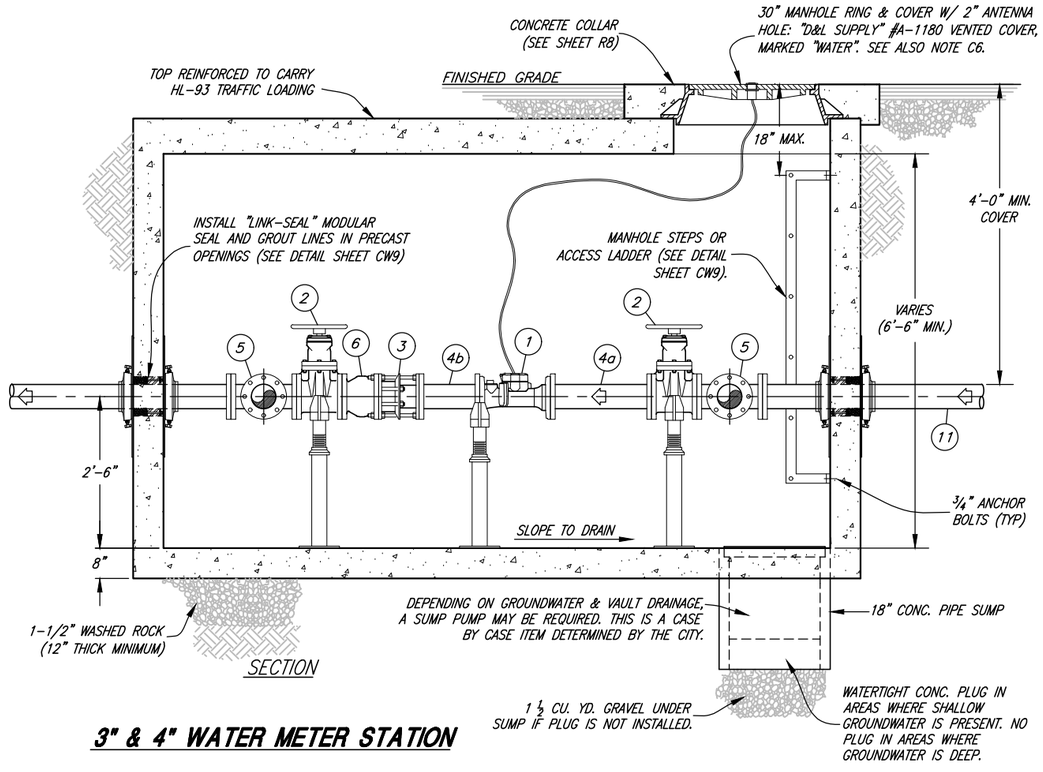
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
TYPICAL 1 ½" & 2" WATER METER STATIONS, AND WATER METER MANIFOLD DETAILS

SHEET: CW5
OF X SHEETS
0





3" & 4" WATER METER STATION

PIPE & FITTING SCHEDULE

NO.	DESCRIPTION (3" & 4" METER STA.)	JOINT TYPE	3" LINE	4" LINE
1	"BADGER" E-SERIES ULTRASONIC FLOW METER	FL	3"	4"
2	"MUELLER" RESILIENT WEDGE GATE VALVE W/ HANDWHEEL	FL	3" A-2362	4" A-2361
3	"ROMAC" DJ400 DISMANTLING JOINT	FL	3"	4"
4a	SPOOL PIECE	FL	3"	4"
4b	SPOOL PIECE	FL	3"	4"
5	TEE	FL	3"	4"
6	"CRISPIN" GLOBE STYLE SILENT CHECK VALVE	FL	3"	4"
7	COMPANION FLANGE W/ 2"ø THREADED CONNECTION	FL	3"	4"
8	PIPE 90° BEND	THR.	2"	2"
9	"MUELLER" RESILIENT WEDGE GATE VALVE W/ HANDWHEEL	THR.	2" A-2362	2" A-2362
10	PIPE UNION	THR.	2"	2"
11	NIPPLE	FLxPE	3"	4"
12	"ANVIL" #264 GALV. PIPE SUPPORT W/ COMPANION FLANGE & VARIABLE HEIGHT NIPPLE OR APPROVED EQUAL (5 EA REQUIRED)		△ SYMBOL	

NOTE:
ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.

3" & 4" METER VAULT NOTES:

A1. ALL FITTINGS OUTSIDE OF THE VAULT ARE TO BE DUCTILE IRON MJ WITH THRUST RESTRAINT RETAINER GLANDS ("ROMAC", MJRG, OR APPROVED EQUAL)

A2. PENETRATION WALLS NEED TO BE ADEQUATELY DESIGNED STRUCTURALLY FOR ANTICIPATED THRUST.

A3. THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.

A4. ALL FITTINGS SHALL BE AWWA C-110 WITH 125 LB. FLANGES. ALL PIPING SHALL BE DUCTILE IRON PIPE CLASS 350 P.S.I. MIN.

GENERAL NOTES:

C1. PROPERTY OWNER OR CONTRACTOR SHALL PAY FOR ALL COSTS OF INSTALLATION INCLUDING ALL MATERIALS, ALL EXCAVATION AND FILL, ASPHALT REPLACEMENT AND WATER MAIN CONNECTION.

C2. INSPECTION OF ALL WATER LINE INSTALLATIONS WILL BE DONE BY THE CITY, WITH A 48 HOUR MINIMUM NOTICE REQUIRED PRIOR TO START OF WORK.

C3. IF APPLICABLE, A CITY EXCAVATION PERMIT MUST BE REQUESTED AND APPROVED PRIOR TO START OF WORK.

C4. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.

C5. ALL SUPPLIES, LABOR, EQUIPMENT, ETC. SHALL BE SUPPLIED BY THE DEVELOPER/CONTRACTOR EXCEPT THE WATER METERS. WATER METERS SHALL BE **PAID** FOR BY THE DEVELOPER/CONTRACTOR. CLEARFIELD CITY WILL SUPPLY AND SET ALL WATER METERS.

C6. FOR METER STATIONS LOCATED IN TRAFFIC AREAS, CONTACT CITY FOR METER LID SPECIFICATIONS.

C7. ALL RADIO-READ ANTENNAS ARE TO BE INSTALLED ABOVE THE ACCESS LID, RECESSED INTO THE MANHOLE OR METER PIT COVER.

CITY ENGINEER
3/8/2024
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CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
TYPICAL 3" AND 4" WATER METER STATIONS

SHEET: CW6
OF X SHEETS
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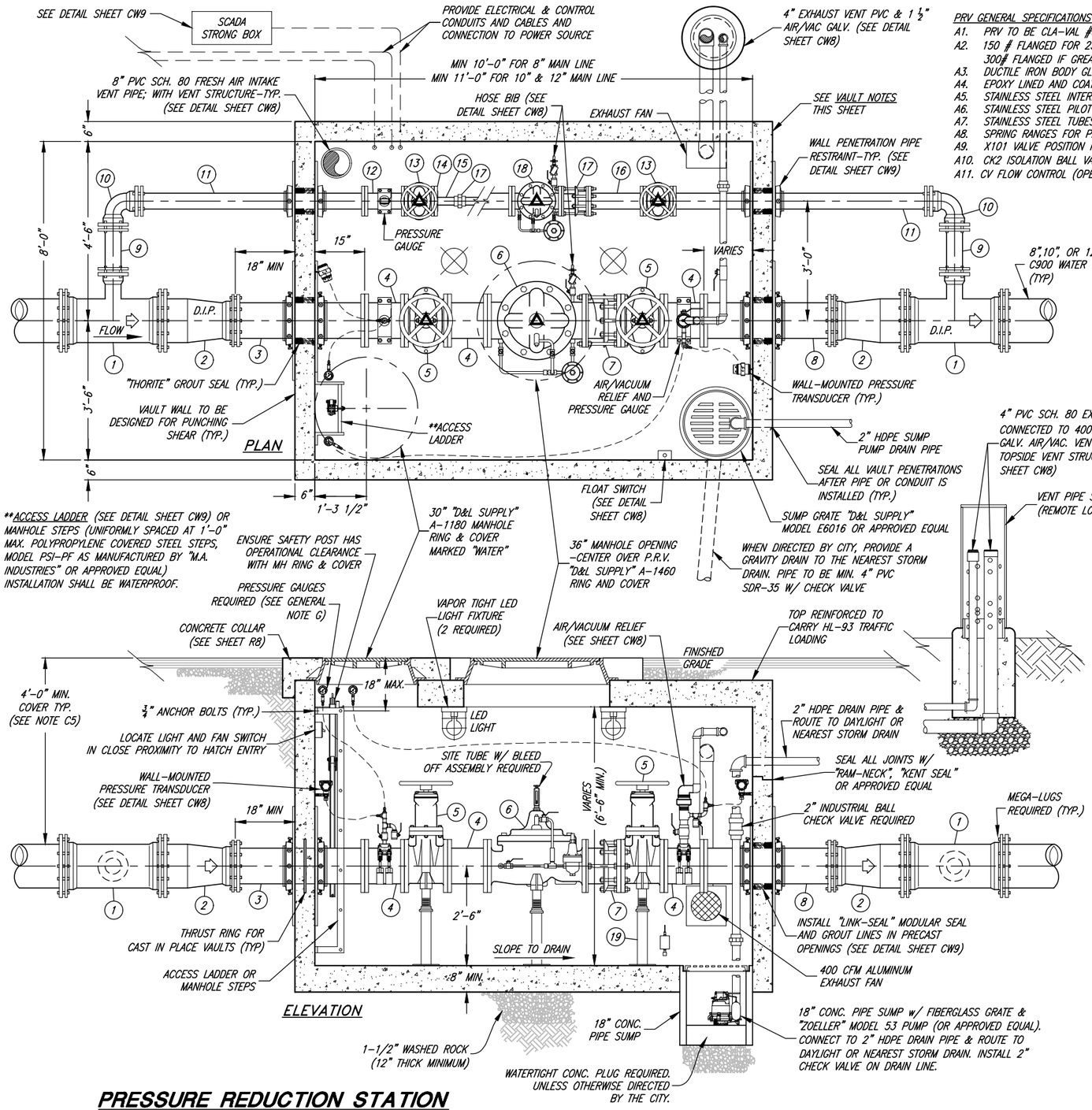

PRESSURE REDUCTION STATION

PRV GENERAL SPECIFICATIONS:

A1. PRV TO BE CLA-VAL #90-01 YBCSKC
A2. 150 # FLANGED FOR 250 PSI WORKING PRESSURE, 300# FLANGED IF GREATER THAN 250 PSI
A3. DUCTILE IRON BODY GLOBE PATTERN
A4. EPOXY LINED AND COATED
A5. STAINLESS STEEL INTERNAL TRIM
A6. STAINLESS STEEL PILOT CONTROLS
A7. STAINLESS STEEL TUBES & FITTINGS
A8. SPRING RANGES FOR PRESSURE REDUCING PILOT
A9. X101 VALVE POSITION INDICATOR
A10. CK2 ISOLATION BALL VALVES (STAINLESS)
A11. CV FLOW CONTROL (OPENING)

COATING NOTES:

B1. THE P.R.V. VALVE SHALL INCLUDE FACTORY INSTALLED INTERIOR EPOXY COATING.

B2. ALL NEW AND EXISTING PIPING, VALVES, FITTINGS, METERS, ETC, INSIDE THE VAULT SHALL BE EPOXY PAINTED.

B3. METAL SURFACES TO BE PAINTED SHALL FIRST BE PRIMED AND THEN PAINTED W/ TWO COATS OF EPOXY PAINT.

B4. COLORS AS DIRECTED BY THE CITY.

VAULT NOTES:

C1. PRE-PLUMBED PRV VAULTS ARE THE PREFERRED OPTION FOR INSTALLATION. THE USE AND LOCATION OF A PRE-PLUMBED PRV VAULT SHALL BE AS DIRECTED BY THE CITY FOLLOWING REVIEW OF CURRENT SITE CONDITIONS.

C2. PRECAST CONCRETE STRUCTURE CAN BE REPLACED WITH A CAST-IN-PLACE CONCRETE VAULT. SUBMIT ENGINEERED CONSTRUCTION PLANS WITH REBAR DETAILS TO CITY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.

C3. PENETRATION WALLS NEED TO BE ADEQUATELY DESIGNED STRUCTURALLY FOR ANTICIPATED THRUST.

C4. THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO HL-93 TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.

C5. THE DEPTH OF COVER OVER THE UPSTREAM AND DOWNSTREAM PIPES MUST BE ADJUSTED TO MATCH THE DEPTH OF THE LINE THROUGH THE VAULT FOR A SUFFICIENT DISTANCE OUTSIDE THE VAULT TO AVOID ANY HIGH POINT IN THE LINE OUTSIDE THE VAULT. ANY OTHER OPTION MUST BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION.

PIPE & FITTING SCHEDULE

NO.	DESCRIPTION	JOINT TYPE	8" LINE	10" LINE	12" LINE
1	D.I. REDUCING TEE (2)	MJ	8"X8"X4"	10"X10"X4"	12"X12"X4"
2	D.I. REDUCER (2)	MJ	8"x6"	10"x8"	12"x10"
3	D.I. NIPPLE PIECE	FLxPE	6"	8"	10"
4	12" D.I. SPOOL PIECE (3)	FL	6"	8"	10"
5	"MUELLER" A-2361 GATE VALVE W/ HANDWHEEL (2)	FL	6"	8"	10"
6	"CLA-VAL" 90-01 PRESSURE REDUCTION VALVE	FL	6"	8"	10"
7	"ROMAC" DJ400 DISMANTLING JOINT	FL	6"	8"	10"
8	D.I. NIPPLE PIECE	FLxPE	6"	8"	10"
9	D.I. PIPE SECTION (2)	PE	4"	4"	4"
10	D.I. 90° ELBOW (2)	MJ	4"	4"	4"
11	D.I. NIPPLE PIECE (2)	FLxPE	4"	4"	4"
12	12" D.I. SPOOL PIECE	FL	4"	4"	4"
13	"MUELLER" A-2361 GATE VALVE W/ HANDWHEEL (2)	FL	4"	4"	4"
14	BLIND FLANGE W/ THR. CONNECTION (2)	FLxTHR.	4"x2"	--	--
15	D.I. SPOOL PIECE	FL	--	4"	4"
	BRASS PIPE	THR.	2"	--	--
16	D.I. SPOOL PIECE	FL	--	4"	4"
	BRASS PIPE	THR.	2"	--	--
17	"ROMAC" DJ400 DISMANTLING JOINT	FL	--	4"	4"
	BRASS UNION	THR.	2"	--	--
18	"CLA-VAL" 90-01 PRESSURE REDUCTION VALVE	FL	2" THR.	4"	4"
19	"ANVIL" #264 GALV. PIPE SUPPORT W/ 3" COMPANION FLANGE & VARIABLE HEIGHT 3" NIPPLE OR APPROVED EQUAL (6 EA REQUIRED.)				△ SYMBOL

GENERAL NOTES:

A. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.

B. ALL FITTINGS OUTSIDE OF THE VAULT ARE TO BE DUCTILE IRON MJ WITH THRUST RESTRAINT RETAINER GLANDS ("ROMAC", MJRG, OR APPROVED EQUAL)

C. STRUCTURE, PIPING & VALVE SIZES FOR P.R.V. STATIONS ON LINE SIZES GREATER THAN 12" SHALL BE SPECIFIED BY THE CITY.

D. ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.

E. WHEN BENDS ARE USED TO ACHIEVE PROPER DEPTH & DIMENSIONS, AIR/VAC SHALL BE LOCATED PRIOR TO BENDS ON DOWNHILL SIDE OF PRV; OTHERWISE AIR/VAC SHALL BE LOCATED IN PRV VAULT.

F. ADD HIGH PRESSURE RELIEF VALVE IN PRVs WHEN DIRECTED BY THE CITY. THIS IS A CASE BY CASE ITEM DETERMINED BY THE CITY (PRV VAULT WILL NEED TO BE LENGTHENED TO ACCOMMODATE SUCH VALVE).

G. WHEN AN AIR/VACUUM RELIEF IS NOT NEEDED A PRESSURE GAUGE IS STILL REQUIRED ON THE DOWNSTREAM SIDE OF THE PRV.

H. NO MORE THAN 12" OF GRADE RINGS TO ALLOWED ON ANY MANHOLE OR STRUCTURE.

I. ALL WALL PIPE PENETRATIONS AND JOINTS SHALL BE SEALED TO PREVENT WATER INFILTRATION. USE "LINK-SEAL" ON CAST-IN-PLACE VAULTS. PRECAST VAULTS SEAL AS DIRECTED BY CITY. APPROVED PRODUCTS ARE:

(a) "PRIME RESIN"- PRIMEFLEX 900XLV
(b) "MANUS PRODUCTS"- MANUS BOND 75AM

J. VAULT PENETRATIONS FOR THE AIR/VACUUM RELIEF LINES, EXHAUST FAN LINES, AND SUMP PUMP DISCHARGE LINES, SHALL BE CORE DRILLED IN LOCATIONS APPROVED BY THE CITY TO AVOID CONFLICT WITH OTHER NECESSARY VAULT EQUIPMENT.

K. ALL VENTILATION AND DISCHARGE PIPING SHALL BE CEILING OR WALL MOUNTED AND SECURED BY UNISTRUT OR APPROVED EQUAL.

L. VAULT SHALL BE SUPPLIED WITH POWER FOR ALL EQUIPMENT, WHETHER SHOWN AND/OR NOTED, FOR A COMPLETE AND OPERABLE INSTALLATION. DEVELOPER, CONTRACTOR, OR OWNER SHALL BE RESPONSIBLE FOR COORDINATING WITH POWER COMPANY AND PROVIDING POWER SOURCE.

M. EXHAUST FAN AND AIR INTAKE AND EXHAUST PIPING SHALL BE ADEQUATELY SIZED TO PROVIDE THE REQUIRED NUMBER OF AIR EXCHANGES IN ACCORDANCE WITH THE GOVERNING CODE.

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

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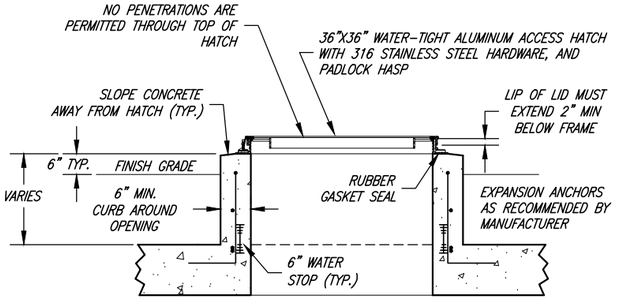
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
PRESSURE REDUCTION STATION

SHEET: CW7
OF X SHEETS
0

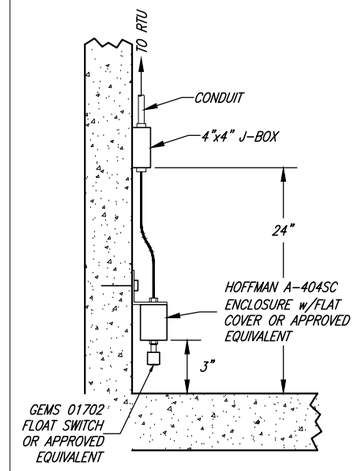


TYPICAL ENTRY HATCH & CURB WALL DETAIL

N.T.S.

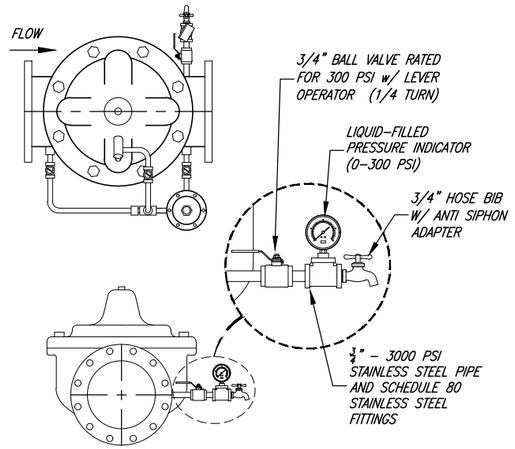
ENTRY HATCH NOTES:

1. ALUMINUM ACCESS HATCHES ARE REQUIRED WHEN THE VAULT IS CONSTRUCTED OUTSIDE OF THE CITY ROADWAY (OFFSITE). USE MANHOLE RING & COVER AS SPECIFIED ON SHEET CW7 WHEN PRV VAULT IS INSTALLED WITHIN ROAD RIGHT-OF-WAY.
2. NO PENETRATIONS SHALL BE ALLOWED THROUGH THE HORIZONTAL FACE OF THE ACCESS HATCH PER THE STATE OF UTAH ADMINISTRATIVE RULES FOR PUBLIC DRINKING WATER SYSTEMS R309-545-14(2)



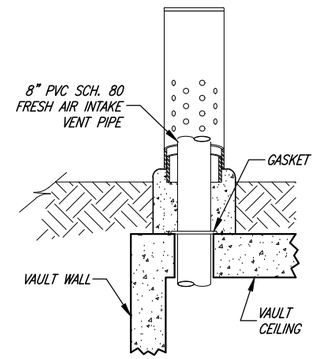
FLOAT SWITCH DETAIL

N.T.S.



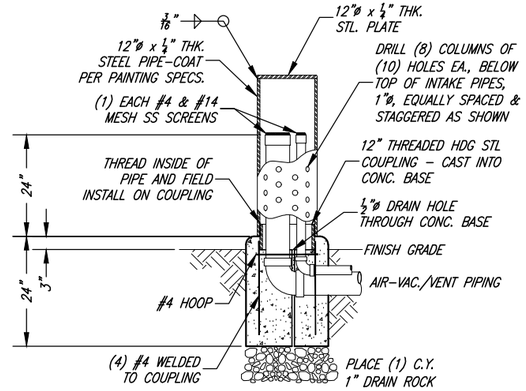
PRV VALVE HOSE BIB AND PRESSURE GAUGE DETAIL

N.T.S.



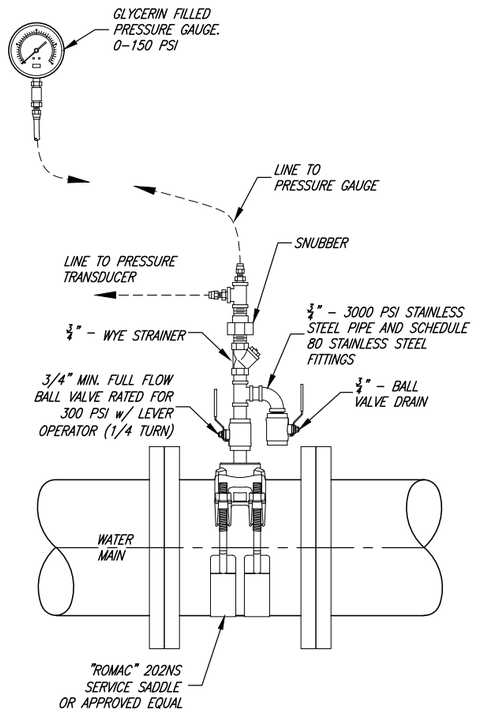
FRESH AIR INTAKE VENT STRUCTURE DETAIL

THE FRESH AIR INTAKE VENT SHALL BE INSTALLED ONLY WHEN THE PRV VAULT IS CONSTRUCTED OUTSIDE OF THE CITY ROADWAY (OFFSITE).



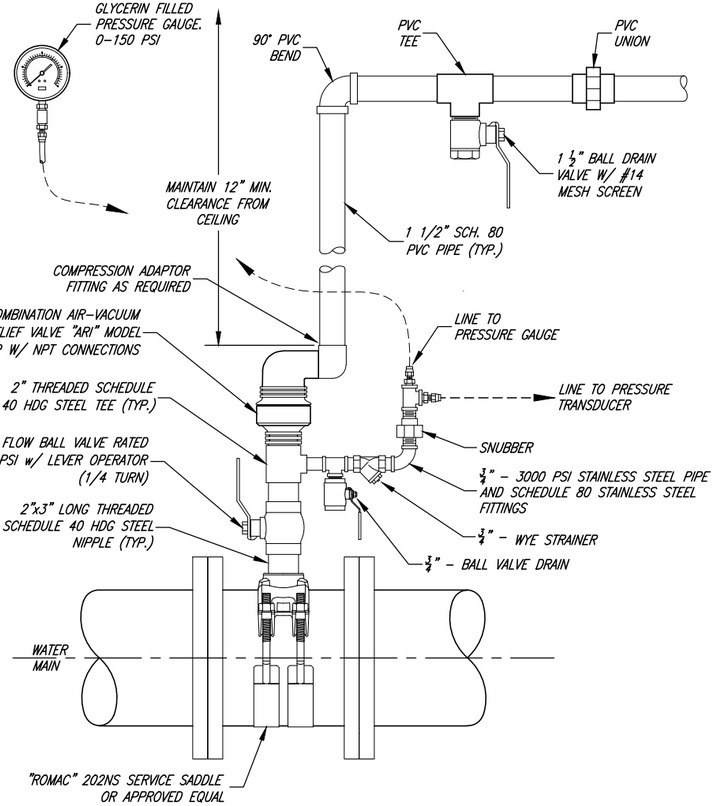
AIR/VACUUM VALVE AND EXHAUST FAN VENT STRUCTURE DETAIL

N.T.S.



PRESSURE GAUGE AND PRESSURE TRANSDUCER CONNECTION ASSEMBLY

N.T.S.



COMBINATION AIR-VAC RELIEF VALVE ASSEMBLY

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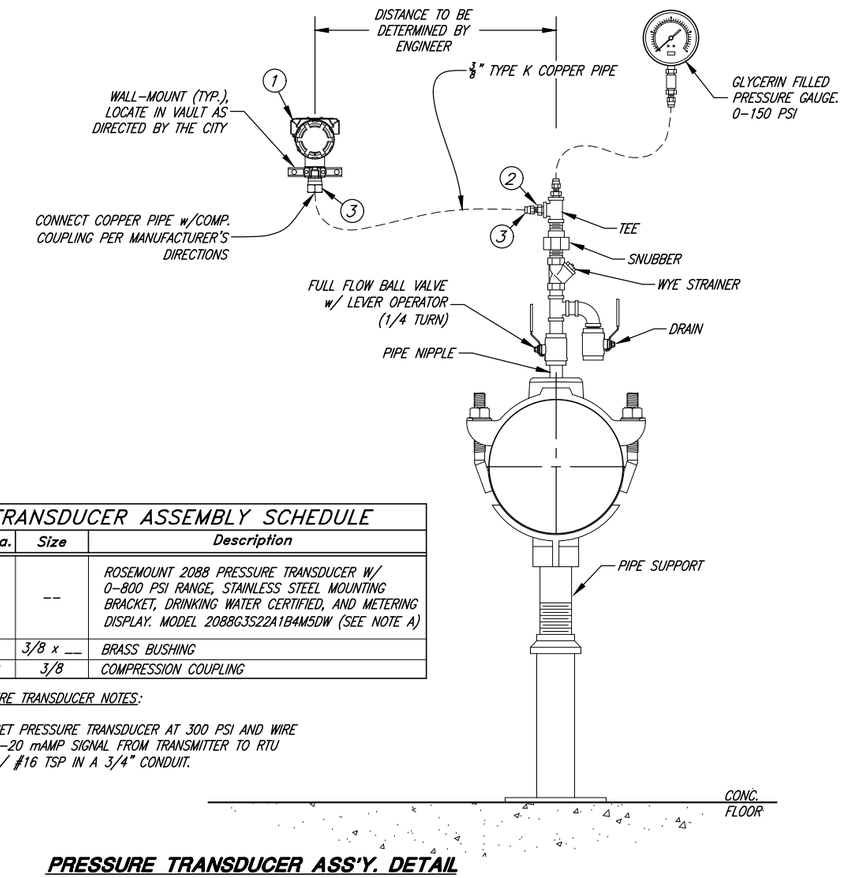

TRANSDUCER ASSEMBLY SCHEDULE			
No.	Qua.	Size	Description
1	1	--	ROSEMOUNT 2088 PRESSURE TRANSDUCER W/ 0-800 PSI RANGE, STAINLESS STEEL MOUNTING BRACKET, DRINKING WATER CERTIFIED, AND METERING DISPLAY. MODEL 2088G3S22A1B4M5DW (SEE NOTE A)
2	1	3/8 x __	BRASS BUSHING
3	2	3/8	COMPRESSION COUPLING

PRESSURE TRANSDUCER NOTES:

A. SET PRESSURE TRANSDUCER AT 300 PSI AND WIRE 4-20 mAMP SIGNAL FROM TRANSMITTER TO RTU w/ #16 TSP IN A 3/4" CONDUIT.

PRESSURE TRANSDUCER ASS'Y. DETAIL

CITY ENGINEER

3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

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Clearfield City Public Works

CLEARFIELD CITY CORPORATION

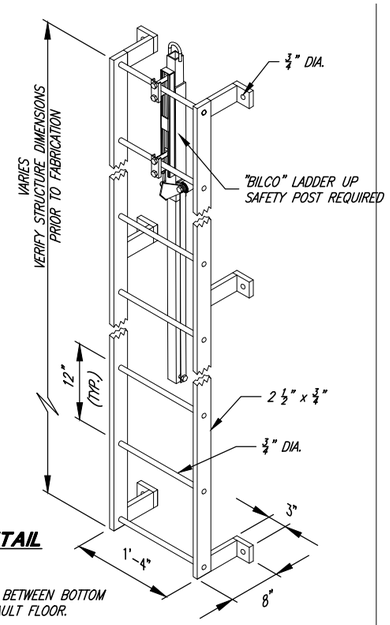
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS

MISC. PRV VAULT DETAILS

SHEET: CW8

OF X SHEETS

0

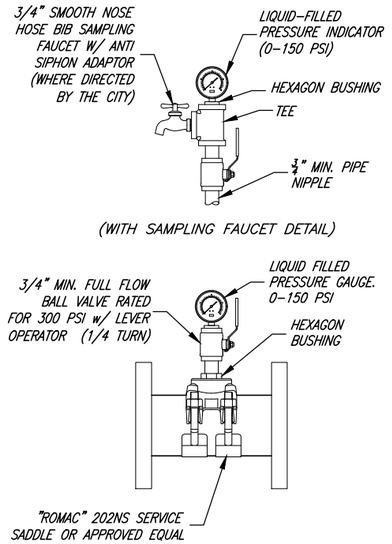


LADDER DETAIL

LADDER NOTES:

A1. MAX. 12" SPACING BETWEEN BOTTOM OF LADDER AND VAULT FLOOR.

A2. HOT DIP GALVANIZE AFTER FABRICATION.



PRESSURE GAUGE ASSEMBLY

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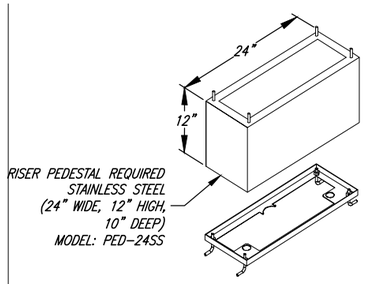

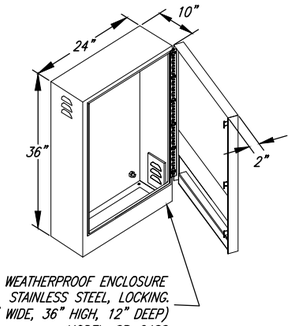

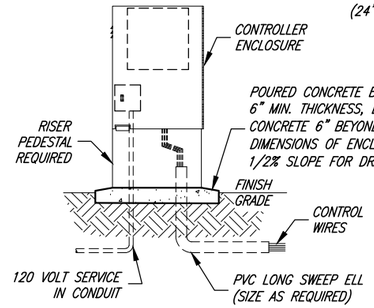

SCADA BOX

HEAVY-DUTY STAINLESS STEEL ENCLOSURE
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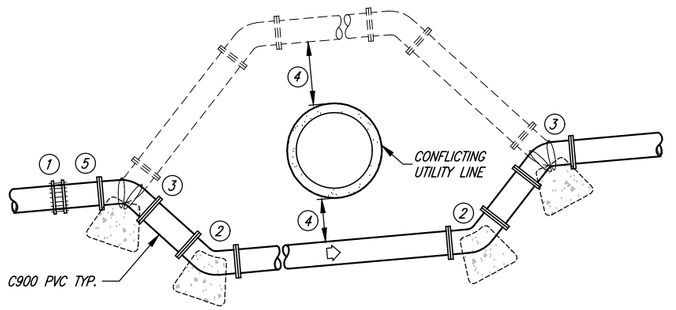
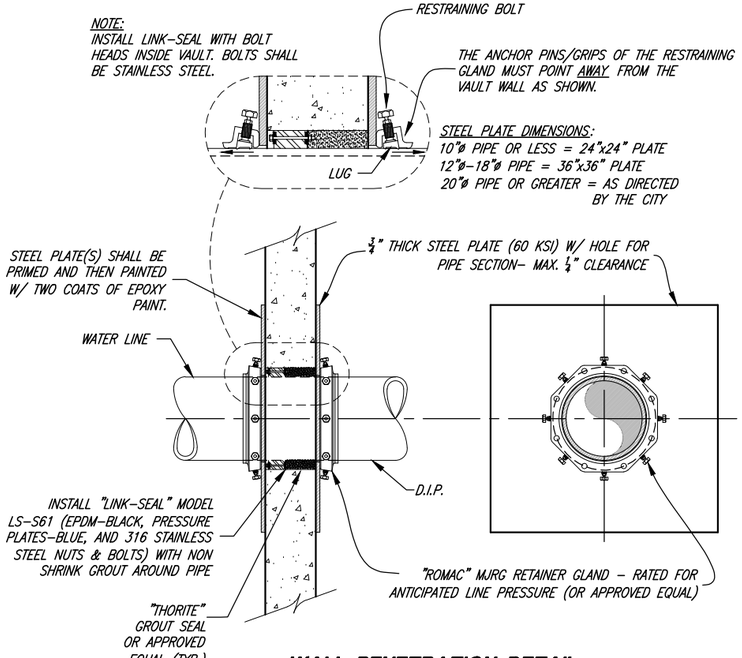


TYPICAL WATERLINE LOOP

1. TRANSITION COUPLING; "ROMAC" ALPHA, "ROMAC" MACRO, OR APPROVED EQUAL
2. MJ 45° BEND W/RETAINER GLANDS
3. CONSTRUCT THRUST BLOCKS AT EACH 45° BEND W/ (2) ½" THICK X 2" WIDE STAINLESS STEEL STRAPS WITH 6" HOOKS
4. MINIMUM OF 12" COVER BETWEEN THE WATERLINE AND CONFLICTING UTILITY LINE TO BE CROSSED, EXCEPT LOOPS INVOLVING SEWER MAINS WHERE A MINIMUM OF 18" VERTICAL COVER ABOVE THE SEWER MAIN IS REQUIRED. EXCEPTIONS MUST BE APPROVED BY THE UTAH DIVISION OF DRINKING WATER (DDW.)
5. AN AIR/VACUUM RELIEF VALVE MAY BE REQUIRED ON A CASE BY CASE BASIS AS DIRECTED BY THE CITY.

NOTE:
INSTALL LINK-SEAL WITH BOLT HEADS INSIDE VAULT. BOLTS SHALL BE STAINLESS STEEL.



WALL PENETRATION DETAIL

FOR PRECAST VAULT (TYP)

PIPE RESTRAINT

A1. FOR NOMINAL PIPE DIAMETERS 8" AND GREATER, ALL BENDS, CROSSES, TEES, REDUCERS, AND VALVES SHALL BE INSTALLED WITH RESTRAINING JOINTS ("MEGA-LUG", "ALPHA" OR APPROVED EQUAL).

A2. DESIGN SHALL ALSO BE REQUIRED TO ENSURE ADEQUATE RESTRAINT FOR PIPING JOINTS NEAR FITTINGS BASED ON PIPE DIAMETER AND PIPE PRESSURE.

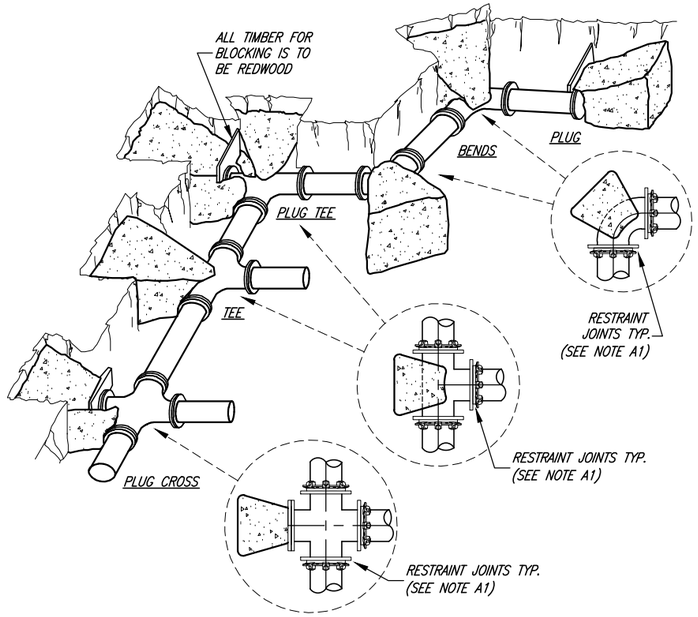
THRUST BLOCKING NOTES:

B1. CONCRETE SHALL NOT BE PLACED WITHIN 1-1/2" OF JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS WITH A POLY WRAP PRIOR TO CONCRETE PLACEMENT.

B2. IN THE ABSENCE OF A SOILS REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAXIMUM LATERAL BEARING VALUE FOR 2000 P.S.F. AND A THRUST RESULTING FROM 200% OF THE WATER LINE STATIC LINE TEST.

B3. THRUST BLOCKS ARE REQUIRED AT ALL BENDS OF 22-1/2° OR MORE. 11-1/4° BENDS SHALL HAVE RETAINER GLANDS.

B4. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS.



TYPICAL RETAINER GLANDS & THRUST BLOCKING

THRUST PER PSI OF WATER PRESSURE AT VARIOUS FITTINGS

PIPE SIZE (IN.)	DEAD END OR TEE (LB.)	90° ELBOW (LB.)	45° ELBOW (LB.)	22-1/2° ELBOW (LB.)
4	19	27	15	7
6	39	55	30	15
8	67	94	51	26
10	109	154	84	43
12	155	218	119	61
14	210	296	161	82
16	272	383	209	106
18	351	494	269	137
20	434	611	333	169
24	623	878	487	244
30	947	1,332	722	377
36	1,356	1,905	1,032	542

NOTES:

C1. IN USING THE ABOVE TABLE, USE THE MAXIMUM INTERNAL PRESSURE ANTICIPATED (I.E. HYDROSTATIC TEST PRESSURE, POSSIBLE SURGE PRESSURE DUE TO PUMP SHUT OFF, ETC.).

C2. SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL. IN THE ABSENCE OF A SOILS REPORT, AN AVERAGE SOIL (SPADABLE MEDIUM CLAY) CAN BE ASSUMED TO HAVE A BEARING STRENGTH OF 2000 P.S.F.

EXAMPLE:

8-INCH 90° ELBOW, PRESSURE 200 LB./SQ. IN.
FROM TABLE: THRUST = 94 X 200 = 18,800 LB.
ASSUME BEARING STRENGTH = 2.000 LB./SQ. FT.

18,8000 / 2,000 = 9.4 SQ. FT. AREA OF BEARING REQUIRED FOR THRUST BLOCK

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

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Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
THRUST BLOCK, WATERLINE LOOP, AND MISC. VAULT DETAILS

SHEET: CW9 OF X SHEETS
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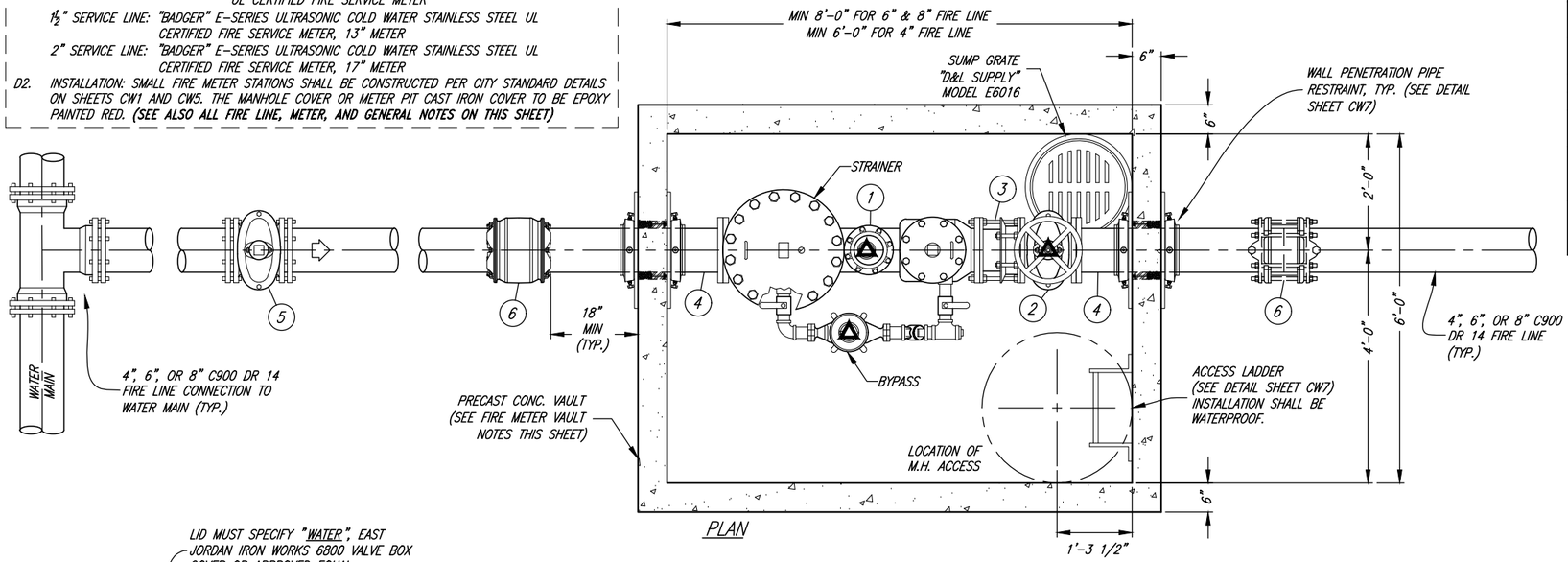
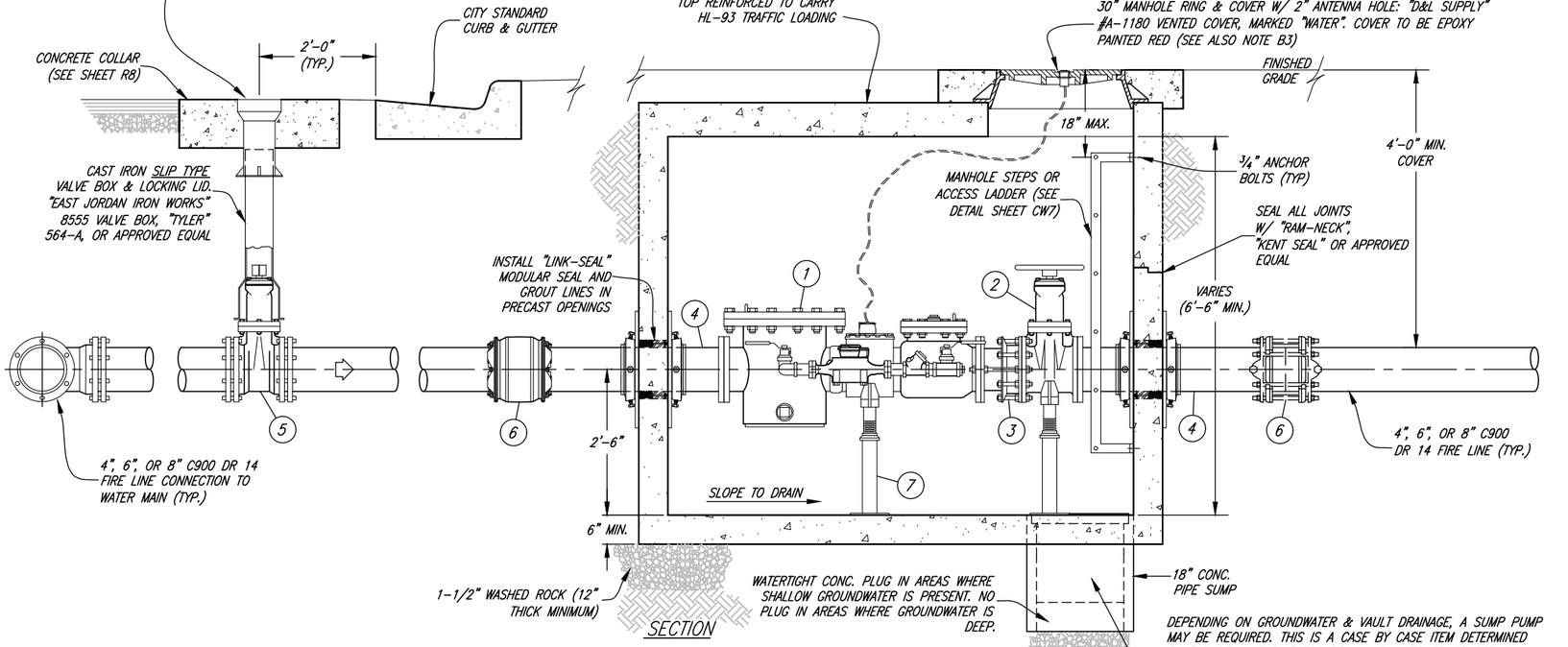
3/4" TO 2" FIRE LINE METER STATION NOTES

D1. METERS:
3/4" AND 1" SERVICE LINE: "BADGER" E-SERIES ULTRASONIC COLD WATER STAINLESS STEEL UL CERTIFIED FIRE SERVICE METER
1½" SERVICE LINE: "BADGER" E-SERIES ULTRASONIC COLD WATER STAINLESS STEEL UL CERTIFIED FIRE SERVICE METER, 13" METER
2" SERVICE LINE: "BADGER" E-SERIES ULTRASONIC COLD WATER STAINLESS STEEL UL CERTIFIED FIRE SERVICE METER, 17" METER

D2. INSTALLATION: SMALL FIRE METER STATIONS SHALL BE CONSTRUCTED PER CITY STANDARD DETAILS ON SHEETS CW1 AND CW5. THE MANHOLE COVER OR METER PIT CAST IRON COVER TO BE EPOXY PAINTED RED. **(SEE ALSO ALL FIRE LINE, METER, AND GENERAL NOTES ON THIS SHEET)**



PLAN



SECTION

4", 6" & 8" FIRE LINE METER STATION

WITH LOW FLOW BYPASS

PIPE & FITTING SCHEDULE

NO.	DESCRIPTION (6" & 8" METER STA.)	JOINT TYPE	4" LINE	6" LINE	8" LINE
1*	"BADGER" RECORDALL FIRE SERIES ASSEMBLY (FSAA), METER & STRAINER WITH DISC BYPASS	FL	4"	6"	8"
2	"MUELLER" RESILIENT WEDGE GATE VALVE W/ HANDWHEEL	FL	4" A-2361	6" A-2361	8" A-2361
3	"ROMAC" DJ400 DISMANTLING JOINT	FL	4"	6"	8"
4	D.I. NIPPLE PIECE	FLxPE	4"	6"	8"
5	"MUELLER" RESILIENT WEDGE GATE VALVE	FLxMJ	4" A-2361	6" A-2361	8" A-2361
6	SLEEVE COUPLING CONNECTION ("ROMAC" RESTRAINED COUPLING ADAPTER OR MJxMJ SLEEVE W/ MEGA-LUGS)	--	4"	6"	8"
7	"ANVIL" #264 GALV. PIPE SUPPORT W/ 3" COMPANION FLANGE & VARIABLE HEIGHT 3" NIPPLE OR APPROVED EQUAL (3 EA REQUIRED.)				△ SYMBOL

* ALL FIRE LINE METERS SHALL BE SUPPLIED BY OWNER OR CONTRACTOR AND NOT BY THE CITY.

FIRE LINE NOTES:

1. NO WATER SERVICE OR FIRE LINES TO BUILDINGS ARE PERMITTED TO CONNECT TO AUXILIARY LINES SERVICING FIRE HYDRANTS.
2. COMMERCIAL FIRE LINES FROM THE MAIN TO BUILDING SHALL BE SEPARATE LINES AND NOT PART OF THE WATER SERVICE LATERAL.
3. FIRE LINES ARE TO BE MAINTAINED BY THE PROPERTY OWNER UP TO THE VALVE AT THE MAIN. THE CITY SHALL OWN AND MAINTAIN THE VALVE AT THE MAIN.
4. THE FIRE LINE METER STATION TO BE LOCATED WITHIN THE 10'-0" PUBLIC UTILITY EASEMENT (PUE)

FIRE METER VAULT NOTES:

A1. ALL FITTINGS SHALL BE AWWA C-110 WITH 125 LB. FLANGES. ALL PIPING SHALL BE DUCTILE IRON PIPE CLASS 350 P.S.I. MIN.

A2. ALL FITTINGS OUTSIDE OF THE VAULT ARE TO BE DUCTILE IRON MJ WITH THRUST RESTRAINT RETAINER GLANDS ("ROMAC", MJRG, OR APPROVED EQUAL).

A3. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.

A4. PENETRATION WALLS NEED TO BE ADEQUATELY DESIGNED STRUCTURALLY FOR ANTICIPATED THRUST.

A5. THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.

A6. ALL WALL PIPE PENETRATIONS ARE TO BE SEALED TO PREVENT WATER INFILTRATION. USE "LINK-SEAL" ON CAST-IN-PLACE VAULTS. PRECAST VAULTS SEAL AS DIRECTED BY CITY.

A7. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE OR STRUCTURE.

METER NOTES:

B1. ALL METERS TO BE RADIO-READ COMPATIBLE & EQUIPPED WITH A THROUGH THE LID ANTENNA.

B2. METERS TO BE APPROVED BY CITY PRIOR TO INSTALLATION.

B3. ALL RADIO-READ ANTENNAS ARE TO BE INSTALLED ABOVE THE ACCESS LID, RECESSED INTO THE MANHOLE OR METER PIT COVER.

GENERAL NOTES:

C1. PROPERTY OWNER OR CONTRACTOR SHALL PAY FOR ALL COSTS OF INSTALLATION INCLUDING ALL MATERIALS, ALL EXCAVATION AND FILL, ASPHALT REPLACEMENT AND WATER MAIN CONNECTION.

C2. INSPECTION OF ALL WATER LINE INSTALLATIONS WILL BE DONE BY THE CITY, WITH A 48 HOUR MINIMUM NOTICE REQUIRED PRIOR TO START OF WORK.

C3. CONTRACTOR IS RESPONSIBLE FOR ALL COUNTY, STATE, OR CITY ROAD CUT PERMITS AND REGULATIONS.

C4. ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

JONES & ASSOCIATES
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6080 Fashion Point Drive
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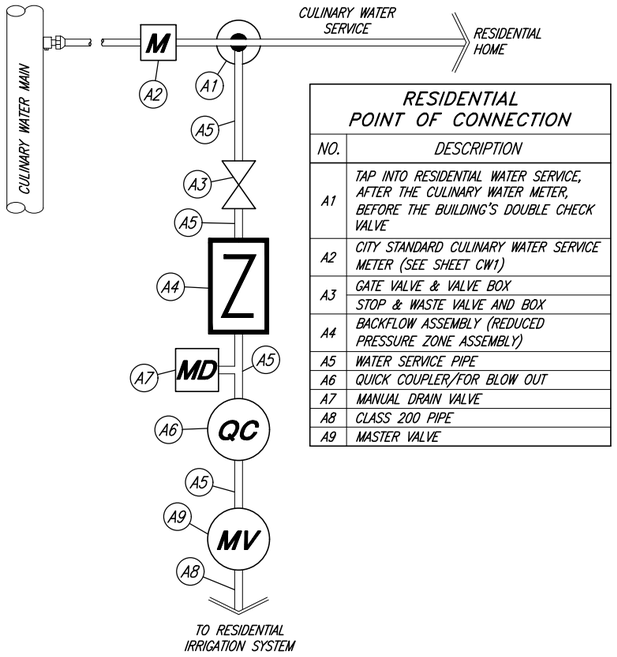
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
FIRE LINE METER STATIONS

SHEET: CW10
OF X SHEETS
0



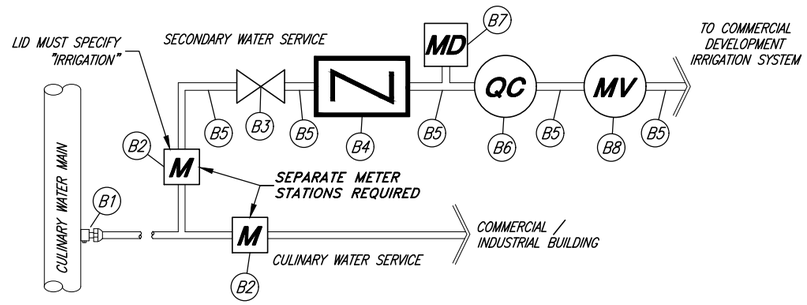
RESIDENTIAL POINT OF CONNECTION	
NO.	DESCRIPTION
A1	TAP INTO RESIDENTIAL WATER SERVICE, AFTER THE CULINARY WATER METER, BEFORE THE BUILDING'S DOUBLE CHECK VALVE
A2	CITY STANDARD CULINARY WATER SERVICE METER (SEE SHEET CW1)
A3	GATE VALVE & VALVE BOX
A4	STOP & WASTE VALVE AND BOX
A4	BACKFLOW ASSEMBLY (REDUCED PRESSURE ZONE ASSEMBLY)
A5	WATER SERVICE PIPE
A6	QUICK COUPLER/FOR BLOW OUT
A7	MANUAL DRAIN VALVE
A8	CLASS 200 PIPE
A9	MASTER VALVE

TYPICAL RESIDENTIAL POINT OF CONNECTION SCHEMATIC DIAGRAM

N.T.S.

GENERAL NOTES:

1. DESIGN, CONSTRUCTION, AND INSTALLATION SHALL BE DONE ACCORDING TO AND COMPLY WITH ALL CURRENT ADOPTED BUILDING AND PLUMBING CODES, AND TO MANUFACTURERS WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
2. ALL TESTING, MAINTENANCE, AND/OR REPAIR SHALL BE PERFORMED BY A STATE CERTIFIED BACKFLOW ASSEMBLY TECHNICIAN.
3. THE ASSEMBLY MUST BE THOROUGHLY DRAINED AND WINTERIZED EACH WINTER.
4. THE RP ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND VANDALISM WHERE APPLICABLE.
5. ABOVE GROUND FITTINGS TO BE EPOXY PAINTED BLUE ON THE CULINARY SIDE AND PURPLE ON THE SECONDARY SIDE.
6. PROVIDE BOLLARDS OR OTHER PROTECTION IF AND AS DIRECTED BY THE CITY.
7. RP ASSEMBLY DESIGN AND CONSTRUCTION DETAILS/DRAWINGS TO BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION.
8. LOCATION OF BACKFLOW ASSEMBLY SHALL BE APPROVED BY THE CITY PRIOR TO INSTALLATION.
9. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL BE TESTED WITHIN 10 DAYS OF INITIAL USE BY A LICENSED BACKFLOW ASSEMBLY TESTER.
10. ALL BACKFLOW PREVENTION ASSEMBLIES ARE TO BE TESTED ANNUALLY BY A CERTIFIED TESTER AND REPAIRS OR MAINTENANCE COMPLETED AS NEEDED. ANNUALLY SUBMIT TEST RESULTS TO THE CITY.



TYPICAL COMMERCIAL / INDUSTRIAL DEVELOPMENT POINT OF CONNECTION SCHEMATIC DIAGRAM

N.T.S.

COMMERCIAL DEV. POINT OF CONNECTION	
NO.	DESCRIPTION
B1	WATER SERVICE CONNECTION
B2	CITY STANDARD CULINARY WATER SERVICE METER (SEE SHEET CW1 AND/OR CW5, CW6)
B3	GATE VALVE & VALVE BOX
B4	STOP & WASTE VALVE AND BOX
B4	BACKFLOW ASSEMBLY (REDUCED PRESSURE ZONE ASSEMBLY)
B5	WATER SERVICE PIPE
B6	QUICK COUPLER/FOR BLOW OUT
B7	MANUAL DRAIN VALVE
B8	MASTER VALVE

REDUCED PRESSURE ASSEMBLY (RP) NOTES:

D1. AN RP ASSEMBLY SHALL BE INSTALLED WHEN A SECONDARY SERVICE IS CONNECTED TO THE CULINARY WATER SYSTEM.

D2. THE RP ASSEMBLY SHALL BE INSTALLED IN A HORIZONTAL POSITION ONLY.

D3. RP ASSEMBLIES SHALL NOT BE INSTALLED IN A PIT.

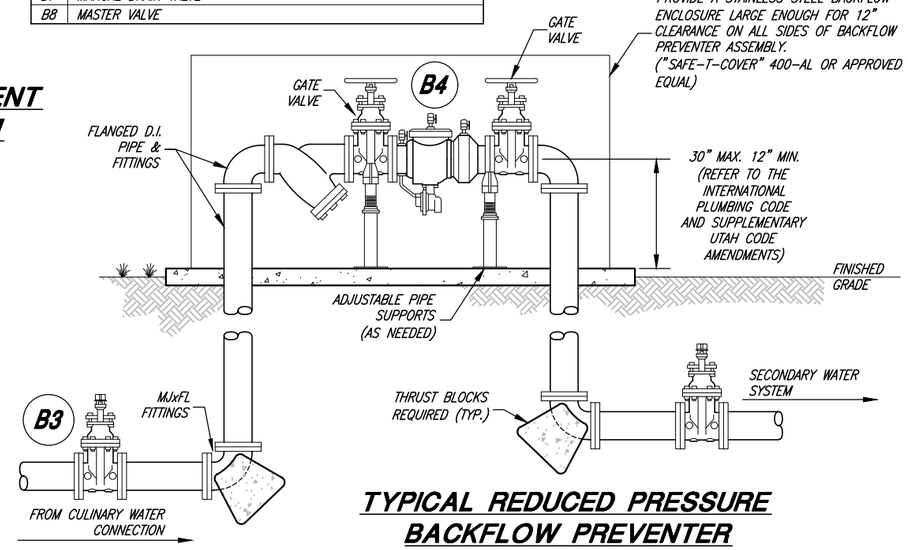
D4. THE BODY OF THE RP ASSEMBLY SHALL BE A MINIMUM OF 12" FROM ANY WALLS, CEILINGS, OR ENCUMBRANCES AND SHALL BE READILY ACCESSIBLE FOR TESTING, REPAIR AND/OR MAINTENANCE.

D5. THE BOTTOM OF THE RP ASSEMBLY SHALL BE A MINIMUM OF 12" ABOVE THE GROUND FLOOR.

D6. RP VALVE ASSEMBLY AND PIPES TO MATCH SECONDARY LATERAL/MAIN SIZE.

D7. THE BACKFLOW PREVENTER SHALL BE BRONZE FOR 6" AND SMALLER VALVES, AND EPOXY COATED DUCTILE IRON FOR 8" AND LARGER VALVES.

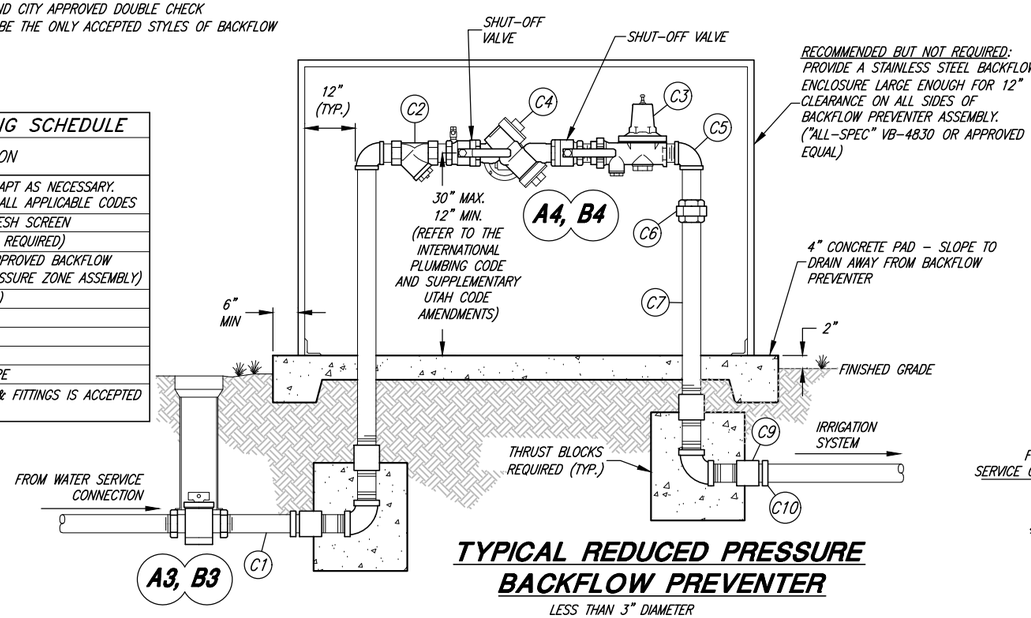
D8. BACKFLOW PREVENTION DEVICES SHALL BE SELECTED FROM A LIST OF APPROVED DEVICES SET FORTH BY THE UTAH DIVISION OF DRINKING WATER. REDUCED PRESSURE ASSEMBLIES (RP) AND CITY APPROVED DOUBLE CHECK VALVE ASSEMBLIES (DCA) WILL BE THE ONLY ACCEPTED STYLES OF BACKFLOW PREVENTION DEVICES.



TYPICAL REDUCED PRESSURE BACKFLOW PREVENTER

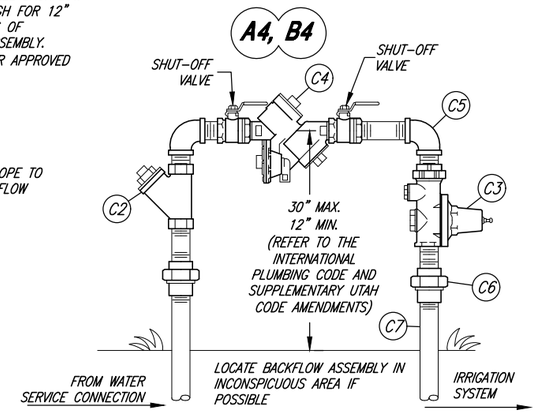
4" AND LARGER DIAMETER

TYPICAL PIPE & FITTING SCHEDULE	
NO.	DESCRIPTION
C1	TO POINT OF CONNECTION – ADAPT AS NECESSARY. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES
C2	BRASS WYE STRAINER W/ 60 MESH SCREEN
C3	PRESSURE REDUCING VALVE (AS REQUIRED)
C4	DIVISION OF DRINKING WATER APPROVED BACKFLOW PREVENTER UNIT (REDUCED PRESSURE ZONE ASSEMBLY)
C5	BRASS 90 DEGREE ELBOW (TYP.)
C6	BRASS UNION (TYP.)
C7	BRASS PIPE (TYP.)
C9	BRASS COUPLING
C10	PIPE ADAPTER AND MAINLINE PIPE
THE USE OF GALVANIZED STEEL PIPE & FITTINGS IS ACCEPTED WHEN APPROVED BY THE CITY	



TYPICAL REDUCED PRESSURE BACKFLOW PREVENTER

LESS THAN 3" DIAMETER



ALTERNATE REDUCED PRESSURE BACKFLOW PREVENTER

OPTIONAL ALTERNATE FOR RESIDENTIAL CONNECTIONS AND COMMERCIAL DEVELOPMENTS LESS THAN ONE ACRE

CITY ENGINEER

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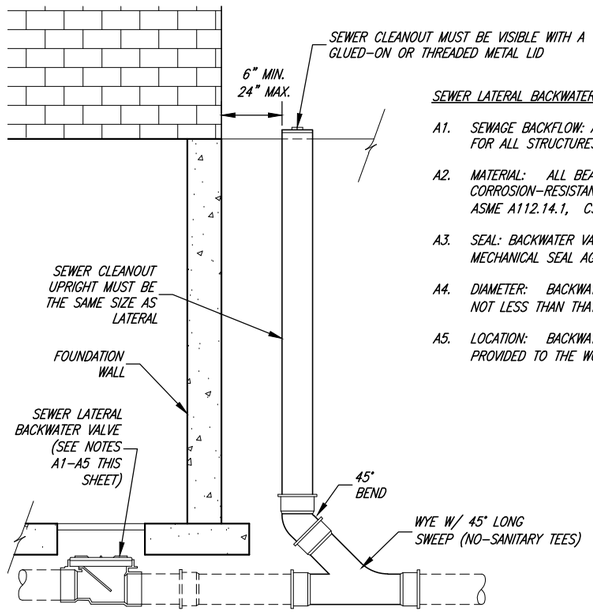
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS

REDUCED PRESSURE (RP) BACKFLOW PREVENTION ASSEMBLY

SHEET: CW11

OF X SHEETS

0



TYPICAL SEWER LATERAL HOME CONNECTION WITH CLEANOUT

SEWER LATERAL BACKWATER VALVE NOTES:

A1. SEWAGE BACKFLOW: A SEWER LATERAL BACKWATER VALVE SHALL BE INSTALLED FOR ALL STRUCTURES.

A2. MATERIAL: ALL BEARING PARTS OF BACKWATER VALVES SHALL BE OF CORROSION-RESISTANT MATERIAL. BACKWATER VALVES SHALL COMPLY WITH ASME A112.14.1, CSA CAN/CSA-B181.1 OR CSA CAN/CSA-B181.2. (IPC 715.2)

A3. SEAL: BACKWATER VALVES SHALL BE SO CONSTRUCTED AS TO PROVIDE A MECHANICAL SEAL AGAINST BACKFLOW. (IPC 715.3)

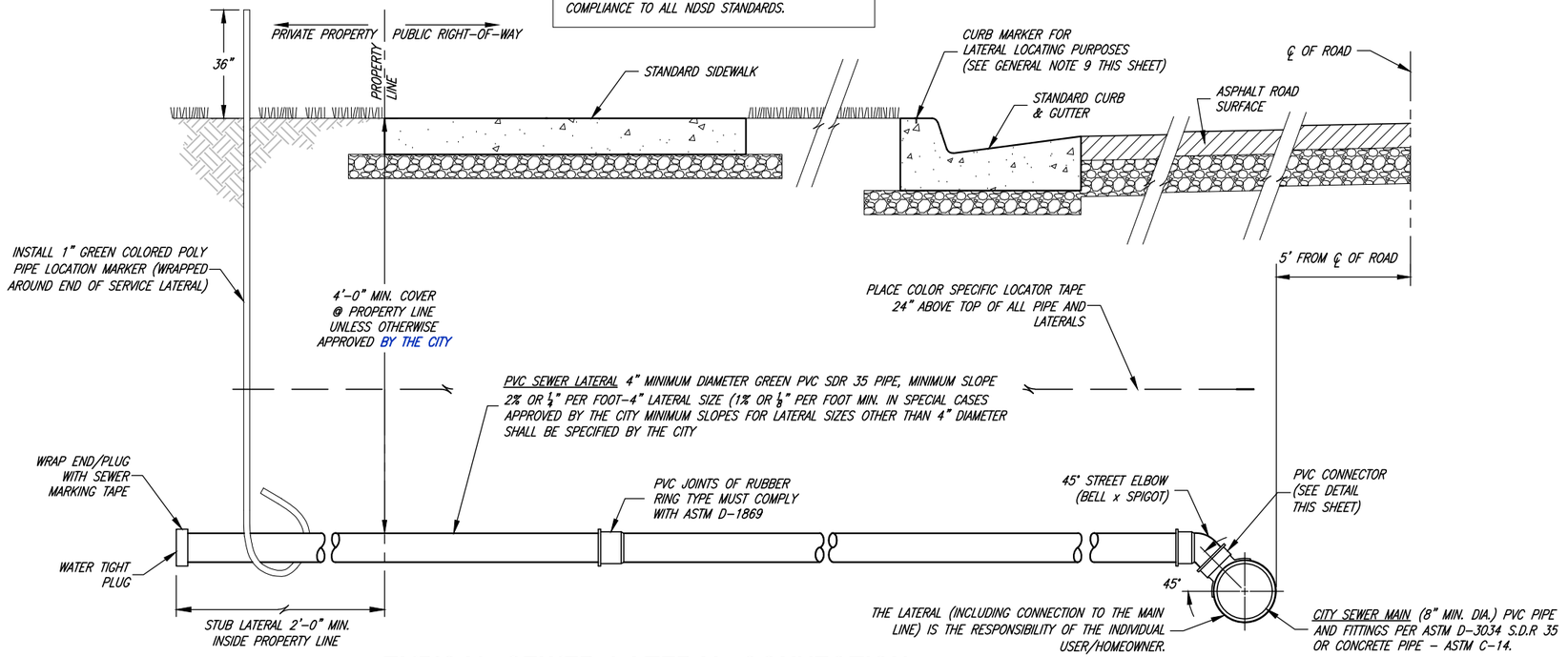
A4. DIAMETER: BACKWATER VALVES, WHEN FULLY OPENED, SHALL HAVE A CAPACITY NOT LESS THAN THAT OF THE PIPES IN WHICH THEY ARE INSTALLED. (IPC 715.4)

A5. LOCATION: BACKWATER VALVES SHALL BE INSTALLED SO THAT ACCESS IS PROVIDED TO THE WORKING PARTS FOR SERVICE AND REPAIR. (IPC 715.6)

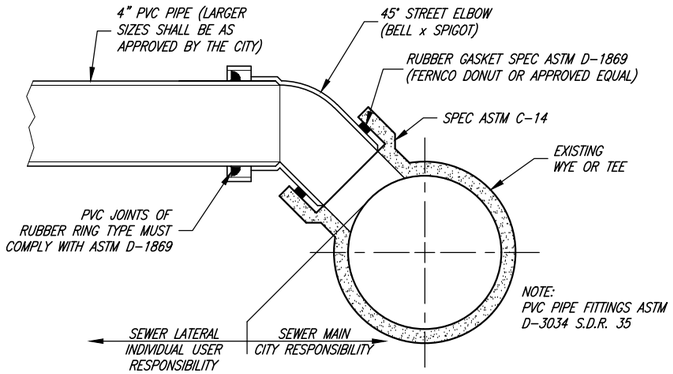
GENERAL NOTES:

1. ALL SANITARY SEWER LATERAL CONNECTIONS ON SEWER MAINS IN NEW SUBDIVISIONS SHALL BE MADE WITH IN LINE PRE-FORMED WYE'S OR TEE'S UNLESS OTHERWISE APPROVED BY THE CITY.
2. FLOWLINE ELEVATION OF LATERALS SHALL EQUAL THE INSIDE TOP OF PIPE ON MAINLINE AT THE CONNECTING POINT (THE LATERAL TAP SHALL BE IN THE TOP QUARTER OF THE SEWER MAIN LINE PREFERABLY IN THE 10:00 OR 2:00 POSITION).
3. SANITARY SEWER SERVICE LATERAL CONNECTIONS SHALL NOT BE ALLOWED IN SEWER MANHOLES.
4. SANITARY SEWER MAINS AND LATERALS SHALL BE "GREEN" IN COLOR. PREVIOUS YEARS PIPE COLORS VARY THROUGHOUT THE CITY. **CONTRACTOR TO VERIFY EXISTING PIPE PRIOR TO MAKING ANY CONNECTION.**
5. INSERTA TEE PRODUCT IS NOT APPROVED BY THE CITY.
6. ALL CLEANOUTS SHALL BE MARKED AND FITTED WITH A METAL LID FOR LOCATION PURPOSES.
7. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION ABOVE ALL SEWER MAINS AND LATERALS OF 18" VERTICAL AND 10'-0" HORIZONTAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER (DDW) RULES SECTION R309-550-7. EXCEPTIONS MUST BE APPROVED BY DDW.
8. ALL SANITARY SEWER LINES SHALL BE INSPECTED BY MEANS OF VIDEO CAMERA AND AIR TESTED WHEN CONSTRUCTED. SEE APWA 33 08 00 AND CITY MODIFICATIONS FOR MORE INFORMATION.
9. STAMPED STAINLESS STEEL PINS (UTILITY WASHERS) USED FOR LATERAL LOCATING ARE REQUIRED BY THE CITY. PINS SHALL BE PROVIDED BY THE CITY AND INSTALLED BY THE CONTRACTOR DURING ALL NEW CONSTRUCTION OR RESTORED WHEN REPLACING DAMAGED CURB & GUTTER DUE TO ANY CONSTRUCTION RELATED ACTIVITY. PINS SHALL BE STAMPED "S" FOR SANITARY SEWER LATERALS AND "W" FOR CULINARY WATER LATERALS.
10. THE LOCATION OF THE SEWER LATERAL MUST BE DOCUMENTED AND SUBMITTED TO THE CITY ON SCALED AS-BUILT DRAWINGS

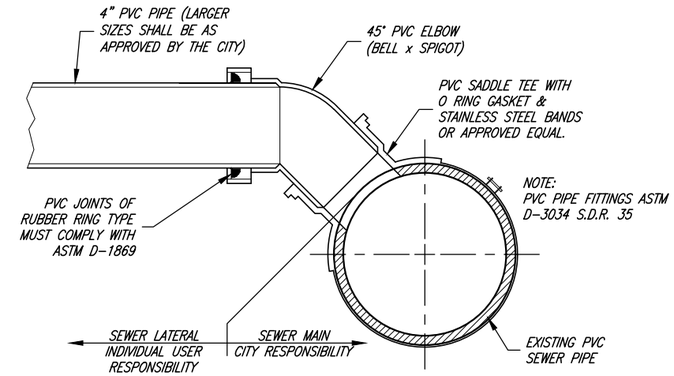
NORTH DAVIS SEWER DISTRICT NOTE:
ANY SANITARY SEWER WORK DONE INVOLVING THE NORTH DAVIS SEWER DISTRICT (NDSD) WILL REQUIRE WRITTEN APPROVAL FROM NDSD AND MUST BE IN COMPLIANCE TO ALL NDSD STANDARDS.



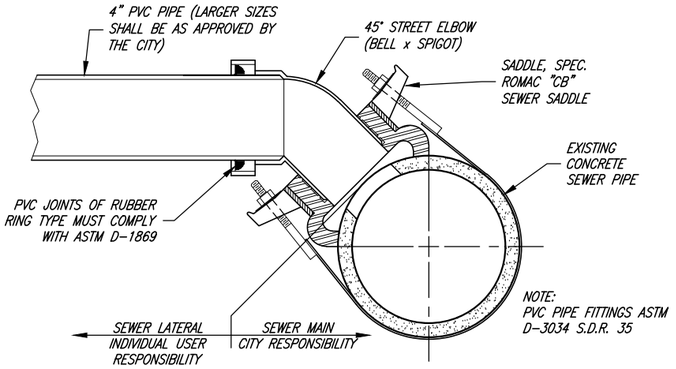
TYPICAL SEWER LATERAL CONNECTION



CONNECTING INTO EXISTING WYE OR TEE



TAPPING INTO EXISTING PVC PIPE



TAPPING INTO EXISTING CONCRETE PIPE

CITY ENGINEER
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CLEARFIELD CITY CORPORATION
PUBLIC WORKS - SANITARY SEWER SYSTEM STANDARDS
SEWER LATERAL & MAIN LINE CONNECTION DETAILS

SHEET: SS1
OF X SHEETS
0

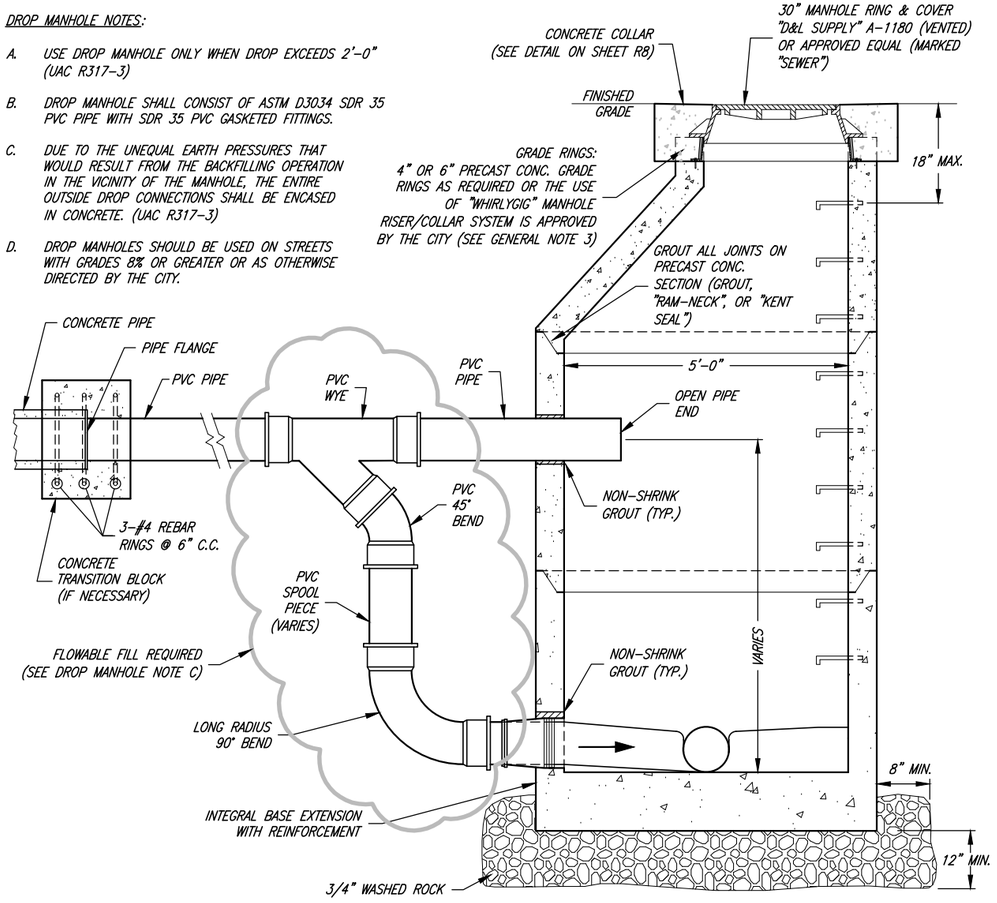
DROP MANHOLE NOTES:

A. USE DROP MANHOLE ONLY WHEN DROP EXCEEDS 2'-0" (UAC R317-3)

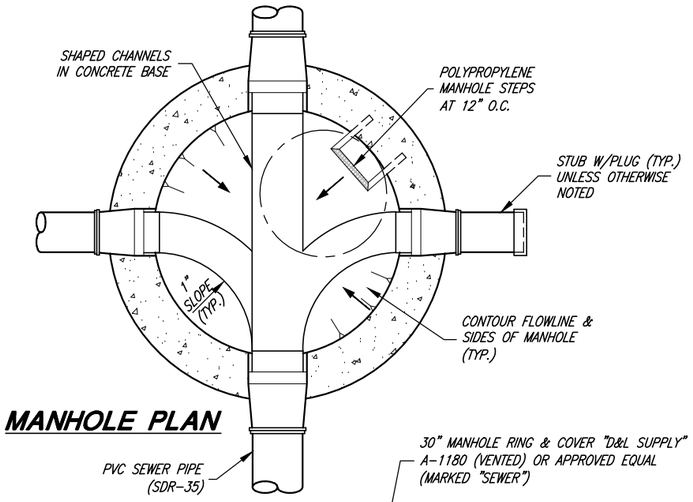
B. DROP MANHOLE SHALL CONSIST OF ASTM D3034 SDR 35 PVC PIPE WITH SDR 35 PVC GASKETED FITTINGS.

C. DUE TO THE UNEQUAL EARTH PRESSURES THAT WOULD RESULT FROM THE BACKFILLING OPERATION IN THE VICINITY OF THE MANHOLE, THE ENTIRE OUTSIDE DROP CONNECTIONS SHALL BE ENCASED IN CONCRETE. (UAC R317-3)

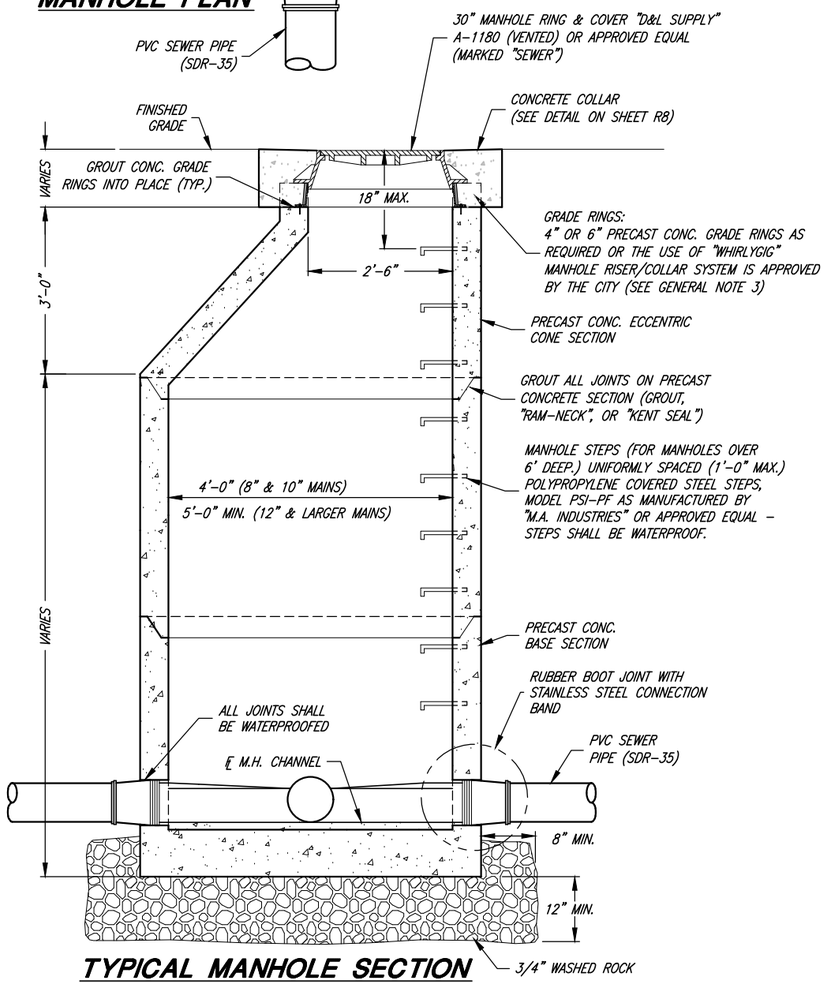
D. DROP MANHOLES SHOULD BE USED ON STREETS WITH GRADES 8% OR GREATER OR AS OTHERWISE DIRECTED BY THE CITY.



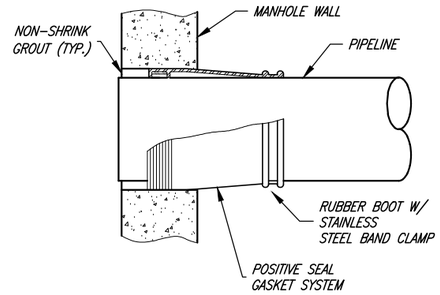
TYPICAL DROP MANHOLE SECTION



MANHOLE PLAN



TYPICAL MANHOLE SECTION



RUBBER BOOT DETAIL

NORTH DAVIS SEWER DISTRICT NOTE:
ANY SANITARY SEWER WORK DONE INVOLVING THE NORTH DAVIS SEWER DISTRICT (NDSD) WILL REQUIRE WRITTEN APPROVAL FROM NDSD AND MUST BE IN COMPLIANCE TO ALL NDSD STANDARDS.

GENERAL NOTES:

1. SECURE INVERTS IN ALL MANHOLES DURING CONSTRUCTION SO AS TO PREVENT GRAVEL AND OTHER DEBRIS FROM COLLECTING INSIDE.
2. A LARGER DIAMETER MANHOLE MAY BE REQUIRED BY THE CITY AFTER EVALUATION OF THE NUMBER, SIZE, AND ANGLE OF THE PIPES THAT CONNECT TO THE MANHOLE.
3. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE.
4. ALL TERMINATING SEWER MAINS SHALL END WITH A CITY STANDARD MANHOLE.
5. SERVICE LATERAL CONNECTIONS SHALL NOT BE ALLOWED IN SEWER MANHOLES.
6. ALL SANITARY SEWER LINES SHALL BE INSPECTED BY MEANS OF VIDEO CAMERA AND AIR TESTED WHEN CONSTRUCTED. SEE APWA 33 08 00 AND CITY MODIFICATIONS FOR MORE INFORMATION.
7. WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE INCOMING SEWER AND MANHOLE INVERT IS LESS THAN 24 INCHES, THE INVERT SHOULD BE FILLETED.
8. FLAT MANHOLE RINGS & COVERS (SLAB CONSTRUCTION) ARE NOT ALLOWED ON ANY MANHOLE CONE SECTION.
9. ALL SEWER MANHOLE COVERS TO BE VENTED UNLESS OTHERWISE NOTED.
10. GREASE INTERCEPTORS, OIL/WATER SEPARATORS, SAND INTERCEPTORS, ETC. TO BE CONSTRUCTED AND IN COMPLIANCE WITH ALL NORTH DAVIS SEWER DISTRICT STANDARDS.

CITY ENGINEER
3/8/2024
DATE

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SCALE: N.T.S.

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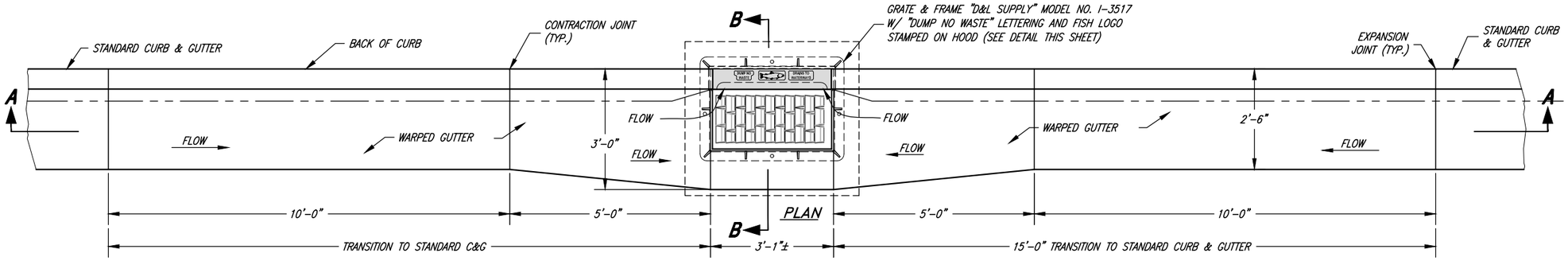
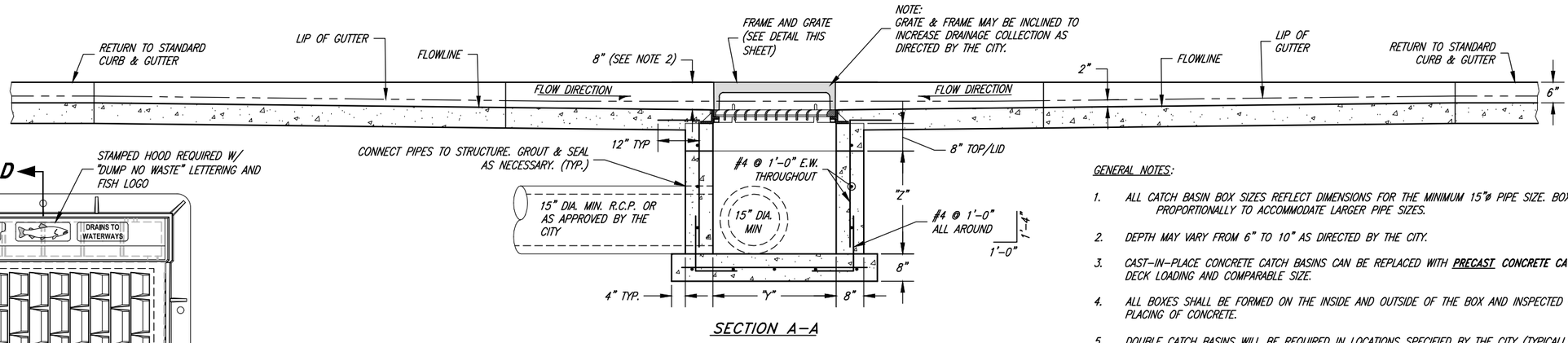
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - SANITARY SEWER SYSTEM STANDARDS

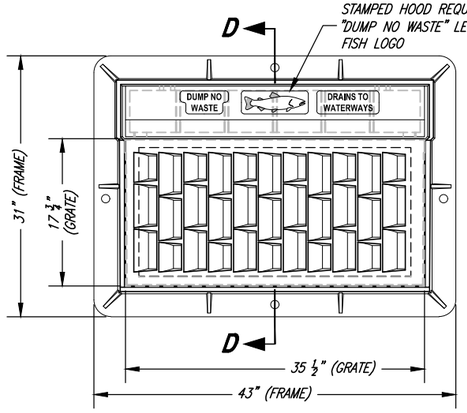
SANITARY SEWER MANHOLE DETAILS

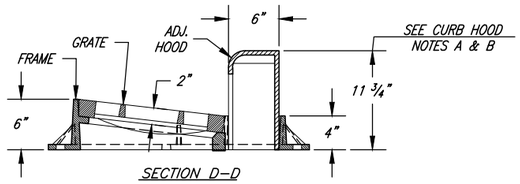
SHEET: SS2
OF X SHEETS
0





SECTION A-A





SECTION D-D

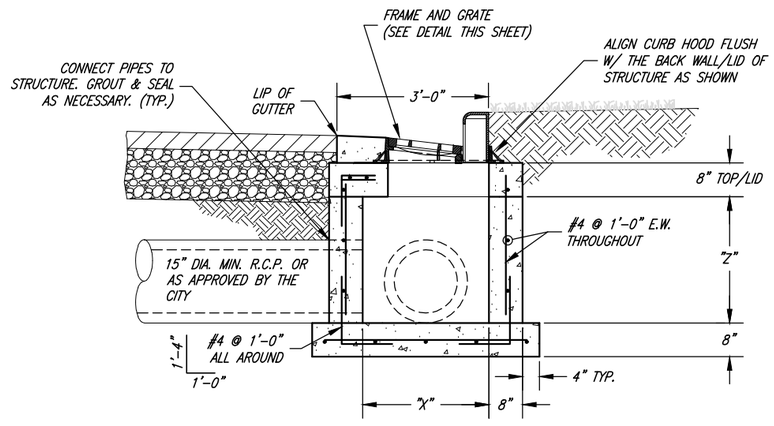
CURB HOOD INLET FRAME & TYPE "L" GRATE

"D&L SUPPLY" I-3517	
PRODUCT NUMBER:	
GRATE:	I-3517-02
ADJ HOOD:	I-3516-13
FRAME:	I-3516-R8

CURB HOOD NOTES:

A. 13 13/16" APPROXIMATE MAXIMUM HEIGHT FOR THE ADJUSTABLE HOOD.
B. 9 9/16" APPROXIMATE MINIMUM HEIGHT FOR THE ADJUSTABLE HOOD.

SINGLE HOODED CATCH BASIN



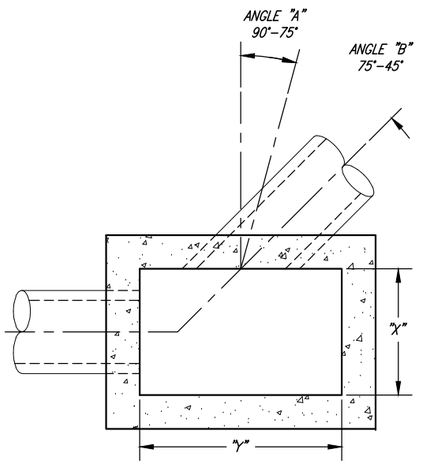
SECTION B-B

GENERAL NOTES:

1. ALL CATCH BASIN BOX SIZES REFLECT DIMENSIONS FOR THE MINIMUM 15"ø PIPE SIZE. BOX DIMENSIONS MUST INCREASE PROPORTIONALLY TO ACCOMMODATE LARGER PIPE SIZES.
2. DEPTH MAY VARY FROM 6" TO 10" AS DIRECTED BY THE CITY.
3. CAST-IN-PLACE CONCRETE CATCH BASINS CAN BE REPLACED WITH **PRECAST CONCRETE CATCH BASINS** WITH HL-93 DECK LOADING AND COMPARABLE SIZE.
4. ALL BOXES SHALL BE FORMED ON THE INSIDE AND OUTSIDE OF THE BOX AND INSPECTED BY THE CITY PRIOR TO THE PLACING OF CONCRETE.
5. DOUBLE CATCH BASINS WILL BE REQUIRED IN LOCATIONS SPECIFIED BY THE CITY (TYPICALLY IN LOW SPOTS OR WHERE ADDITIONAL INLET CAPACITY IS NEEDED). FOR CONSTRUCTION OF DOUBLE CATCH BASIN, SEE DETAILS AND NOTES ON SHEET SD2b.
6. STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.
7. ALTERNATE STRUCTURE (E.G. COMBO BOXES) MAY BE USED WITH APPROVAL OF THE CITY. STRUCTURES SHALL FOLLOW APWA STANDARD PLANS AND BE A COMMON SIZE.

CATCH BASIN DIMENSION TABLE

PIPE SIZE (IN.)	"X"	SINGLE CATCH BASIN "Y" (ANGLE A)	SINGLE CATCH BASIN "Y" (ANGLE B)	"Z" MIN.
15	2'-6"	3'-0"	3'-0"	2'-0"
18	2'-6"	3'-0"	4'-0"	2'-6"
21	4'-0"	4'-0"	4'-0"	3'-0"
24	4'-0"	4'-0"	5'-0"	3'-0"
30	4'-0"	4'-0"	6'-0"	3'-6"
36	4'-0"	5'-0"	6'-0"	4'-0"
42	6'-0"	6'-0"	7'-0"	5'-0"
48	6'-0"	6'-0"	8'-0"	5'-6"



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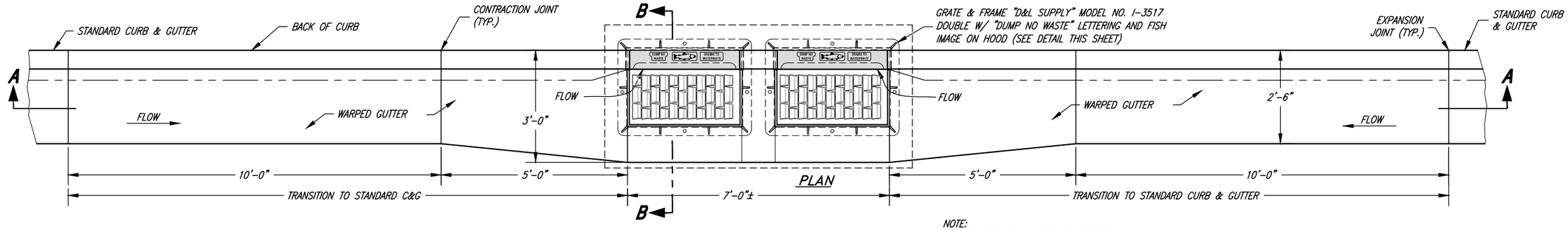
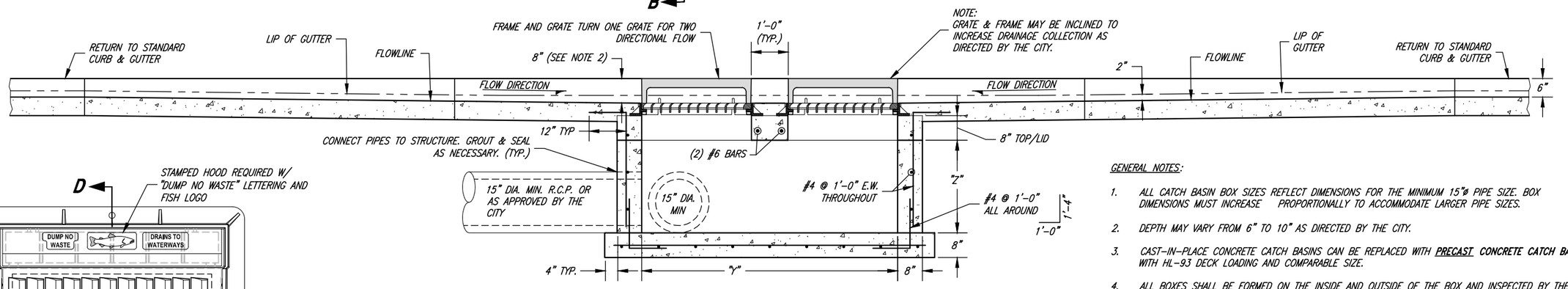
Clearfield City Public Works

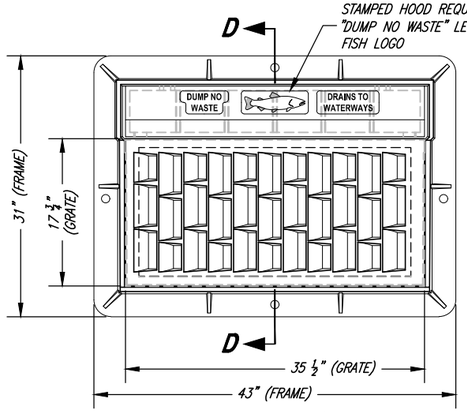
CLEARFIELD CITY CORPORATION
PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS
SINGLE HOODED CATCH BASIN DETAILS

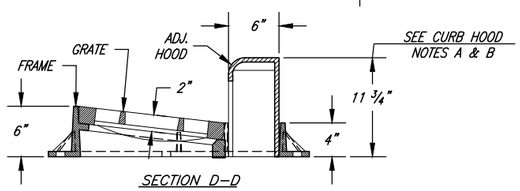
SHEET: SD1
OF X SHEETS
0





DOUBLE HOODED CATCH BASIN



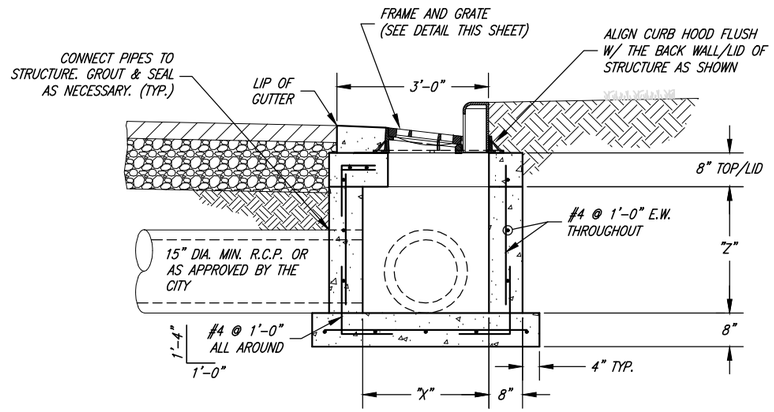


CURB HOOD INLET FRAME & TYPE "L" GRATE

"D&L SUPPLY" I-3517	
PRODUCT NUMBER:	
GRATE:	I-3517-02
ADJ HOOD:	I-3516-13
FRAME:	I-3516-R8

CURB HOOD NOTES:

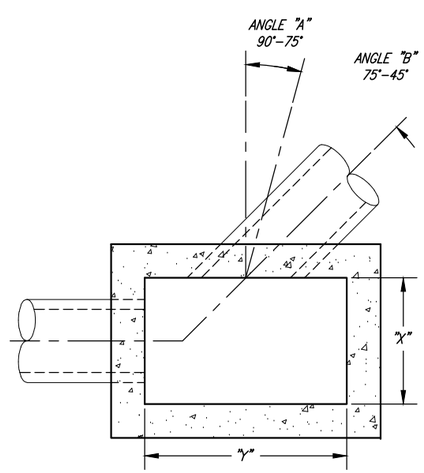
A. 13 13/16" APPROXIMATE MAXIMUM HEIGHT FOR THE ADJUSTABLE HOOD.
B. 9 9/16" APPROXIMATE MINIMUM HEIGHT FOR THE ADJUSTABLE HOOD.



GENERAL NOTES:

1. ALL CATCH BASIN BOX SIZES REFLECT DIMENSIONS FOR THE MINIMUM 15"ø PIPE SIZE. BOX DIMENSIONS MUST INCREASE PROPORTIONALLY TO ACCOMMODATE LARGER PIPE SIZES.
2. DEPTH MAY VARY FROM 6" TO 10" AS DIRECTED BY THE CITY.
3. CAST-IN-PLACE CONCRETE CATCH BASINS CAN BE REPLACED WITH **PRECAST CONCRETE CATCH BASINS** WITH HL-93 DECK LOADING AND COMPARABLE SIZE.
4. ALL BOXES SHALL BE FORMED ON THE INSIDE AND OUTSIDE OF THE BOX AND INSPECTED BY THE CITY PRIOR TO THE PLACING OF CONCRETE.
5. DOUBLE CATCH BASINS WILL BE REQUIRED IN LOCATIONS SPECIFIED BY THE CITY (TYPICALLY IN LOW SPOTS OR WHERE ADDITIONAL INLET CAPACITY IS NEEDED).
6. STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.
7. ALTERNATE STRUCTURE (E.G. COMBO BOXES) MAY BE USED WITH APPROVAL OF THE CITY. STRUCTURES SHALL FOLLOW APWA STANDARD PLANS AND BE A COMMON SIZE.

CATCH BASIN DIMENSION TABLE				
PIPE SIZE (IN.)	"X"	DOUBLE CATCH BASIN "Y" MIN. (ANGLE A)	DOUBLE CATCH BASIN "Y" MIN. (ANGLE B)	"Z" MIN.
15	2'-6"	6'-11"	6'-11"	2'-0"
18	2'-6"	6'-11"	6'-11"	2'-6"
21	4'-0"	6'-11"	6'-11"	3'-0"
24	4'-0"	6'-11"	6'-11"	3'-0"
30	4'-0"	6'-11"	6'-11"	3'-6"
36	4'-0"	6'-11"	6'-11"	4'-0"
42	6'-0"	6'-11"	8'-0"	5'-0"
48	6'-0"	6'-11"	8'-0"	5'-6"



CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

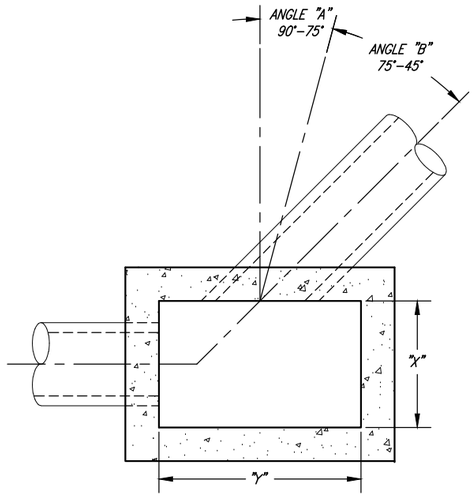
SCALE: N.T.S.

JONES & ASSOCIATES
CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767
www.jonescivil.com

Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS
DOUBLE HOODED CATCH BASIN DETAILS

SHEET: SD2
OF X SHEETS
0



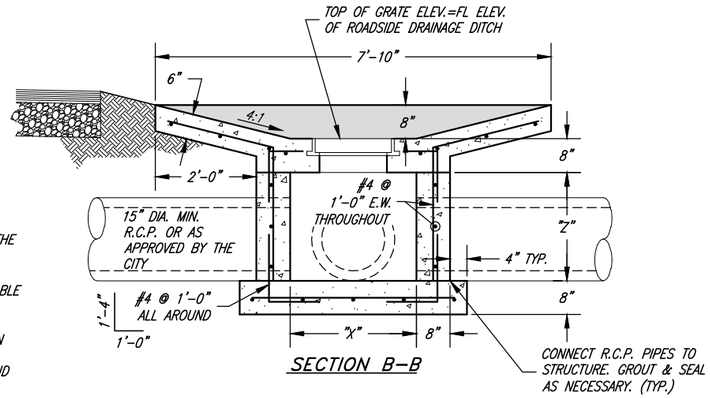
DRAINAGE DITCH INLET BOX DIMENSION TABLE				
PIPE SIZE (IN.)	"X"	INLET BOX "Y" (ANGLE A)	INLET BOX "Y" (ANGLE B)	"Z" MIN.
15	2'-6"	4'-0"	4'-0"	2'-0"
18	2'-6"	4'-0"	4'-0"	2'-6"
21	4'-0"	4'-0"	4'-0"	3'-0"
24	4'-0"	4'-0"	5'-0"	3'-0"
30	4'-0"	4'-0"	6'-0"	3'-6"
36	4'-0"	4'-0"	6'-0"	4'-0"
42	6'-0"	6'-0"	7'-0"	5'-0"
48	6'-0"	6'-0"	8'-0"	5'-6"

GENERAL NOTE:

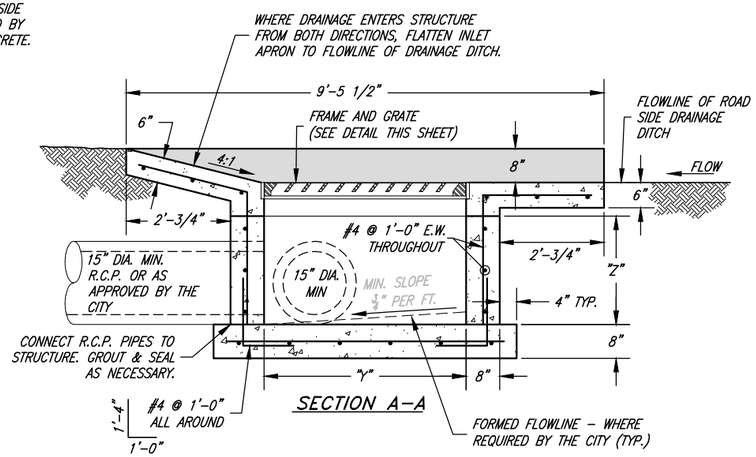
STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.

DRAINAGE BOX NOTES:

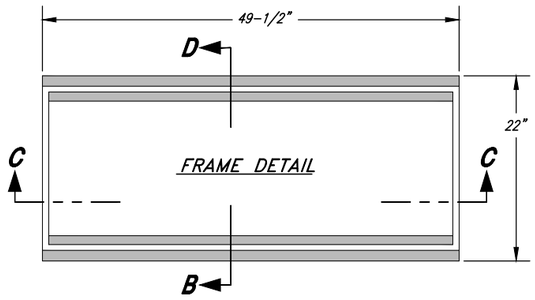
1. ALL BOX SIZES REFLECT DIMENSIONS FOR THE MINIMUM 15"ø PIPE SIZE. BOX DIMENSIONS MUST INCREASE PROPORTIONALLY TO ACCOMMODATE LARGER PIPE SIZES. (SEE TABLE THIS SHEET)
2. CAST-IN-PLACE CONCRETE STRUCTURES CAN BE REPLACED WITH PRECAST CONCRETE STRUCTURES WITH HL-93 DECK LOADING AND COMPARABLE SIZE.
3. ALL BOXES SHALL BE FORMED ON THE INSIDE AND OUTSIDE OF THE BOX AND INSPECTED BY THE CITY PRIOR TO THE PLACING OF CONCRETE.



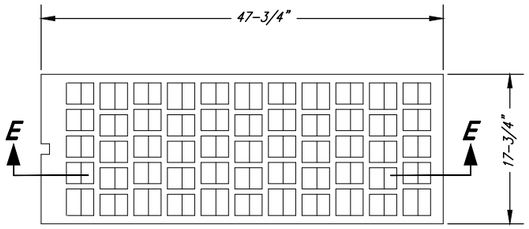
SECTION B-B



SECTION A-A



SECTION C-C



GRATE DETAIL

SECTION E-E

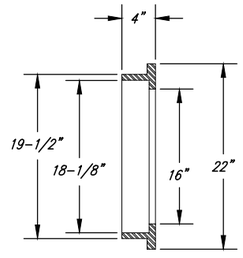
FRAME & GRATE DETAILS

FRAME AND GRATE NOTES:

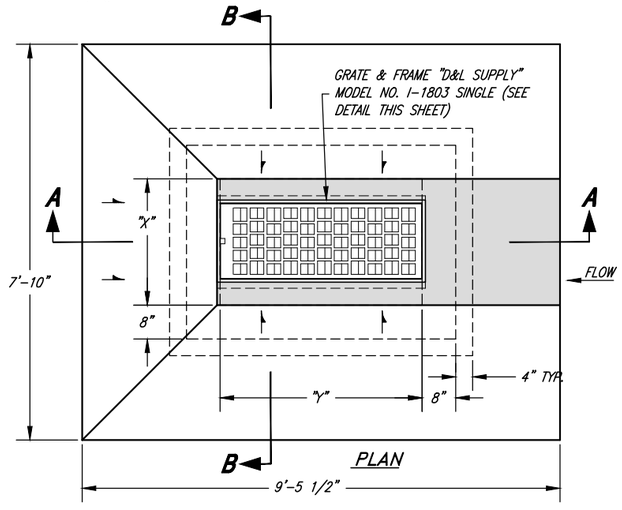
A1. GRATE AND FRAME SHALL BE AS MANUFACTURED BY "D&L SUPPLY" I-1803

B1. BICYCLE SAFE GRATE REQUIRED.

C1. "OR EQUAL" GRATES AND FRAMES WILL BE CONSIDERED AS APPROVED BY THE CITY.



SECTION D-D



PLAN

DRAINAGE DITCH / SWALE INLET BOX

CITY ENGINEER					SCALE:	CLEARFIELD CITY CORPORATION
3/8/2024					N.T.S.	PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS
DATE	REV.	DATE	APPR.			DRAINAGE INLET BOX AND GENERAL GRATE & FRAME DETAILS

JA JONES & ASSOCIATES
CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767
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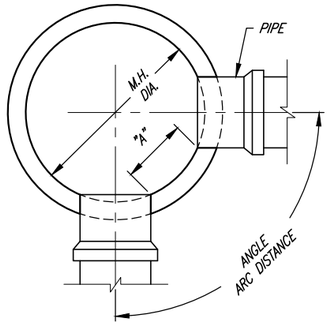
SHEET: SD3 OF X SHEETS 0

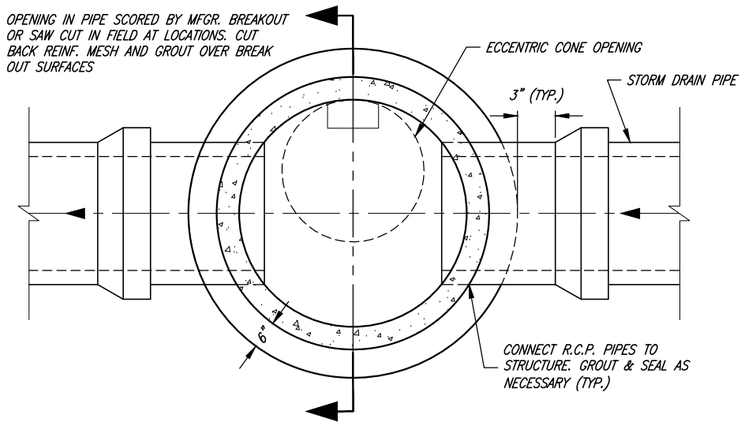
PIPE SIZES

M.H. SIZE	IN-LINE M.H. 180°	JUNCTION MANHOLE (ANGLE / ARC DISTANCE) 90°	85°	80°	75°	70°	65°	60°	55°	50°	45°
4'ø M.H.	15"–24"	15"–18"	15"–18"	15"	15"	--	--	--	--	--	--
5'ø M.H.	27"–30"	21"–24"	21"–24"	18"–21"	18"–21"	15"–18"	15"–18"	15"	--	--	--
6'ø M.H.	36"–48"	27"–30"	27"–30"	24"–27"	24"	21"–24"	21"	18"	15"–18"	15"	--
7'ø M.H.	54"	36"	36"	30"	27"–30"	27"	24"	21"–24"	21"	18"	15"
8'ø M.H.	60"	42"	42"	36"	36"	30"	27"–30"	27"	24"	21"	18"

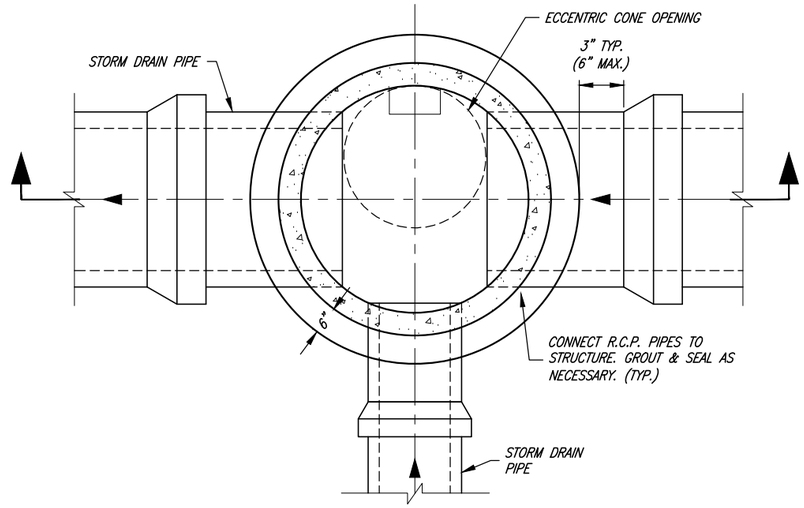


MANHOLE SIZING NOTES:

1. SUGGESTED "A" DISTANCE IS 6" OR GREATER FOR 48", 60" AND 72" DIAMETER MANHOLES
2. SUGGESTED "A" DISTANCE IS 8" OR GREATER FOR 84" AND 96" DIAMETER MANHOLES



TYPICAL LINE MANHOLE



TYPICAL JUNCTION MANHOLE

GENERAL NOTES:

A. LARGER DIAMETER MANHOLE MAY BE REQUIRED BY THE CITY ENGINEER AFTER EVALUATION OF THE NUMBER, SIZE, AND ANGLE OF THE PIPES THAT CONNECT TO THE MANHOLE.

B. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE

C. PLYWOOD COVERS SHALL BE USED AT MANHOLE FLOOR TO COVER FLOWLINE DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES.

D. ALL INTERIOR JOINTS SHALL BE SMOOTH AND EVENLY GROUTED WITH NON-SHRINK GROUT MIX.

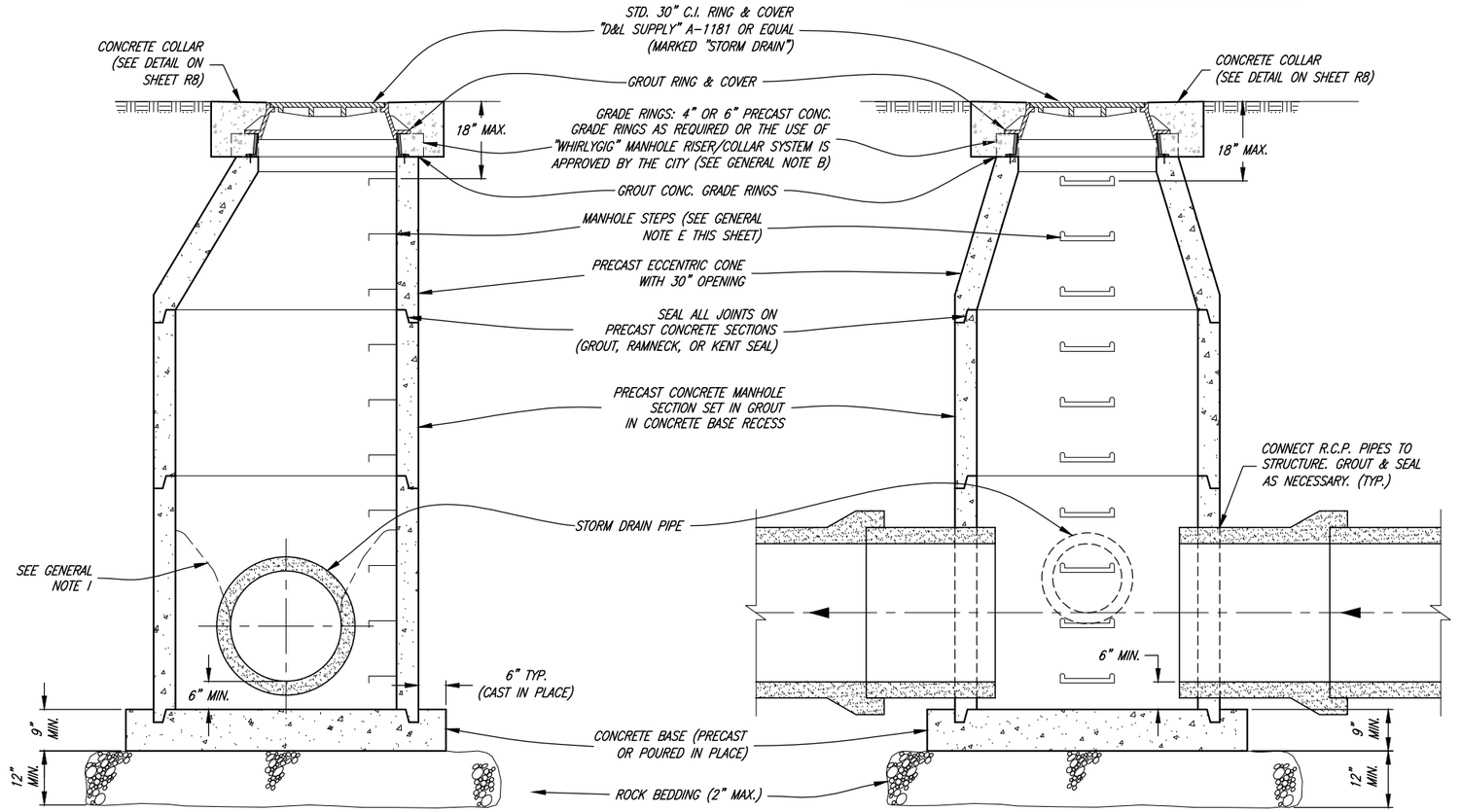
E. MANHOLE STEPS UNIFORMLY SPACED (1'-0" MAX) ON ALL MANHOLES. POLYPROPYLENE COVERED STEEL STEPS, MODEL PSI-PF AS MANUFACTURED BY "M.A. INDUSTRIES" OR APPROVED EQUAL - INSTALLATION OF STEPS SHALL BE WATERPROOF.

F. STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.

G. FLAT MANHOLE RINGS & COVERS (SLAB CONSTRUCTION) ARE NOT ALLOWED ON ANY MANHOLE CONE SECTION.

H. THE USE OF STORM DRAIN UTILITY VAULTS (BOXES) WITH STD. 30" C.I. RING & COVER ("D&L SUPPLY" A-1181 MARKED "STORM DRAIN") AND A CONCRETE COLLAR IS ACCEPTED WHEN APPROVED BY THE CITY.

I. CONTOUR THE FLOWLINE & SIDES OF ANY LINE OR JUNCTION MANHOLES WHEN DIRECTED BY THE CITY.



CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

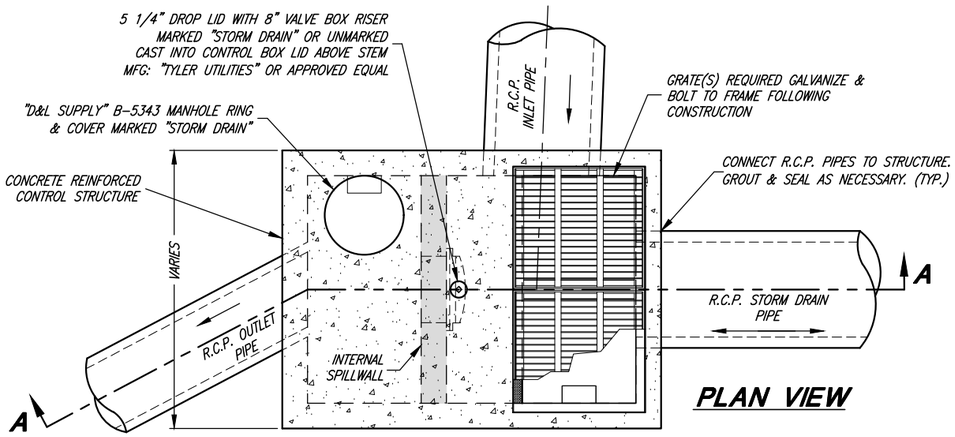
SCALE: N.T.S.

JONES & ASSOCIATES
CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767
www.jonescivil.com

Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS
STORM DRAIN MANHOLE DETAILS

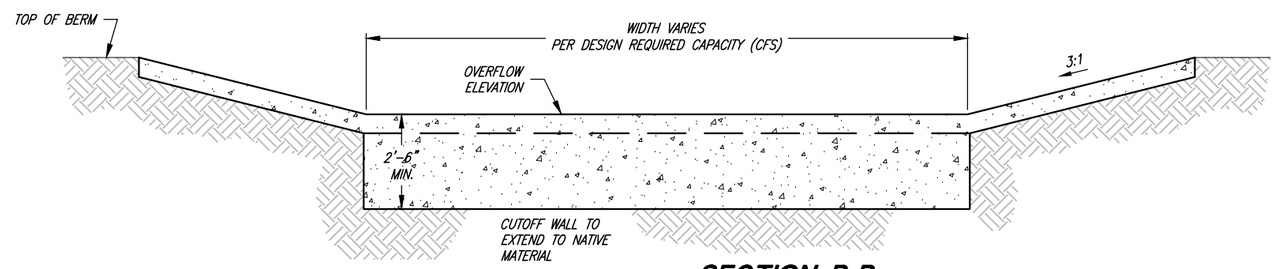
SHEET: SD4
OF X SHEETS
0



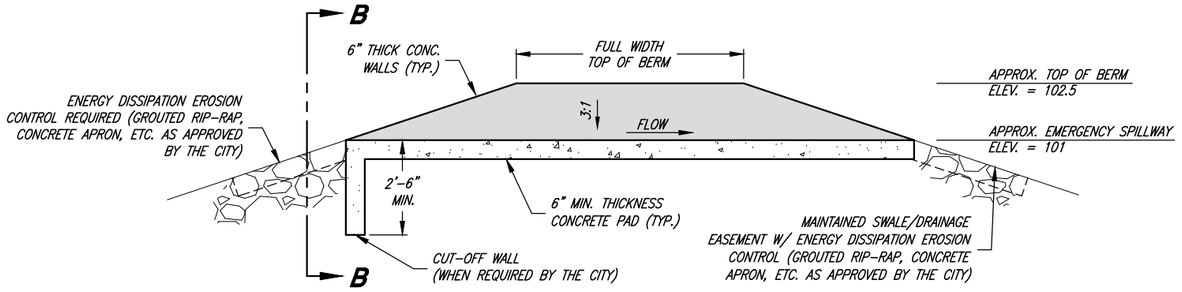
PLAN VIEW

DETENTION INLET/OUTLET CONTROL STRUCTURE

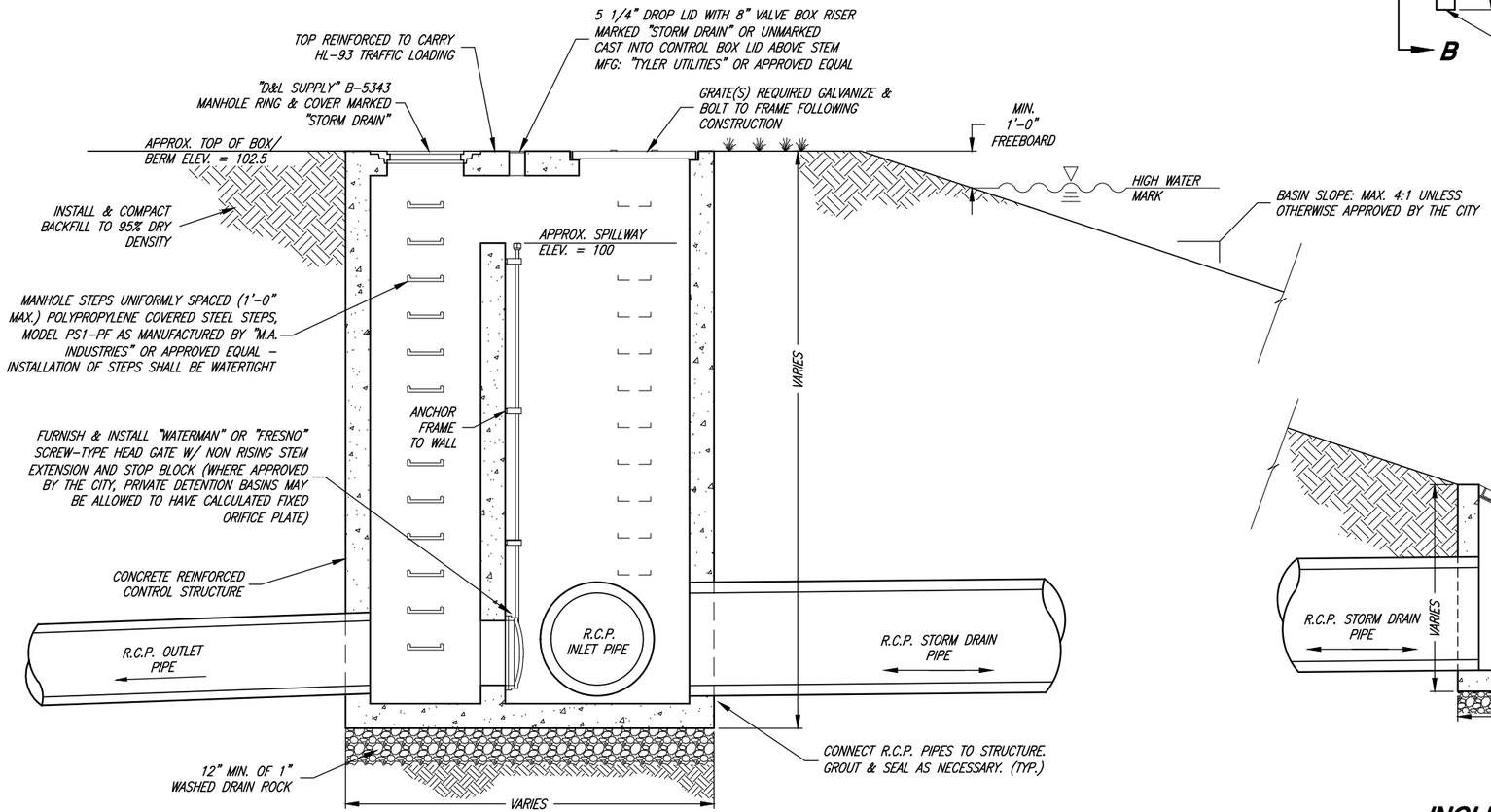
(PRECAST OR CAST-IN-PLACE)



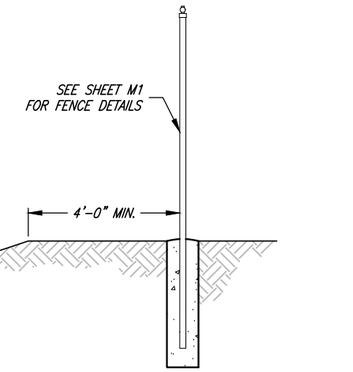
SECTION B-B



EMERGENCY OVERFLOW

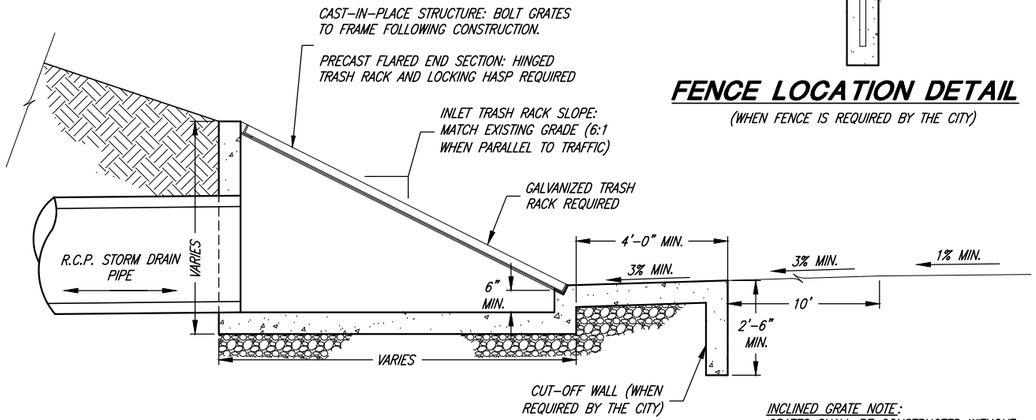


SECTION A-A



FENCE LOCATION DETAIL

(WHEN FENCE IS REQUIRED BY THE CITY)



INCLINED GRATE STORM DRAIN INLET

**INCLINED GRATES ARE REQUIRED ON ALL PIPES/INLETS WHERE OPEN CHANNELS, DITCHES, OR PONDS DISCHARGE DIRECTLY INTO THE STORM DRAIN SYSTEM.

INCLINED GRATE NOTE:
GRATES SHALL BE CONSTRUCTED WITHOUT CROSS-BRACES (IF POSSIBLE) IN ORDER TO MINIMIZE DEBRIS CLOGGING.

GENERAL AND STRUCTURAL NOTES:
SEE SHEET SD6

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

JONES & ASSOCIATES
CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767
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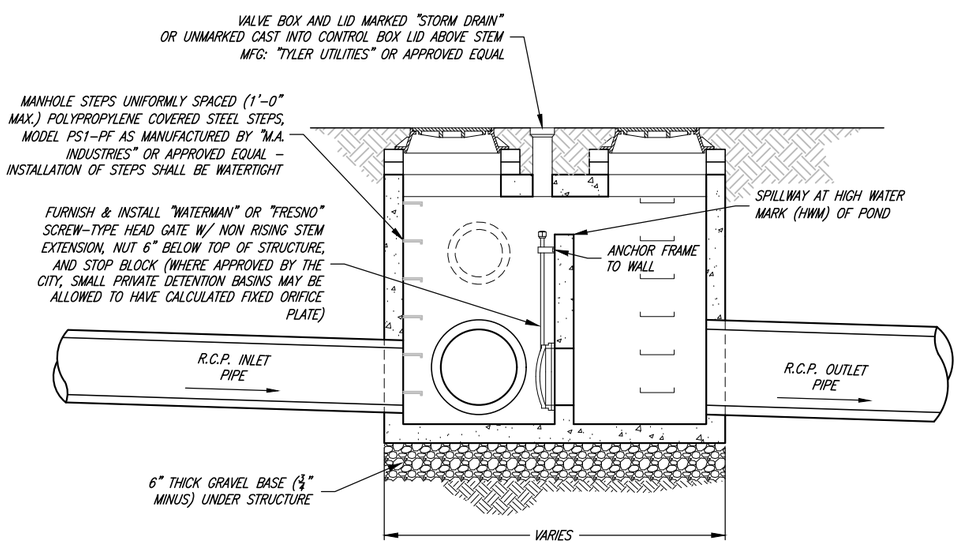
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS
LARGE DETENTION BASIN DETAILS

SHEET: SD5
OF X SHEETS
0



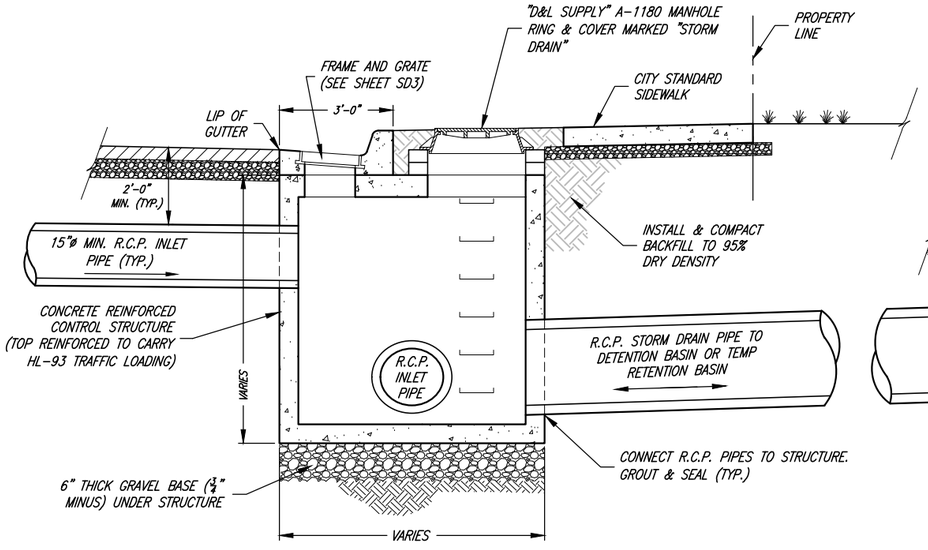
SECTION B-B

GENERAL NOTES:

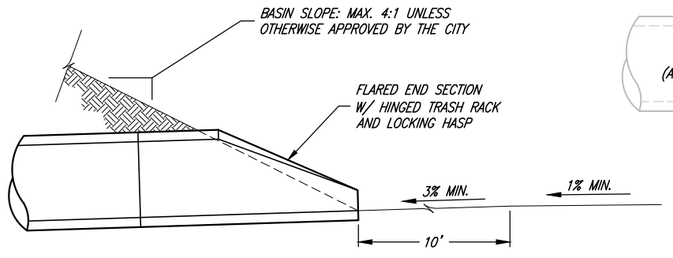
1. LOCAL BASINS SHALL BE DESIGNED TO ACCOMMODATE A 25 YEAR STORM EVENT. REGIONAL BASINS SHALL BE DESIGNED TO ACCOMMODATE A 100 YEAR STORM EVENT.
2. A DAM SAFETY (UTAH DIVISION OF WATER RIGHTS) HAZARD PERMIT MAY BE REQUIRED.
3. STRUCTURE DESIGN AND FLOW CALCULATIONS MUST BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
4. STORM DRAIN LINES SHALL BE 15" MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.
5. THE SURFACE AREA OF THE BASIN SHALL BE SODDED AND SHALL BE PROVIDED WITH AN AUTOMATED SPRINKLER SYSTEM APPROVED BY THE CITY.
6. GRATES SHALL BE REMOVABLE FOR MAINTENANCE PURPOSES
7. GRATES SHALL BE HOT DIPPED GALVANIZED WITH BARS AT MAXIMUM 3" SPACING.
8. LOW FLOWS MUST BE PIPED CONTINUOUSLY TO THE CONTROL STRUCTURE. NO OPEN FLOW IS PERMITTED THROUGH THE BASIN.
9. INCLINED GRATES ARE REQUIRED ON ALL PIPES/INLETS WHERE OPEN CHANNELS, DITCHES, OR PONDS DISCHARGE DIRECTLY INTO THE STORM DRAIN SYSTEM.
10. AN INTERNAL SPILLWAY MAY BE CONSTRUCTED INSIDE THE STRUCTURE DEPENDING ON SITE CONDITIONS AND ELEVATIONS.
11. BASIN STRUCTURES ARE DETERMINED BY THE SIZE OF THE DETENTION BASIN OR AS REQUIRED BY THE CITY. (SEE SHEET SD5 AND THIS SHEET)
    a. SMALL DETENTION BASIN: LESS THAN OR EQUAL TO 1 ACRE FOOT
    b. LARGE DETENTION BASIN: GREATER THAN 1 ACRE FOOT
12. ALTERNATE BASIN AND STRUCTURE DESIGNS MAY BE APPROVED PER THE CITY BASED UPON CONDITIONS IN THE FIELD.

STRUCTURAL NOTES:

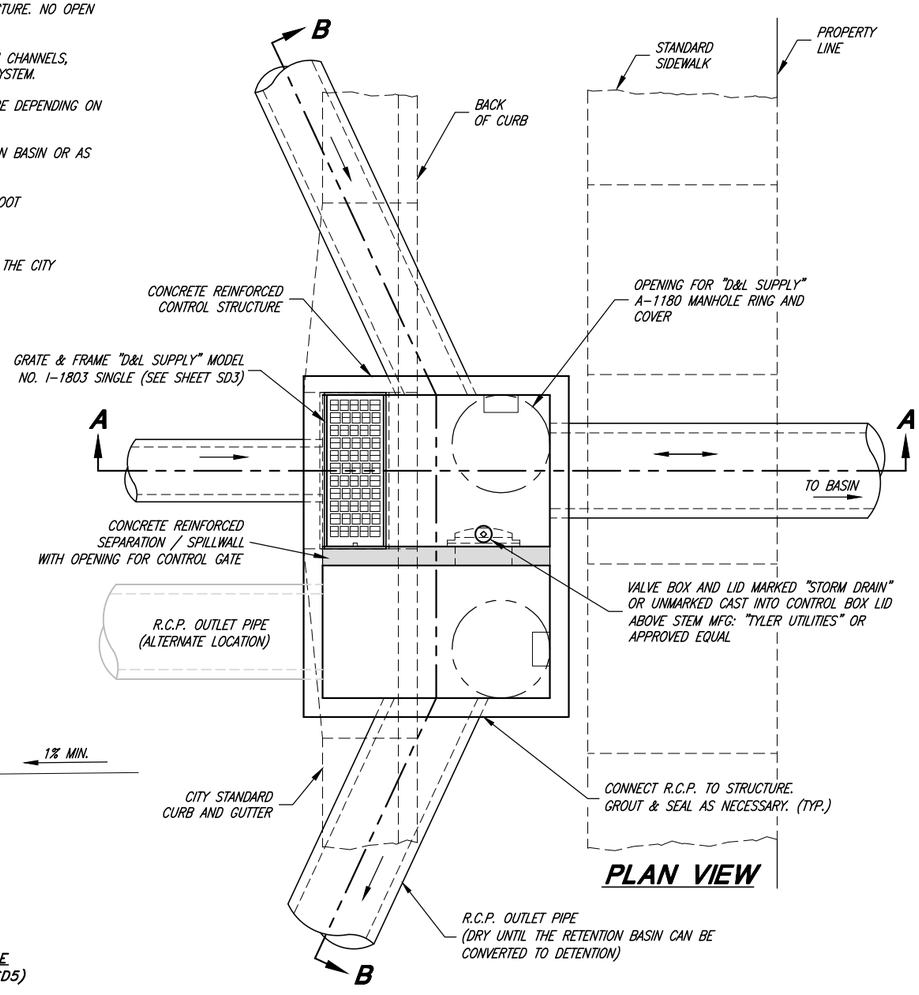
A. PRECAST CONCRETE STRUCTURE CAN BE REPLACED WITH CAST-IN-PLACE CONCRETE VAULT. SUBMIT ENGINEERED CONSTRUCTION PLANS WITH REBAR DETAILS TO THE CITY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.
B. ADD REINFORCEMENT AROUND OPENINGS EQUAL TO REINFORCEMENT DISPLACED BY OPENING.
C. THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.
D. REINFORCEMENT TO CONFORM WITH ASTM A 615 GRADE 60
E. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI
F. USE AN AIR-ENTRAINING AGENT ON ALL CONCRETE EXPOSED TO THE WEATHER.
G. HL-93 LOADING



SECTION A-A



EMERGENCY OVERFLOW AND FENCE LOCATION DETAIL : (SEE SHEET SD5)

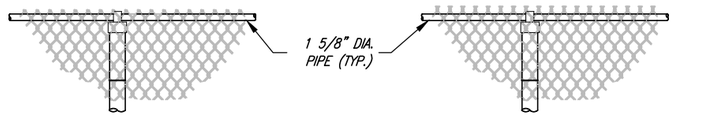


PLAN VIEW

INLET/OUTLET CONTROL STRUCTURE

(PRECAST OR CAST-IN-PLACE)

CITY ENGINEER				SCALE:	CONSULTING ENGINEERS	CLEARFIELD CITY CORPORATION	SHEET:
3/8/2024				N.T.S.	JONES & ASSOCIATES 6080 Fashion Point Drive South Ogden, Utah 84403 (801) 476-9767 www.jonescivil.com	PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS	SD6
DATE	REV.	DATE	APPR.		Clearfield City Public Works	SMALL DETENTION BASIN DETAILS	OF X SHEETS 0

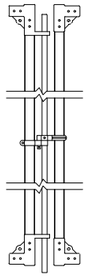


KNUCKLED SELVAGE
TYPE I

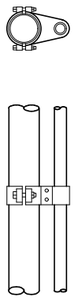
TWISTED & BARBED SELVAGE
TYPE II

KNUCKLED SELVAGE W/ TENSION WIRE
TYPE III

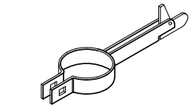
TWISTED & BARBED SELVAGE W/ TENSION WIRE
TYPE IV



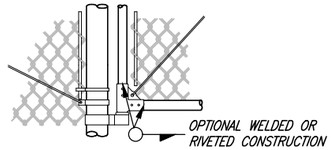
DROP ROD ASSEMBLY



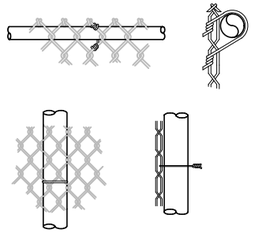
TOP GATE HINGE



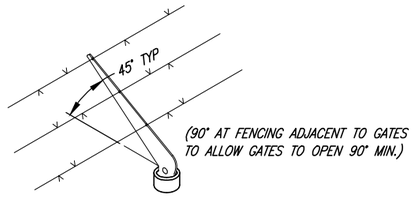
GATE KEEPER



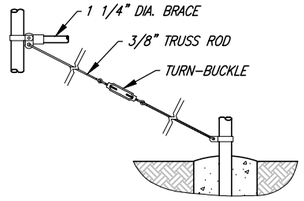
BOTTOM GATE HINGE AND GATE DETAIL



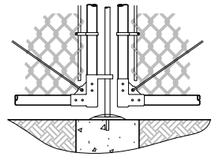
PIPE POST TIE



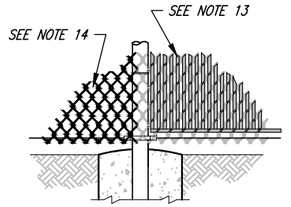
COMBINATION CAP AND BARBED WIRE SUPPORTING ARM



BRACE & TRUSS CONNECTIONS



CENTER GATE STOP AND GATE DETAIL



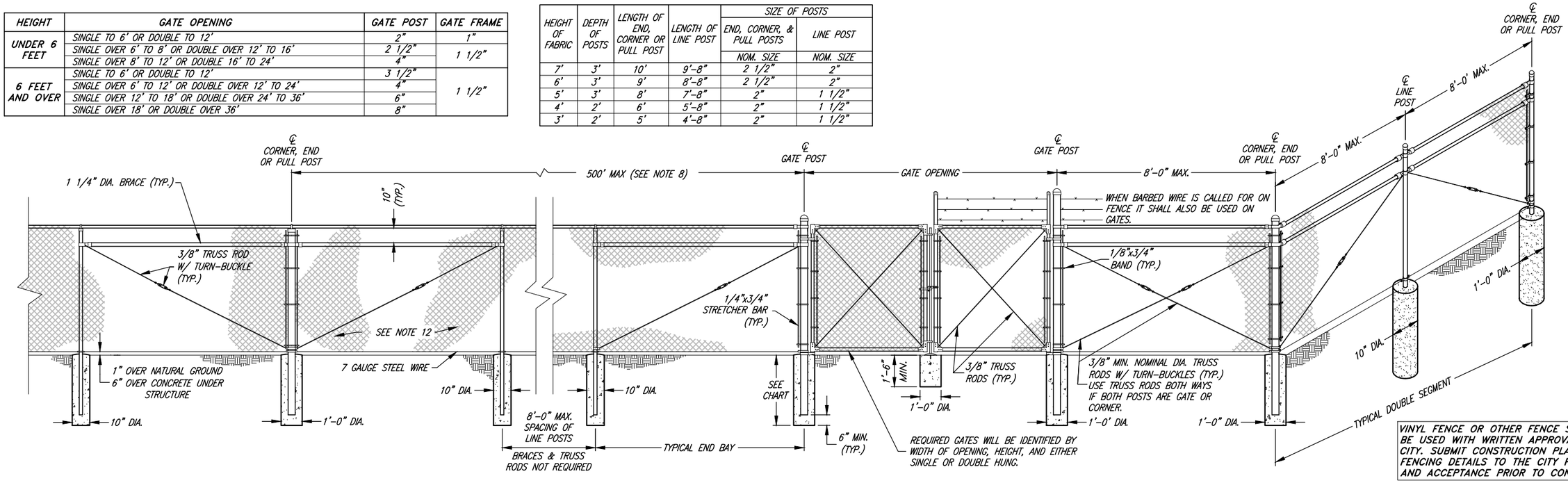
SLATS & VINYL COATING DETAIL

GENERAL NOTES:

1. MATERIALS, CONSTRUCTION, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. TOP SUPPORT – TYPES I AND II TUBULAR RAIL, TYPES III AND IV TENSION WIRE. (SEE SECTION 32 31 13M)
3. BARB WIRE SHALL BE USED ONLY WHEN APPROVED BY THE CITY.
4. TWISTED AND BARBED SELVAGE TOP AND BOTTOM SHALL BE USED ON FENCES 5'–0" HIGH OR GREATER.
5. KNUCKLED SELVAGE ON TOP AND TWISTED AND BARBED ON BOTTOM SHALL BE USED ON FENCES LESS THAN 5'–0".
6. ALL STEEL PIPE MEMBERS SHALL CONFORM TO ASTM A53 HOT DIPPED ZINC COATED HIGH TENSILE STEEL PIPE.
7. POSTS SHALL BE SCHEDULE 40 PIPE.
8. LINE POSTS SHALL BE LOCATED AT EQUAL SPACING FOR EACH SEGMENT WITH A MAXIMUM SPACING AS FOLLOWS:
   a. TANGENT SECTIONS TO 500–FOOT RADIUS NOT MORE THAN 8'–0".
   b. UNDER 500–FOOT RADIUS TO 200–FOOT RADIUS NOT MORE THAN 8'–0".
   c. UNDER 200–FOOT RADIUS TO 100–FOOT RADIUS NOT MORE THAN 6'–0".
   d. UNDER 100–FOOT RADIUS NOT MORE THAN 5'–0".
9. TRUSS RODS AND BRACES SHALL NOT BE REQUIRED FOR FABRIC HEIGHT LESS THAN 5–FEET.
10. TENSION WIRE SHALL BE 7 GAUGE ZINC– OR ALUMINUM–COATED COIL SPRING STEEL TENSION WIRE.
11. ALL POSTS SHALL BE SET IN 3000 PSI CONCRETE AND SHALL BE TOPPED WITH BALL TYPE OR OTHER APPROVED ORNAMENT.
12. ALL FABRIC SHALL BE 2" GALVANIZED 9 GAUGE MESH.
13. WHITE VERTICAL SEMI–PRIVACY VINYL SLATS WITH BOTTOM–LOCKING SLAT, WHEN REQUIRED BY THE CITY.
14. BLACK VINYL COATED CHAIN LINK FENCING WHEN REQUIRED BY THE CITY.
15. ALL FENCING SHALL CONFORM TO LOCATION AND HEIGHT LIMITATIONS AS STATED IN THE CITY FENCING CODE.

HEIGHT	GATE OPENING	GATE POST	GATE FRAME
UNDER 6 FEET	SINGLE TO 6' OR DOUBLE TO 12'	2"	1"
	SINGLE OVER 6' TO 8' OR DOUBLE OVER 12' TO 16'	2 1/2"	1 1/2"
	SINGLE OVER 8' TO 12' OR DOUBLE 16' TO 24'	4"	
6 FEET AND OVER	SINGLE TO 6' OR DOUBLE TO 12'	3 1/2"	1 1/2"
	SINGLE OVER 6' TO 12' OR DOUBLE OVER 12' TO 24'	4"	
	SINGLE OVER 12' TO 18' OR DOUBLE OVER 24' TO 36'	6"	
	SINGLE OVER 18' OR DOUBLE OVER 36'	8"	

HEIGHT OF FABRIC	DEPTH OF POSTS	LENGTH OF END, CORNER OR PULL POST	LENGTH OF LINE POST	SIZE OF POSTS	
				END, CORNER, & PULL POSTS	LINE POST
				NOM. SIZE	NOM. SIZE
7'	3'	10'	9'–8"	2 1/2"	2"
6'	3'	9'	8'–8"	2 1/2"	2"
5'	3'	8'	7'–8"	2"	1 1/2"
4'	2'	6'	5'–8"	2"	1 1/2"
3'	2'	5'	4'–8"	2"	1 1/2"



VINYL FENCE OR OTHER FENCE STYLES MAY BE USED WITH WRITTEN APPROVAL BY THE CITY. SUBMIT CONSTRUCTION PLANS AND FENCING DETAILS TO THE CITY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

JONES & ASSOCIATES
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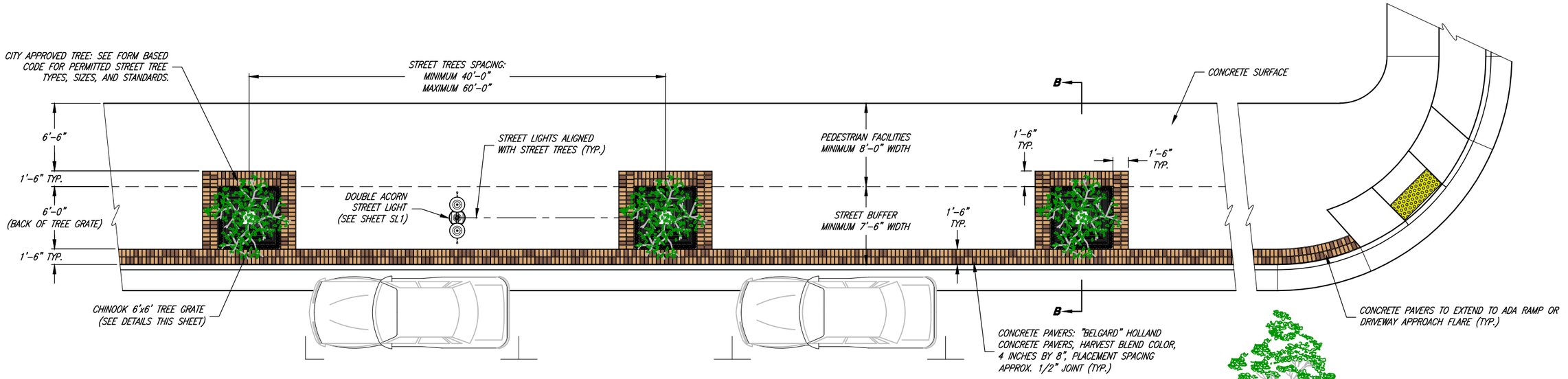
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476–9767
www.jonescivil.com

Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - MISCELLANEOUS CONSTRUCTION STANDARDS

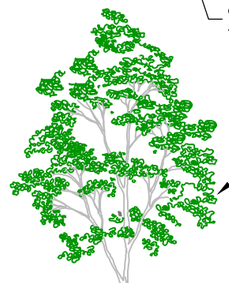
CHAIN LINK FENCE STANDARD DETAILS

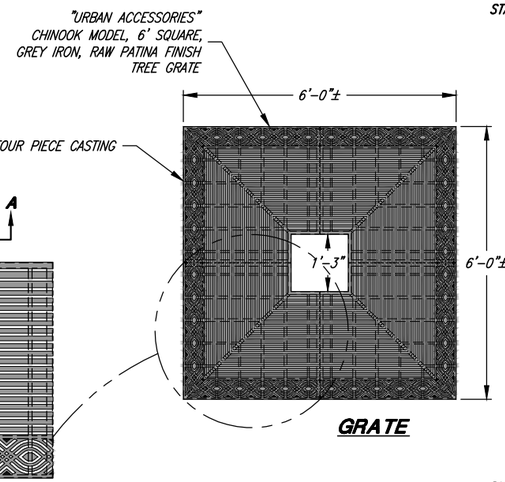
SHEET: M1
OF X SHEETS
0



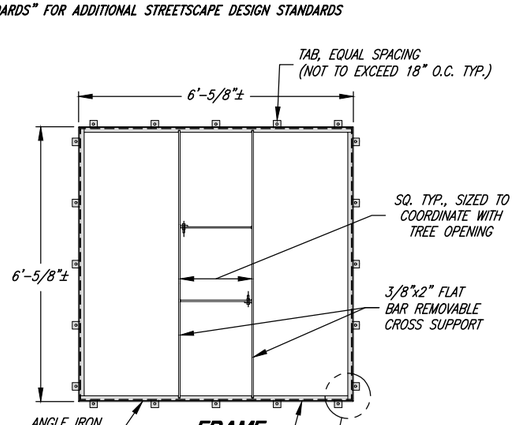
DOWNTOWN URBAN CORE ARTERIAL STREETSCAPE

SEE FORM BASED CODE CHAPTER 5 "STREET & STREETSCAPE STANDARDS" FOR ADDITIONAL STREETSCAPE DESIGN STANDARDS

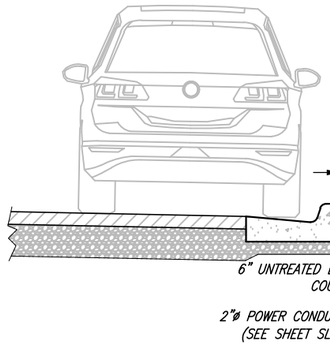




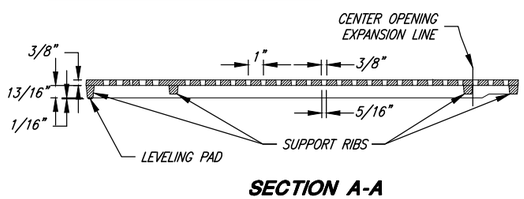
GRATE



FRAME



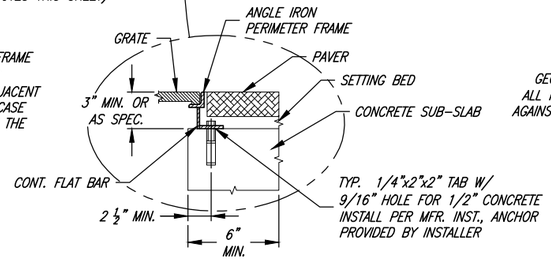
SECTION B-B



SECTION A-A

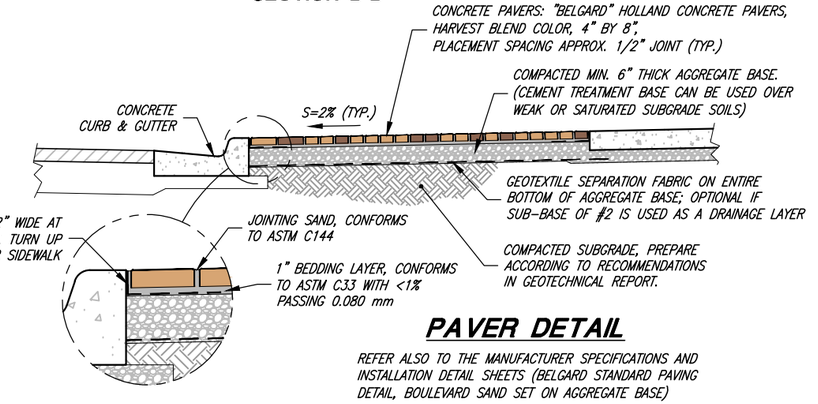
TREE GRATE FRAME NOTES:

A. THE "URBAN ACCESSORIES" TYPE "P" PEDESTRIAN DUTY FRAME (NON PAVER MODEL) SHALL BE INSTALLED IN LOCATIONS WHERE THE CONCRETE SURFACE WILL NOT HAVE THE ADJACENT DECORATIVE PAVER BORDER. THIS IS DETERMINED ON A CASE BY CASE BASIS AND REQUIRES WRITTEN APPROVAL FROM THE CITY PRIOR TO ANY CONSTRUCTION.



TREE GRATE DETAIL

NTS



PAVER DETAIL

REFER ALSO TO THE MANUFACTURER SPECIFICATIONS AND INSTALLATION DETAIL SHEETS (BELGARD STANDARD PAVING DETAIL, BOULEVARD SAND SET ON AGGREGATE BASE)

CITY ENGINEER
3/8/2024
DATE

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Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - MISCELLANEOUS CONSTRUCTION STANDARDS
DOWNTOWN URBAN CORE ARTERIAL STREETSCAPE DETAILS

SHEET: M2
OF X SHEETS
0

CITY OWNED STREET LIGHT STYLES AND LOCATIONS

SL-1 SINGLE ACORN STREET LIGHT:

- FIXTURE STYLE: LED LAMP POST (FULLY DARK-SKY COMPLIANT)
- POLE HEIGHT: 14'-0"
- LOCATION: COMMERCIAL, RESIDENTIAL DEVELOPMENTS, CUL-DE-SACS, ACCESS ROADS, AND INTERSECTIONS
- SPACING: (A) FORM BASE CODE AREAS: 40'-0" MIN, 80'-0" MAX., SAME SIDE STREET (NON-ALTERNATING)

  (B) RESIDENTIAL DEVELOPMENTS: MAXIMUM 400'-0", ON ALTERNATING SIDES OF THE STREET

  (OR AS OTHERWISE APPROVED/DIRECTED BY THE CITY)

OPTIONAL SL-2 DOUBLE ACORN STREET LIGHT:

- FIXTURE STYLE: DOUBLE LED LAMP POST (FULLY DARK-SKY COMPLIANT)
- POLE HEIGHT: 14 FEET
- LOCATION: **700 SOUTH (SR193), STATE STREET (SR126)**
- SPACING: 60 FT MIN, 90 FT MAX., SAME SIDE STREET (NON-ALTERNATING)

STREET LIGHT GENERAL NOTES

LIGHT FIXTURES AND POLES:

1. **ALL SPECIFIED BRANDS, STYLES, AND MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS IN THE SAME STYLE OF POLE AND DECORATIVE BASE MAY BE USED WITH THE PRIOR WRITTEN APPROVAL OF THE CITY.**

2. THE SL-1 AND SL-2 STREET LIGHT (LIGHT POLE AND LED FIXTURE) TO BE PAID FOR, FURNISHED, AND INSTALLED BY THE DEVELOPER/CONTRACTOR.

DEVELOPER/CONTRACTOR GENERAL NOTES:

3. THE COST OF ALL NEW DEVELOPMENT STREET LIGHTS IS THE RESPONSIBILITY OF THE DEVELOPER.

4. DEVELOPER/CONTRACTOR SHALL CONSULT WITH THE POWER COMPANY (RMP) ON THE PULL BOX LOCATION, PEDESTAL LOCATION, CONDUIT LOCATION, FOOTING INSTALLATION, AND DIGGING PRIOR TO ANY CONSTRUCTION.

5. ALL SPECIFICATIONS AND MODEL NUMBERS FOR WIRE, CONDUIT, FUSE KITS, SPLICE KITS, JUNCTION BOXES, AND CONNECTIONS MUST BE APPROVED BY CITY PRIOR TO INSTALLATION

6. DEVELOPER/CONTRACTOR TO FURNISH AND INSTALL CONCRETE FOOTING. ANCHOR BOLTS MUST NOT CONFLICT WITH THE STREET LIGHT POLE BASE. (IF THE CONCRETE FOOTING IS INSTALLED INCORRECTLY, THE FOOTING SHALL BE REPLACED AT THE DEVELOPER'S/CONTRACTOR'S EXPENSE)

7. THE DEVELOPER/CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL POWER INFRASTRUCTURE FOR THE DEVELOPMENT, INCLUDING COORDINATION WITH THE POWER COMPANY FOR CONNECTION AND SERVICE TO THE PROPOSED STREET LIGHTS

8. ALL PROPOSED STREET LIGHT TYPES AND LOCATIONS MUST BE SHOWN ON THE APPROVED IMPROVEMENT PLANS

9. EACH LIGHT POLE ASSEMBLY SHALL HAVE A PULL BOX (WITH A COVER MARKED "STREET LIGHTING". THE PULL BOX MUST BE FLUSH TO GRADE AND LOCATED WITHIN A MAXIMUM OF 4' FROM THE BASE OF THE POLE

10. INGROUND BOXES LOCATED WITHIN 20' OF APPROACHES OR INTERSECTIONS SHALL BE TRAFFIC RATED. WHERE APPROVED BY THE CITY, ANY BOX INSTALLATION IN CONCRETE WILL REQUIRE THE GROUND BOX TO BE DESIGNED AND LISTED FOR USE IN CONCRETE. SUBMIT BOX SPECIFICATIONS TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION. ALL BOXES SHALL HAVE THE WORDS "STREET LIGHTING" ON THE COVER.

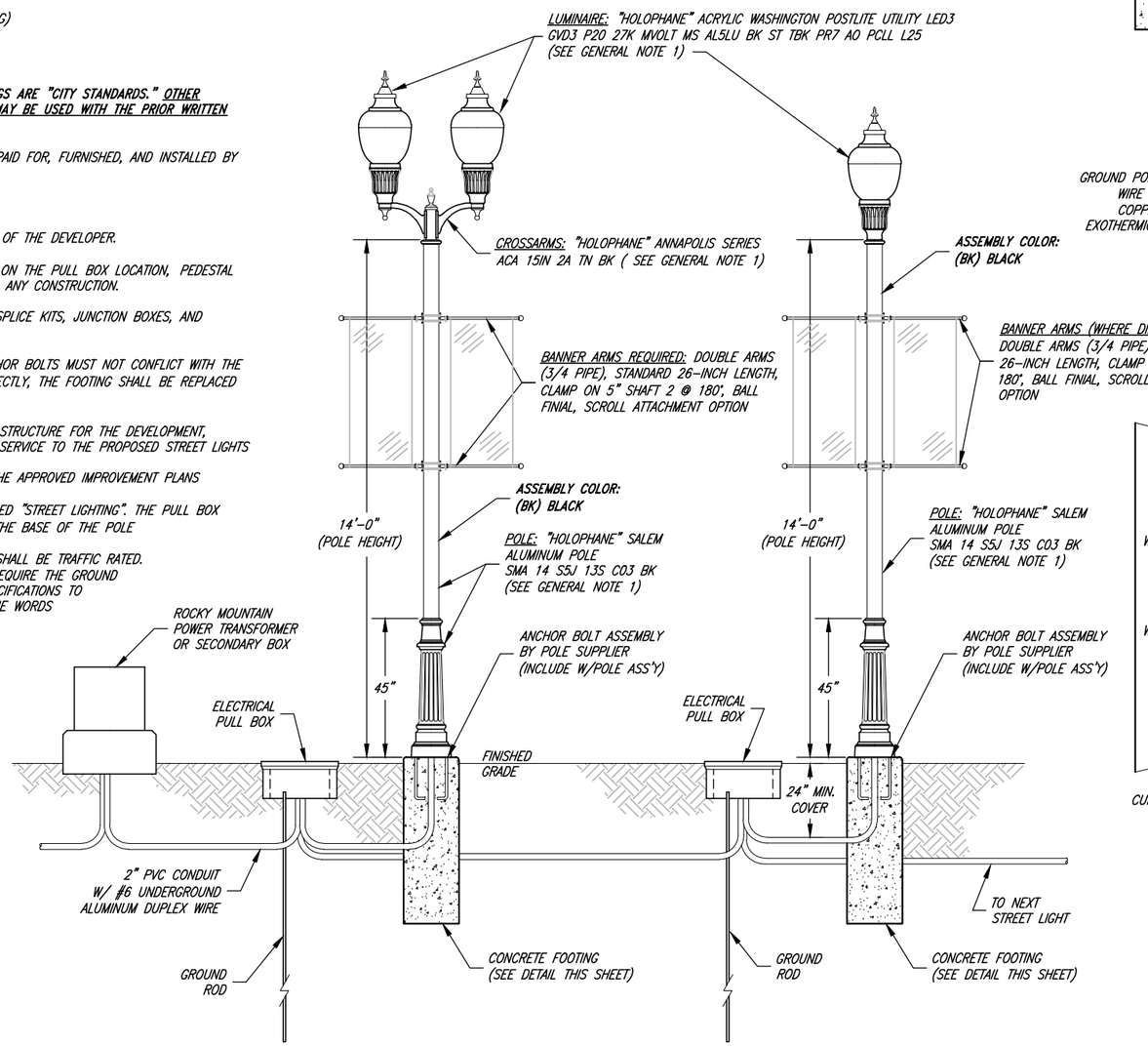
11. ALL RESIDENTIAL DEVELOPMENT STREET LIGHTS SHOULD BE LOCATED ON LOT LINES WHEN NOT LOCATED AT AN INTERSECTION.

12. ALL STREET LIGHTS SHOULD BE LOCATED 3 FEET BEHIND THE BACK OF CURB OR BACK OF SIDEWALK (OR AS OTHERWISE DIRECTED BY THE CITY). ON ROAD SECTIONS WITHOUT CURB & GUTTER LOCATE STREET LIGHT AS DIRECTED BY THE CITY.

ATTENTION

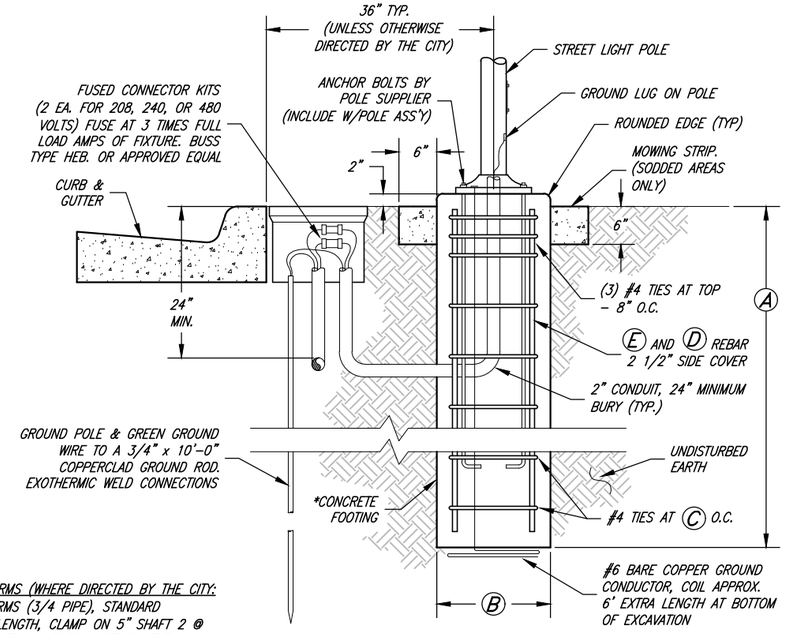
DEVELOPER/CONTRACTOR SHALL NOTIFY THE ROCKY MOUNTAIN POWER OFFICE PRIOR TO LIGHTING INSTALLATION TO ARRANGE FOR POWER TO BE PROVIDED ON SITE, AS WELL AS APPROVAL OF LIGHTING UNIT LOCATIONS.

ALL FINAL WORK AND MATERIALS TO BE APPROVED BY THE CITY .

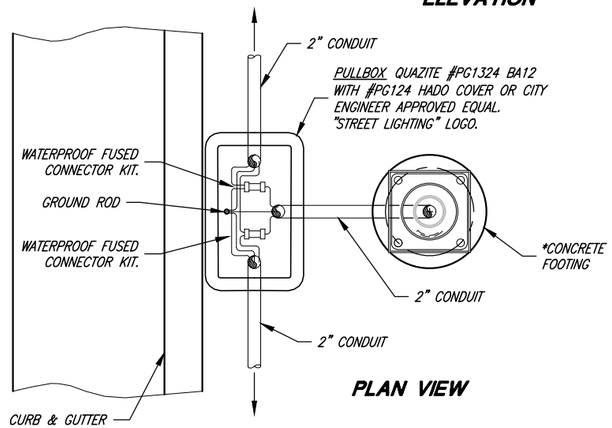


SL-2 DOUBLE ACORN STREET LIGHT

SL-1 SINGLE ACORN STREET LIGHT



ELEVATION



PLAN VIEW

STREET LIGHT POLE, CONCRETE ANCHOR BASE AND PULL BOX

N.T.S.

POLE SIZE	DEPTH (A)	DIAMETER (B)	REBAR TIES O.C. (C)	NO. OF VERT. REBAR (D)	REBAR SIZE (E)
10'-15'	4'-6"	18"	8"	6	#6
16'-25'	6'-0"	24"	8"	8	#7
26'-50'	9'-0"	30"	8"	12	#7

* CONCRETE CLASS 4000 PER APWA 03 33 04, PLACEMENT PER APWA 03 33 10, AND CURE PER APWA 03 33 90

CITY ENGINEER

3/8/2024
DATE

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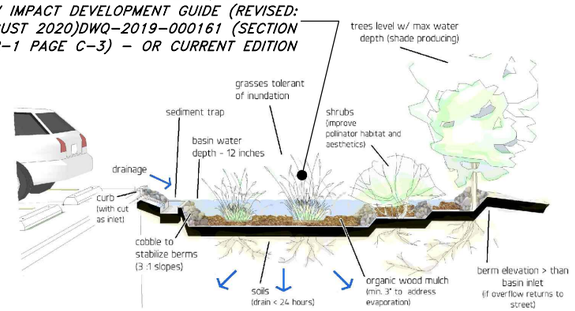
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - STREET LIGHTING STANDARDS
GENERAL STREET LIGHTING STANDARDS

SHEET: SL1
OF X SHEETS
0

FOR RAIN GARDEN DETAIL, SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020)DWQ-2019-000161 (SECTION BR-1 PAGE C-3) - OR CURRENT EDITION



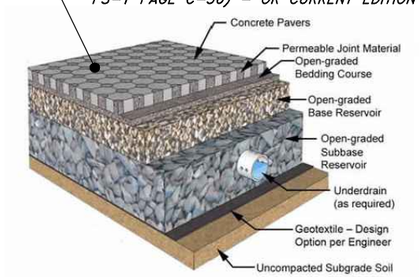
Basic Basin Design Considerations

diagram by Paul Navrot for SUH

RAIN GARDEN

*** http://www.lid-stormwater.net/site_map.htm ***

FOR PERVIOUS SURFACES SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION PS-1 PAGE C-36) - OR CURRENT EDITION



PERMEABLE PAVER

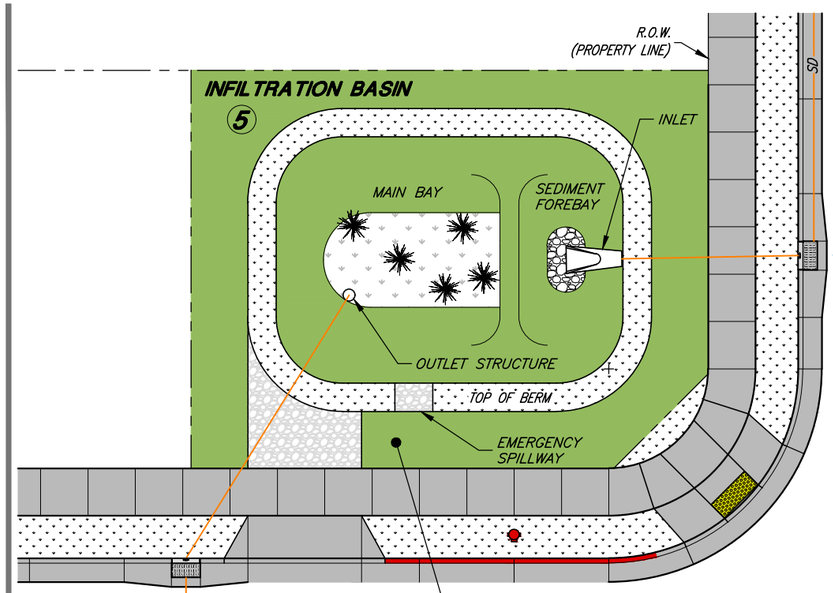
From Smith, D. 2006. *Permeable Interlocking Concrete Pavement-selection design, construction and maintenance. Third Edition.* Interlocking Concrete Pavement Institute. Herndon, VA

FOR RAIN BARREL SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION HR-1 PAGE C-62) OR CURRENT EDITION

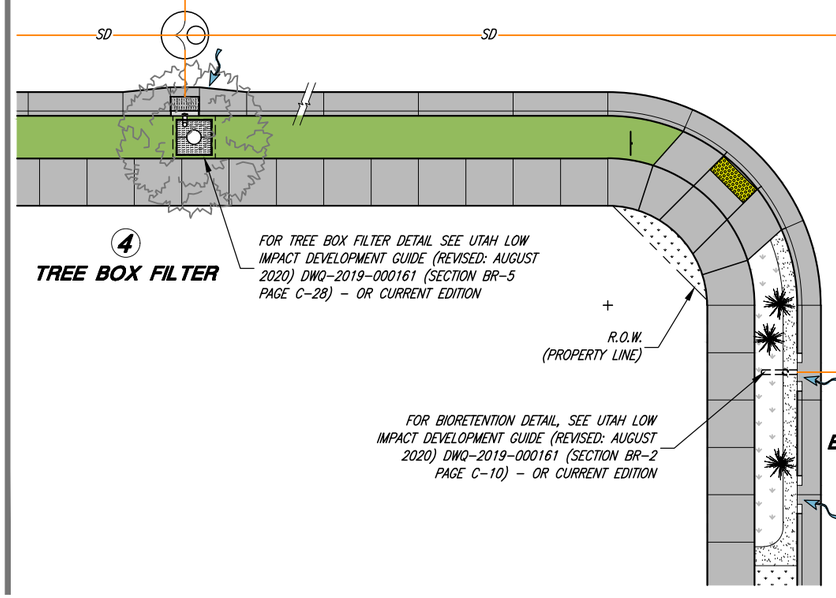
RAIN BARREL

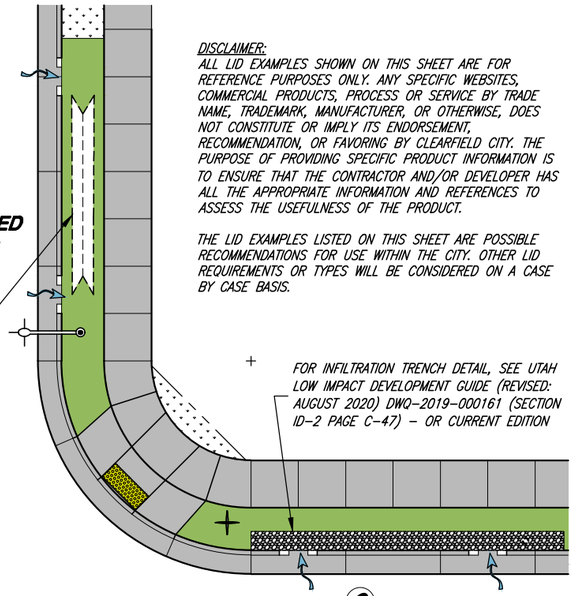
http://www.goodideasinc.com/products/rain-barrels/rain-wizard-50/

OTHER LID BMPS

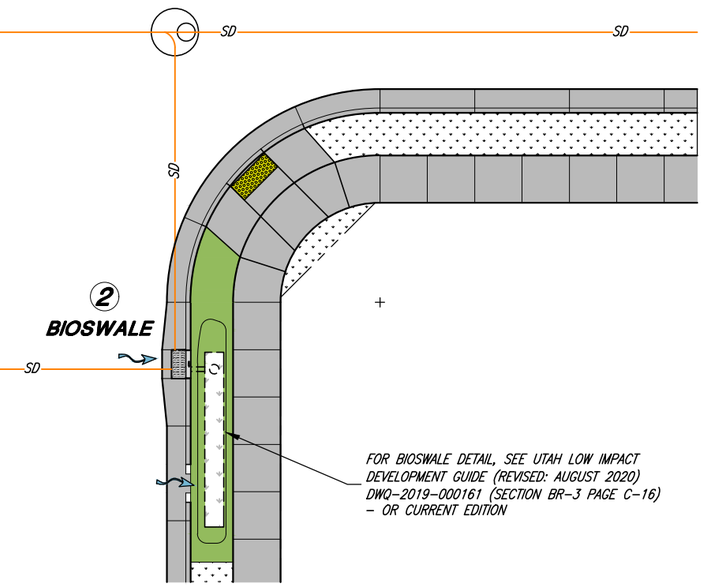


FOR INFILTRATION BASIN CRITERIA, SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION ID-1 PAGE C-41) - OR CURRENT EDITION





STANDARD LOCAL STREET SECTION LID BMPs



CITY ENGINEER

3/8/2024
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Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - LID (LOW IMPACT DEVELOPMENT) STANDARDS
GENERAL LID (LOW IMPACT DEVELOPMENT) EXAMPLES

SHEET: LID1
OF X SHEETS
0

SUBDIVISION PLAT REQUIREMENTS

	PLAT NOTES	PRELIM. PLAT	FINAL PLAT
1	PLAT TO SHOW ALL PHASES & FUTURE DEVELOPMENT	X	
	PLAT PHASE BEING SUBDIVIDED/CONSTRUCTED		X
2	VICINITY MAP (SUBD. LOCATION)	X	X
3	NAME OF THE SUBDIVISION	X	X
4	TRUE NORTH ARROW	X	X
5	DATE	X	X
6	PLAT LEGEND	X	X
7	SECTION, TOWNSHIP, RANGE	X	X
8	NAMES OF DEVELOPER(S)	X	X
9	SUBDIVISION BOUNDARY DESCRIPTION	X	X
10	ADJOINING LAND OWNER(S)	X	X
11	TOTAL ACREAGE OF DEVELOPMENT	X	X
12	SURVEY NARRATIVE		X
13	BASIS OF BEARINGS	X	X
14	TIES TO TWO SECTION CORNERS WITH BEARINGS & DISTANCES	X	X
	SIGNATURE BLOCKS FOR:		
15	COUNTY RECORDER		X
16	OWNER DEDICATION		X
17	CITY PLANNER/LAND USE AUTHORITY		X
18	CITY ENGINEER		X
19	MAYOR		X
20	CITY RECORDER		X
21	CITY ATTORNEY		X
22	SURVEYORS CERTIFICATE		X
	MEASUREMENTS & DIMENSIONS		
23	SCALE, GRAPHIC SCALE	X	X
24	LENGTHS	X	X
25	ANGLES & BEARINGS	X	X
	CURVE DATA		
26	RADIUS, CENTRAL ANGLE, TANGENTS, ARC LENGTH	X	X
27	BEARING DIMENSIONS FOR ALL LOT LINES	X	X
28	SQ FT OF EACH LOT	X	X
29	SURVEY MONUMENTS		X
30	PUBLIC LANDS & STREETS IDENTIFIED	X	X
31	RIGHT-OF-WAY LINES	X	X
32	IDENTIFY SPECIFIC DEDICATIONS (ROADS, PARCEL "X", ETC.)		X
33	WIDTHS/LOCATIONS OF STREETS & PUBLIC PROPERTIES	X	X
34	STREET NAMES AND/OR COORDINATE NUMBERS	X	X
35	SHOW AND LABEL ALL EASEMENTS	X	X
36	NOTES & RESTRICTIONS		X
37	SHOW "R" ON ALL RESTRICTED LOTS		X
38	SPECIALIZED DEVELOPMENT STANDARDS		X
39	CCR'S WHERE APPLICABLE		X
40	SHOW SPECIAL UTILITIES AND DISTRICTS		X
41	OTHER RESTRICTIVE LANGUAGE, TERMS, RESTRICTIONS, CONDITIONS		X
42	EASEMENT APPROVAL (AS APPLICABLE)		X
43	NEW LOT ADDRESSES (ASSIGNED BY THE CITY)		X
44	DRINKING WATER SOURCE PROTECTON ZONES	X	X
45	FEMA FLOOD ZONES, FAULT, DEBRIS FLOW OR OTHER GEOLOGICAL HAZARD SETBACKS	X	X

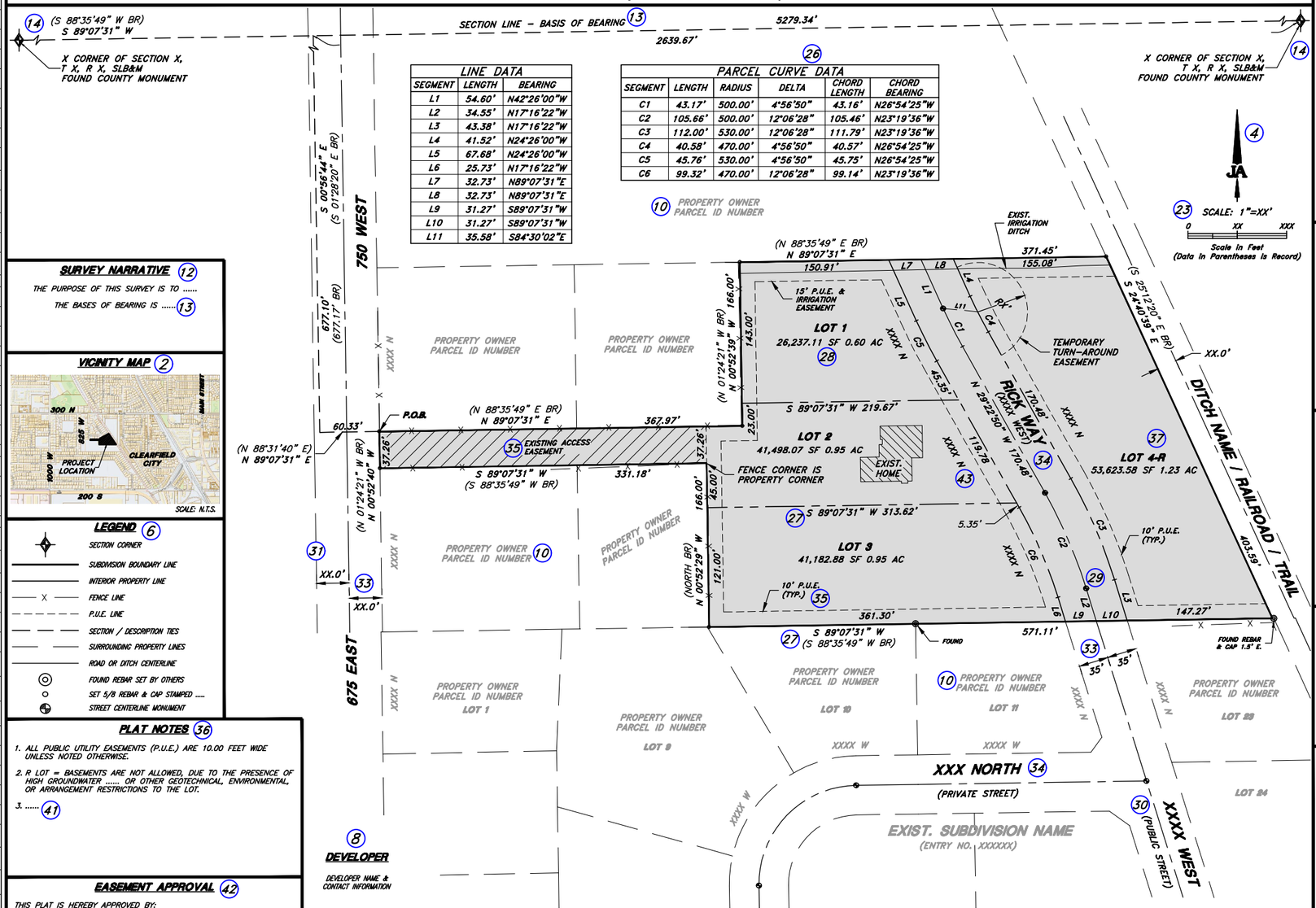
GENERAL NOTE:
1. THIS SHEET (DEV1) IS INTENDED AS AN EXAMPLE, TO GIVE A GRAPHICAL REPRESENTATION OF THE MAIN ITEMS TO BE INCLUDED ON A PLAT. IT IS NOT INTENDED TO BE A COMPLETE REPRESENTATION OF ALL ITEMS THAT MAY BE NEEDED ON A PLAT.
2. THE BLUE CIRCLED ITEMS ARE REFERENCED ON THIS SHEET. THE BLACK CIRCLED ITEMS ARE NOT REPRESENTED.

SHEET 1 OF X

(3) SUBDIVISION NAME

(7) A PART OF SECTION X, TOWNSHIP X, RANGE X, S.L.B.&M.
CLEARFIELD CITY, DAVIS COUNTY, UTAH

(5) DATE



(9) SUBDIVISION BOUNDARY DESCRIPTION

BEING PART OF SECTION X, TOWNSHIP X, RANGE X OF THE SALT LAKE BASE AND MERIDIAN.

BEGINNING AT A POINT .....
FROM THE X CORNER OF SAID SECTION X;

RUNNING THENCE.....

.....TO THE POINT OF BEGINNING.

CONTAINING XX.XX ACRES (11)

SURVEYOR'S CERTIFICATE (22)

I, LAND SURVEYOR'S NAME, DO HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF UTAH .....

SIGNED THIS _____ DAY OF _____, 20XX.

STAMP

_____
LAND SURVEYOR, P.L.S.
UTAH LAND SURVEYOR LICENSE NO. XXXXXXX

OWNER'S DEDICATION

(EXAMPLE) KNOW ALL MEN BY THESE PRESENTS THAT WE, THE UNDERSIGNED OWNERS OF THE ABOVE DESCRIBED TRACT OF LAND, HAVING CAUSED THE SAME TO BE SUBDIVIDED INTO (X) LOTS AND STREETS TO BE HEREAFTER KNOWN AS THE SUBDIVISION NAME, DO HEREBY DEDICATE, GRANT AND CONVEY TO CLEARFIELD CITY, DAVIS COUNTY, UTAH, ALL PARCELS OF LAND SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE AND DO WARRANT, DEFEND AND SAVE THE MUNICIPALITY HARMLESS AGAINST ANY EASEMENTS OR OTHER ENCUMBRANCES WHICH WILL INTERFERE WITH MUNICIPALITY'S USE, OPERATION AND MAINTENANCE OF THE EASEMENTS. WE DO HEREBY DEDICATE TO CLEARFIELD CITY ALL THOSE PARTS OR PORTIONS OF SAID TRACT OF LAND DESIGNATED AS STREETS, THE SAME TO BE USED AS PUBLIC THOROUGHFARES FOREVER AND ALSO DEDICATE TO CLEARFIELD CITY THOSE STRIPS AS EASEMENTS FOR PUBLIC UTILITY AND DRAINAGE PURPOSES AS SHOWN HEREON, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF GENERAL UTILITY SERVICE LINES AND DRAINAGE AS MAY BE AUTHORIZED BY CLEARFIELD CITY. WE DECLARE BINDING AND EFFECTIVE ALL PLAT NOTES AS SHOWN HEREON.

THIS _____ DAY OF _____, 20XX. (16)

_____ _____
PROPERTY OWNER(S) DATE

_____ _____
PROPERTY OWNER(S) DATE

ACKNOWLEDGEMENT

STATE OF UTAH
COUNTY OF

ON THIS ____, DAY OF _____,20XX PERSONALLY APPEARED BEFORE ME THE UNDERSIGNED NOTARY PUBLIC, _____
(Name of Document Signer)
SIGNER OF THE OWNER'S DEDICATION AND CERTIFICATION WHO, BEING BY ME DULY SWORN, DID SIGN IT FREELY, VOLUNTARILY, AND FOR THE PURPOSES THEREIN MENTIONED.

_____
NOTARY PUBLIC
STAMP MY COMMISSION EXPIRES _____

TRUST OR CORPORATE ACKNOWLEDGEMENT

STATE OF UTAH
COUNTY OF

ON THIS ____, DAY OF _____,20XX PERSONALLY APPEARED BEFORE
ME, _____ (AND) _____,
(Name of Document Signer(S))
WHOSE IDENTITIES ARE PROVEN ON THE BASIS OF SATISFACTORY EVIDENCE AND WHO BY ME DULY SWORN/AFFIRMED, DID SAY HE/SHE/THEY ARE THE _____ OF SAID TRUST/COMPANY AND THAT SAID OWNER'S DEDICATION WAS SIGNED FREELY AND VOLUNTARILY BY HIM/HER/THEM IN BEHALF OF SAID TRUST/COMPANY FOR THE PURPOSES THEREIN MENTIONED.

_____
NOTARY PUBLIC
STAMP MY COMMISSION EXPIRES _____

SURVEY NARRATIVE (12)

THE PURPOSE OF THIS SURVEY IS TO .....

THE BASES OF BEARING IS .....(13)

VICINITY MAP (2)

SCALE: N.T.S.

LEGEND (6)

- SECTION CORNER
- SUBDIVISION BOUNDARY LINE
- INTERIOR PROPERTY LINE
- FENCE LINE
- P.U.E. LINE
- SECTION / DESCRIPTION TIES
- SURROUNDING PROPERTY LINES
- ROAD OR DITCH CENTERLINE
- FOUND REBAR SET BY OTHERS
- SET 5/8 REBAR & CAP STAMPED .....
- STREET CENTERLINE MONUMENT

PLAT NOTES (36)

1. ALL PUBLIC UTILITY EASEMENTS (P.U.E.) ARE 10.00 FEET WIDE UNLESS NOTED OTHERWISE.
2. R LOT = BASEMENTS ARE NOT ALLOWED, DUE TO THE PRESENCE OF HIGH GROUNDWATER ..... OR OTHER GEOTECHNICAL, ENVIRONMENTAL, OR ARRANGEMENT RESTRICTIONS TO THE LOT.
3. ..... (41)

EASEMENT APPROVAL (42)

THIS PLAT IS HEREBY APPROVED BY:

_____ _____
DAVIS WEBER CANAL COMPANY DATE

_____ _____
NORTH DAVIS SEWER DISTRICT DATE

_____ _____
WEBER BASIN WATER CONSERVANCY DISTRICT DATE

_____ _____
PACIFICORP DATE

(8) DEVELOPER

DEVELOPER NAME & CONTACT INFORMATION

CLEARFIELD CITY PLANNING COMMISSION APPROVAL (17)

APPROVED THIS ____ DAY OF _____, 20XX, BY THE CLEARFIELD CITY PLANNING COMMISSION.

_____
CHAIRMAN

CLEARFIELD CITY ATTORNEY (21)

APPROVED THIS ____ DAY OF _____, 20XX, BY THE CLEARFIELD CITY ATTORNEY.

_____
CITY ATTORNEY

CLEARFIELD CITY COUNCIL APPROVAL AND ACCEPTANCE

PRESENTED TO THE CLEARFIELD CITY COUNCIL THIS ____ DAY OF _____, 20XX, AT WHICH TIME THIS SUBDIVISION WAS APPROVED AND ACCEPTED.

(19) _____
CLEARFIELD CITY MAYOR

(20) ATTEST: _____
CITY RECORDER

CLEARFIELD CITY ENGINEER (18)

APPROVED THIS ____ DAY OF _____, 20XX, BY THE CLEARFIELD CITY ENGINEER.

_____
CLEARFIELD CITY ENGINEER

PLAT SURVEYOR AND/OR ENGINEERING COMPANY CONTACT INFORMATION

DAVIS COUNTY RECORDER (15)

STATE OF UTAH, COUNTY OF DAVIS, RECORDED AND FILED AT THE REQUEST OF _____

DATE _____ TIME _____ FEE _____

ENTRY _____

INDEX _____

FILED IN: _____ FILE OF PLATS _____
COUNTY RECORDER / CHIEF DEPUTY

_____
CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

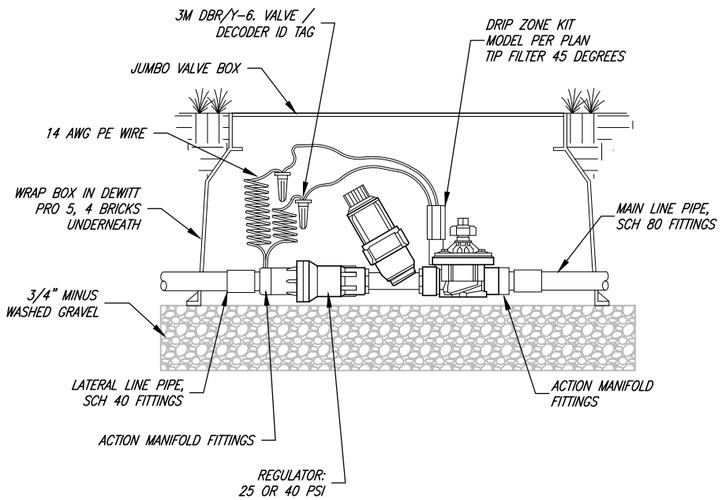
SCALE: N.T.S.

JONES & ASSOCIATES
CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767
www.jonescivil.com

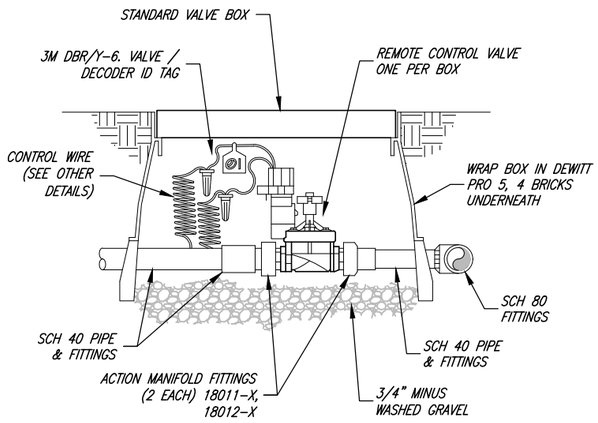
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - MISCELLANEOUS DEVELOPMENT STANDARDS
SUBDIVISION PRELIMINARY & FINAL PLAT SUBMITTALS EXAMPLE

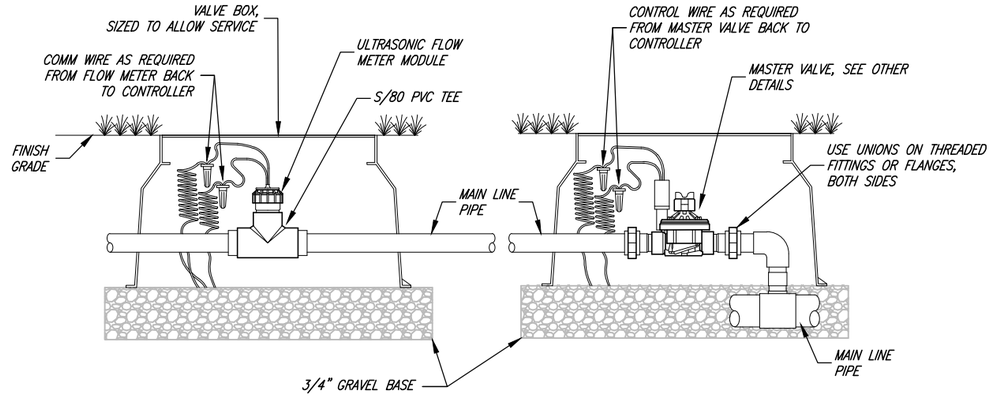
SHEET: DEV1
OF X SHEETS
0



DRIP CONTROL ZONE

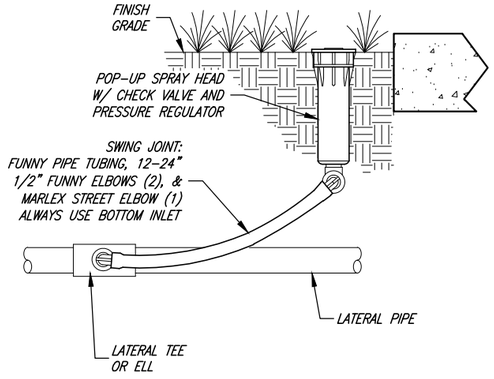


REMOTE CONTROL VALVE

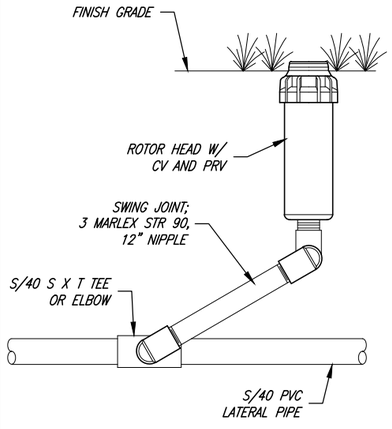


NOTE:
INLET PIPE LENGTH OF FLOW METER MUST BE A MINIMUM OF 10X THE PIPE DIAMETER; OF STRAIGHT, CLEAN RUN OF PIPE, NO FITTINGS OR TURNS.
OUTLET PIPE LENGTH OF FLOW METER MUST BE A MINIMUM OF 5X THE PIPE DIAMETER OF STRAIGHT CLEAN RUN OF PIPE, NO FITTINGS OR TURNS.

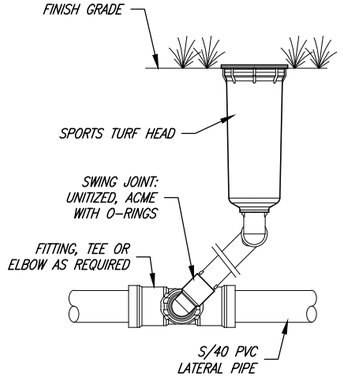
MASTER VALVE & FLOW METER



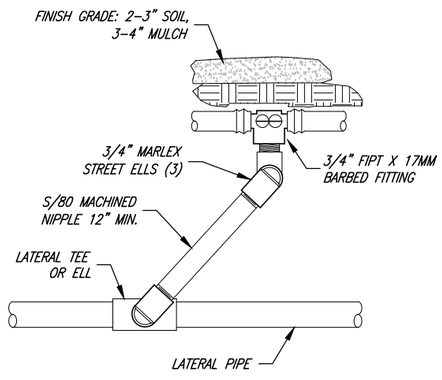
SPRAY HEAD WITH FIXED OR ROTARY NOZZLE



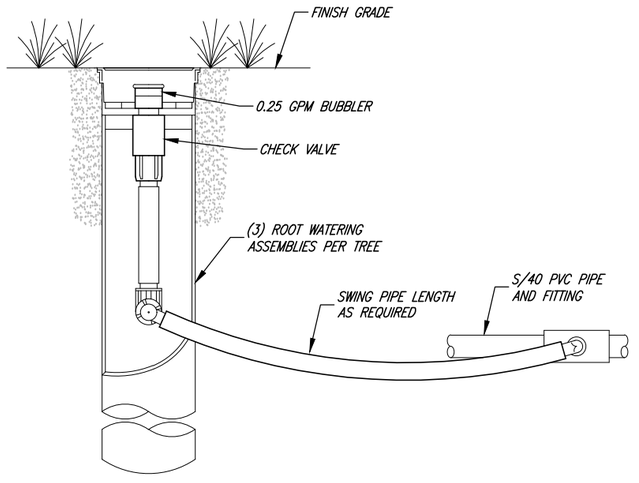
POP-UP ROTOR HEAD DETAIL



SPORTS TURF ROTOR



DRIP PVC TO POLY TRANSITION



ROOT WATERING BUBBLER ASSEMBLY

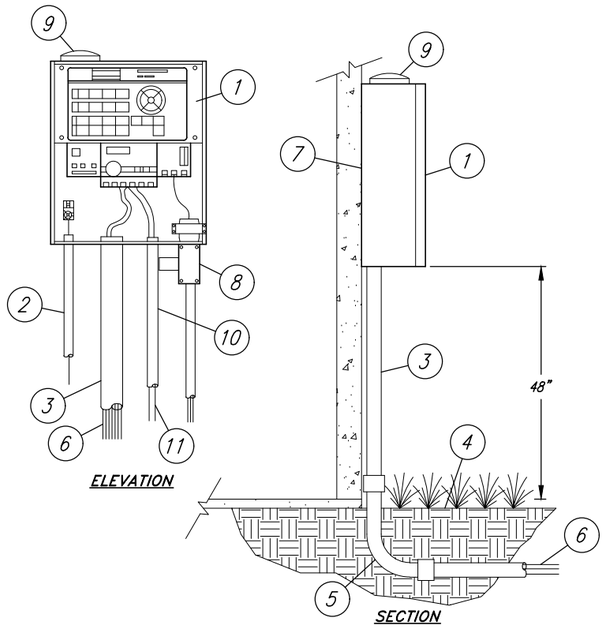
CITY ENGINEER 3/8/2024 DATE	REV.	DATE	APPR.	SCALE: N.T.S.	JONES & ASSOCIATES CONSULTING ENGINEERS 6080 Fashion Point Drive South Ogden, Utah 84403 (801) 476-9767 www.jonescivil.com	Clearfield City Public Works CLEARFIELD CITY CORPORATION PUBLIC WORKS - IRRIGATION AND LANDSCAPING STANDARDS TYPICAL IRRIGATION SYSTEM DETAILS	SHEET: IR1 OF X SHEETS 0

1	WEATHERTRAK CONTROLLERS SHALL BE USED EXCLUSIVELY, STAINLESS STEEL CABINET
2	#6 AWG COPPER GROUND WIRE IN CONDUIT. CONNECT TO BUILDING GROUND AND SUPPLIMENTARY EXTERIOR GROUND PER ASIC GUIDELINES
3	2" RIGID GALVANIZED ELECTRICAL CONDUIT. USE FOR BOTH 2-WIRE & CONVENTIONAL WIRE OPTIONS. (ABOVE GRADE)
4	FINISH GRADE OUTSIDE OF BUILDING
5	2" PVC S/40 GRAY ELECTRICAL LONG SWEEP ELL AND CONDUIT. USE FOR BOTH 2-WIRE DECODER AND CONVENTIONAL WIRE OPTIONS. (BELOW GRADE)
6	CONVENTIONAL VALVE OR DECODER WIRES
7	WALL SURFACE. ANCHOR CONTROLLER TO OUTSIDE WALL PER MANUFACTURER'S RECOMMENDATION. FACE PLATE SHALL BE LOCATED AT 65" ABOVE FINISH GRADE
8	'J' NOX FOR 120 VAC TO CONTROLLER. INCLUDE AG-2401 SURGE DEVICE
9	LOW PROFILE ANTENNA
10	1" RIGID GALVANIZED CONDUIT WITH PVC GRAY SWEEP ELL AND CONDUIT FOR FLOW SENSOR & MASTER VALVE WIRE.
11	FLOW SENSOR CABLE & MASTER VALVE OR HYDROMETER WIRE PER SPECIFICATIONS.

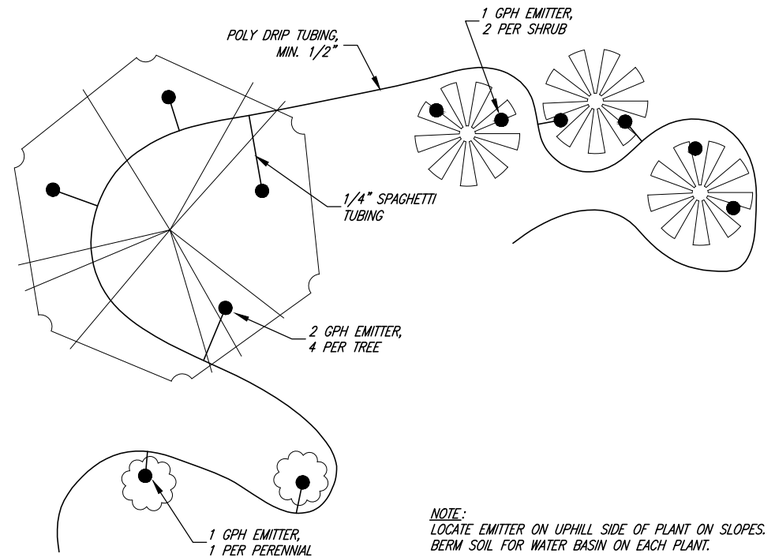
NOTES:
ALL IN-GROUND WIRES SHALL BE ENCASED IN GRAY S/40 PVC ELECTRICAL CONDUIT.

ALL 120 VAC POWER WIRE SHALL BE ENCASED IN CONDUIT, AND INSTALLED TO MEET OR EXCEED ALL LOCAL, STATE & NATIONAL CODES.

SEE DETAIL C# FOR SPECIFIC MODEL AND FEATURE REQUIREMENTS FOR CONTROLLERS.

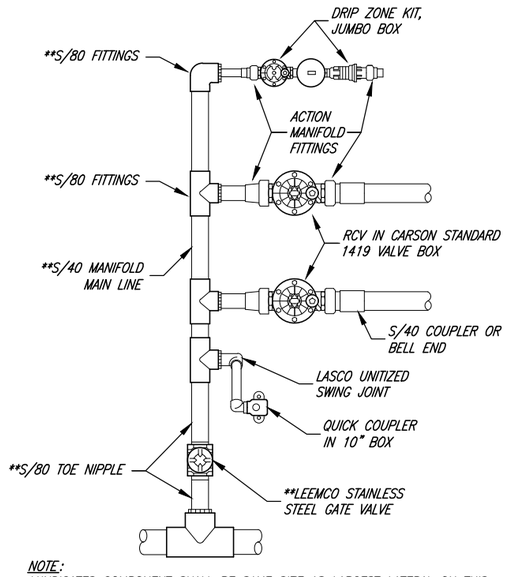


OUTDOOR WALL MOUNT CONTROLLER



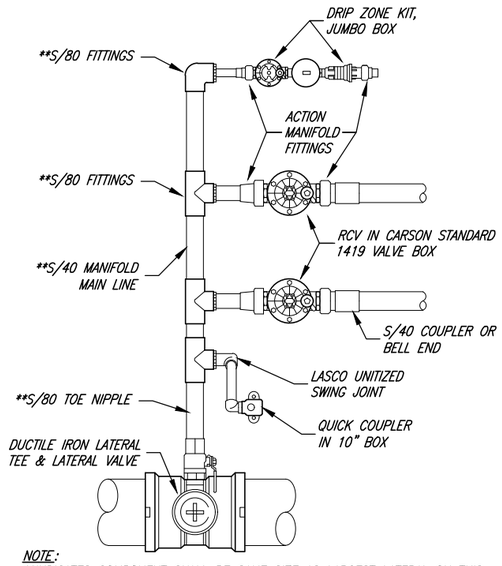
NOTE:
LOCATE EMITTER ON UPHILL SIDE OF PLANT ON SLOPES. BERM SOIL FOR WATER BASIN ON EACH PLANT.

DRIP POINT SOURCE EMITTER LAYOUT



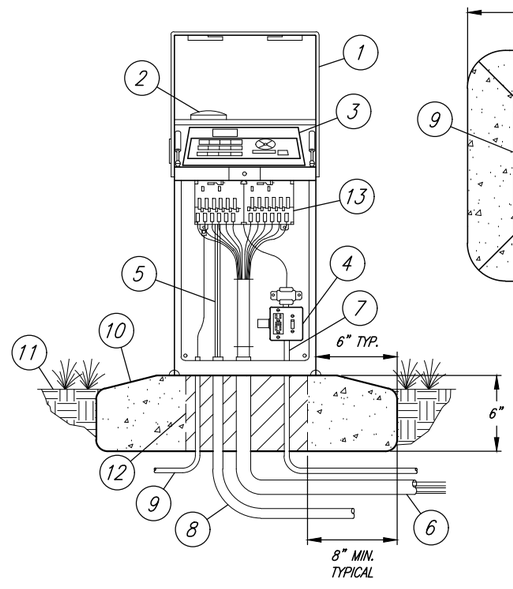
NOTE:
**INDICATES COMPONENT SHALL BE SAME SIZE AS LARGEST LATERAL ON THIS MANIFOLD. DOWNSTREAM OF GATE VALVE: MANIFOLD FITTINGS SHALL BE S/80, PVC PIPE SHALL BE S/40.

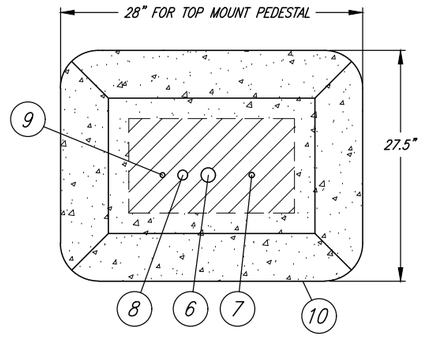
VALVE MANIFOLD (MAIN SMALLER THAN 2")



NOTE:
**INDICATES COMPONENT SHALL BE SAME SIZE AS LARGEST LATERAL ON THIS MANIFOLD. DOWNSTREAM OF BALL VALVE: MANIFOLD FITTINGS SHALL BE S/80, PVC PIPE SHALL BE S/40.
QUICK COUPLERS ARE NOT REQUIRED AT EVERY MANIFOLD. SEE PLAN FOR LOCATIONS

VALVE MANIFOLD (MAIN 2" AND LARGER)





PEDESTAL TOP ENTRY ENCLOSURE

1	WEATHERTRAK CONTROLLERS SHALL BE USED EXCLUSIVELY, STAINLESS STEEL CABINET
2	LOW PROFILE ANTENNA
3	WEATHERTRAK ET PRO3 SERIES CONTROLLER. SEE C# FOR MODEL AND FEATURE REQUIREMENTS
4	GFCI & POWER SWITCH. 120 VAC TO CONTROLLER, INCLUDE AG-2401 SURGE DEVICE
5	FLOW SENSOR CABLE & MASTER VALVE WIRES PER SPECIFICATIONS
6	3" PVC S/40 SWEEP 90 AND CONDUIT FOR CONTROL WIRES
7	1" PVC S/40 SWEEP 90 AND CONDUIT FOR 120 VAC FROM METERED SUPPLY
8	2" PVC S/40 SWEEP 90 AND CONDUIT FOR FLOW SENSOR AND MASTER VALVE WIRING
9	1-1/2" PVC S/40 SWEEP 90 AND CONDUIT FOR GROUNDING, PER ASIC GUIDELINES
10	POURED CONCRETE BASE, SLOPE TO DRAIN
11	FINISH GRADE, 2" BELOW TOP OF CONCRETE BASE
12	FILL VOIDS WITH CONCRETE SLURRY MIX

NOTES:
ALL IN-GROUND WIRES SHALL BE ENCASED IN GRAY S/40 PVC ELECTRICAL CONDUIT.

ALL 120 VAC POWER WIRE SHALL BE ENCASED IN CONDUIT, AND INSTALLED TO MEET OR EXCEED ALL LOCAL, STATE & NATIONAL CODES.

SEE DETAIL C# FOR SPECIFIC MODEL AND FEATURE REQUIREMENTS FOR CONTROLLERS.

CONTRACTOR SHALL BE PREPARED TO INSTALL PEDESTAL CONTROLLER ON A POURED CONCRETE OR A VIT QUICKPAD BASE. OWNER SHALL NOTIFY CONTRACTOR WHICH BASE SHALL BE USED PRIOR TO COMMENCEMENT OF THE PROJECT. CONTRACTOR SHALL VERIFY NUMBER AND SIZE OF CONDUITS REQUIRED FOR INSTALLATION. PROVIDE A MINIMUM OF 2" OF CONCRETE FROM MOUNTING BOLT TO INTERIOR BASE OPENING.

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

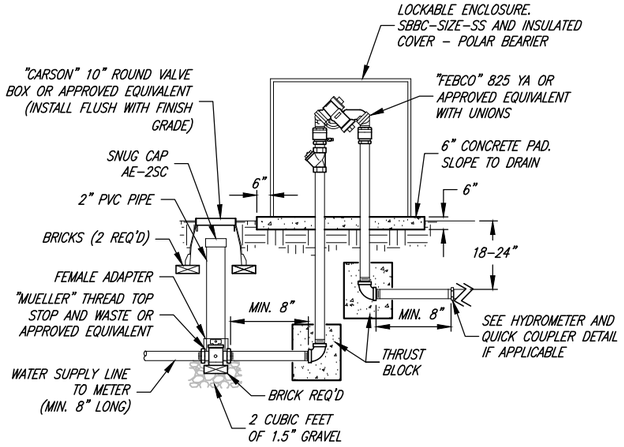
SCALE: N.T.S.

JA JONES & ASSOCIATES
CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767
www.jonescivil.com

Clearfield City Public Works

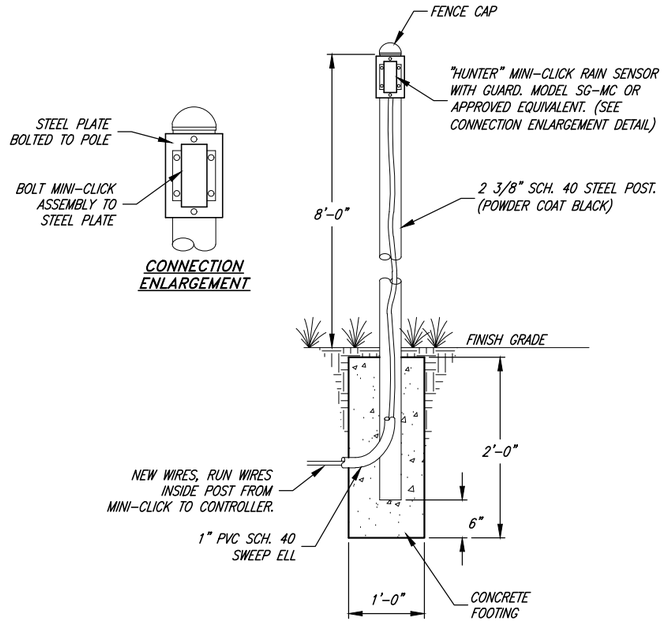
CLEARFIELD CITY CORPORATION
PUBLIC WORKS - IRRIGATION AND LANDSCAPING STANDARDS
IRRIGATION SYSTEM CONTROLLERS, EMITTER LAYOUT, AND VALVE MANIFOLD DETAILS

SHEET: IR2
OF X SHEETS
0

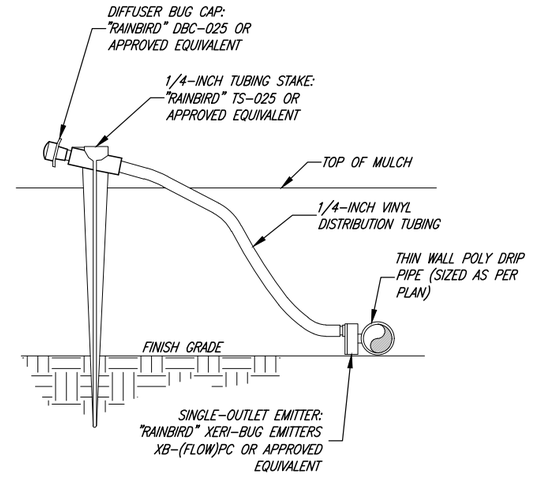


NOTE:
1. ALL PIPE & FITTINGS TO BE BRASS UP TO THE MASTER VALVE.
2. **SEE DETAIL SHEET CW11**

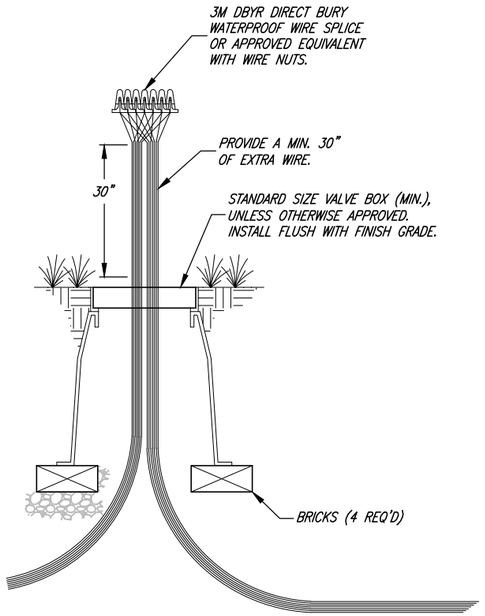
MAINLINE CONNECTION DETAIL
(2 INCHES OR LESS)



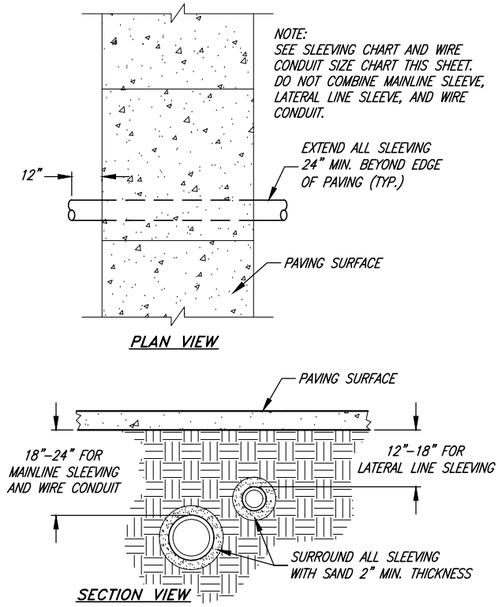
MINI-CLICK INSTALLATION DETAIL



EMITTER INTO POLY-TUBE DETAIL



WIRE SPLICE DETAIL



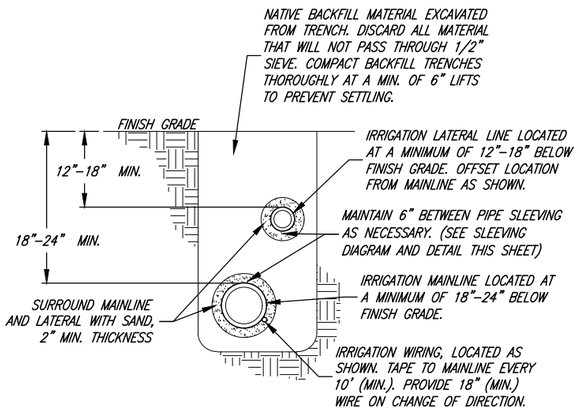
TYPICAL SLEEVING DETAIL

SLEEVE SIZE CHART	
PIPE SIZE	MIN. SLEEVE SIZE
3/4"	1 1/2"
1"	2"
1 1/4"	2 1/2"
1 1/2"	2 1/2"
2"	3"
2 1/2"	4"
3"	4"
4"	6"
6"	8"

1. DO NOT COMBINE MAINLINE, LATERAL LINE, AND WIRE CONDUIT IN ONE SLEEVE.
2. USE SLEEVE AS PER CHART.
3. CONTROL OR "HOT" WIRES RED 14 GA.
4. COMMON OR "GROUND" WIRE WHITE 12 GA. USE SEPARATE COMMON FOR EACH CONTROLLER.
5. "SPARE" WIRE ORANGE 14 GA.
6. "TRACER" WIRE YELLOW 14 GA.

WIRE CONDUIT SIZE (SCH 40 CONDUIT PVC)	
NUMBER OF WIRE	MIN. CONDUIT SIZE
1-4	3/4"
5-7	1"
8-11	1 1/2"
12-22	2"
23-31	2 1/2"
32-36	3"

SLEEVING DIAGRAM



LANDSCAPE TRENCH DETAIL

CITY ENGINEER
3/8/2024
DATE

REV.	DATE	APPR.

SCALE: N.T.S.

JONES & ASSOCIATES
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6080 Fashion Point Drive
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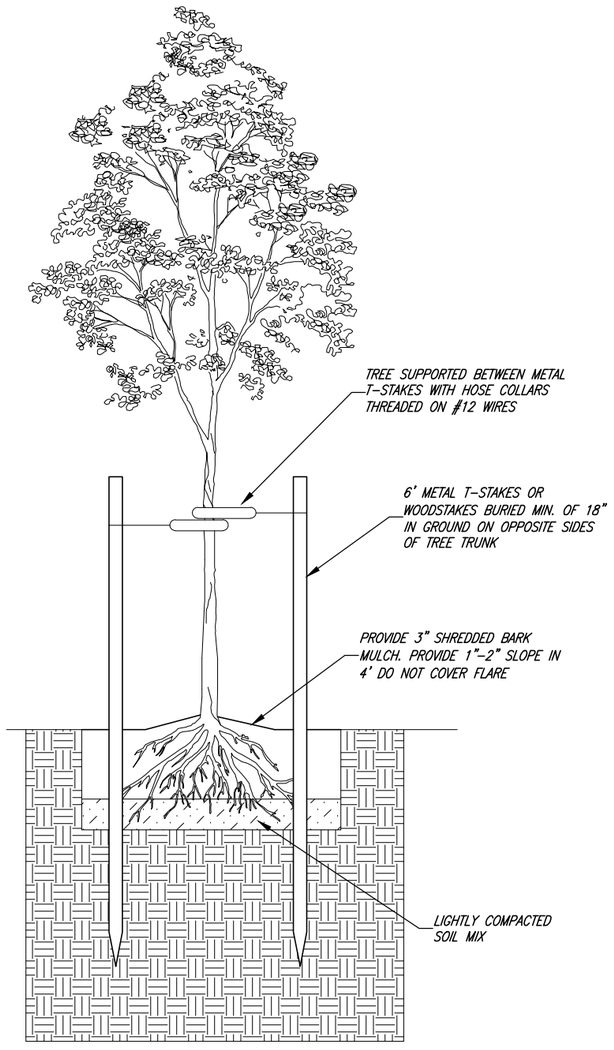
Clearfield City Public Works

CLEARFIELD CITY CORPORATION
PUBLIC WORKS - IRRIGATION AND LANDSCAPING STANDARDS
IRRIGATION SYSTEM CONNECTION, MINI-CLICK, WIRE SPLICE, SLEEVING, AND TRENCH SECTION DETAILS

SHEET: IR3
OF X SHEETS
0



TREE PLANTING NOTES:

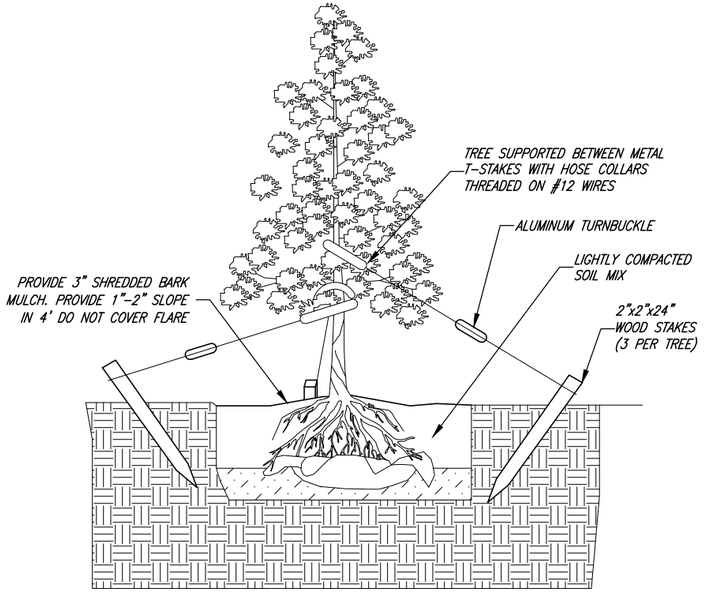
1. SOIL MIX FOR ALL TREES, SHRUBS AND GROUND COVER SHALL BE 30% EXISTING SOIL EXCAVATED FROM PLANT HOLE, 30% IMPORTED LOAMY TOPSOIL, 20% CLEAN COARSE SAND, AND 20% PEAT MOSS.

   TYPICAL PLANTING DEPTH: FROM ROOT FLAIR TO BOTTOM OF BALL LESS 2"

   TYPICAL PLANTING WIDTH: TWICE THE WIDTH OF ROOT BALL + 6"

2. TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISABLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL. CUT AND REMOVE BURLAP, TWINE AND WIRE FROM TOP 2/3 OF BALL.

TREE PLANTING AND STAKING DETAIL



CONIFER PLANTING NOTES:

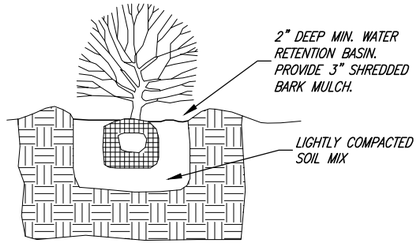
A1. SOIL MIX FOR ALL TREES, SHRUBS AND GROUND COVER SHALL BE 30% EXISTING SOIL EXCAVATED FROM PLANT HOLE, 30% IMPORTED LOAMY TOPSOIL, 20% CLEAN COARSE SAND, AND 20% PEAT MOSS.

   TYPICAL PLANTING DEPTH: FROM ROOT FLAIR TO BOTTOM OF BALL LESS 2"

   TYPICAL PLANTING WIDTH: 6" TWICE THE WIDTH OF BALL

A2. TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISABLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL. CUT AND REMOVE BURLAP, TWINE AND WIRE FROM TOP 2/3 OF BALL.

CONIFER PLANTING AND STAKING DETAIL



SHRUB NOTES:

B1. SOIL MIX FOR ALL TREES, SHRUBS AND GROUND COVER SHALL BE 30% EXISTING SOIL EXCAVATED FROM PLANT HOLE, 30% IMPORTED LOAMY TOPSOIL, 20% CLEAN COARSE SAND, AND 20% PEAT MOSS.

   TYPICAL PLANTING DEPTH: DEPTH OF BALL + 3"

   TYPICAL PLANTING WIDTH: WIDTH OF BALL + 6"

SHRUB PLANTING DETAIL

CITY ENGINEER

3/8/2024

DATE

REV.	DATE	APPR.

SCALE: N.T.S.

JONES & ASSOCIATES
CONSULTING ENGINEERS
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Clearfield City Public Works

CLEARFIELD CITY CORPORATION

PUBLIC WORKS - IRRIGATION AND LANDSCAPING STANDARDS

TREE & SHRUB PLANTING AND STAKING DETAILS

SHEET: LA1

OF X SHEETS

0

Sexual Assault Awareness Month

Proclamation

April

Whereas, Sexual Assault Awareness Month (SAAM) calls attention to the fact that sexual violence is widespread and impacts every person in the community.

Whereas, the goal of SAAM is to raise public awareness about sexual violence and educate the community on how to prevent it. Rape, sexual assault, and sexual harassment harm the community, and statistics show one in five women and one 67 men will be raped at some point in their lives (Smith et al., 2017).

Whereas, sexual harassment, assault, and abuse can happen anywhere including in online spaces. Now more than ever screens and technology connect us with others – but for too long, harassment, cyberbullying, and sexual abuse have been seen as unavoidable behaviors online.

Whereas, individuals and communities can make a difference to build inclusive, safe, and respectful communities that thrive online and offline.

Whereas, individuals and communities can use their words to stop sexual violence before it happens by promoting safety, respect, and equality.

Whereas, individuals and communities can show support for survivors, stand up to victim blaming, shut down rape jokes, correct harmful misconceptions, promote everyday consent, and practice health community with kids.

Therefore, I, Mark R. Shepherd, Clearfield City Mayor do hereby proclaim the month of April each year as Sexual Assault Awareness Month in Clearfield City.

Dated this 11th day of April, 2023.

Mark R. Shepherd
Clearfield City Mayor

TREE CITY USA®
An Arbor Day Foundation Program

★★★ OFFICIAL PROCLAMATION ★★★

WHEREAS in 1872, the Nebraska Board of Agriculture established a special day to be set aside for the planting of trees, ***and***

WHEREAS this holiday, called Arbor Day, was first observed with the planting of more than a million trees in Nebraska, ***and***

WHEREAS Arbor Day is now observed throughout the nation and the world, ***and***

WHEREAS trees can be a solution to combating climate change by reducing the erosion of our precious topsoil by wind and water, cutting heating and cooling costs, moderating the temperature, cleaning the air, producing life-giving oxygen, and providing habitat for wildlife, ***and***

WHEREAS trees are a renewable resource giving us paper, wood for our homes, fuel for our fires, and countless other wood products, ***and***

WHEREAS trees in our city increase property values, enhance the economic vitality of business areas, and beautify our community, ***and***

WHEREAS trees — wherever they are planted — are a source of joy and spiritual renewal.

NOW, THEREFORE, I, Mark Shepherd, Mayor of the City of Clearfield, do hereby proclaim April 26, 2024 as **ARBOR DAY** In the City of Clearfield, and I urge all citizens to celebrate Arbor Day and to support efforts to protect our trees and woodlands, ***and***

FURTHER, I urge all citizens to plant trees to gladden the heart and promote the well-being of this and future generations.

DATED THIS 23rd day of April, 2024

Mayor _____

Arbor Day Foundation®

CLEARFIELD CITY ORDINANCE 2024-06

AN ORDINANCE AMENDING TITLE 11 OF THE CLEARFIELD CITY CODE

PREAMBLE: This Ordinance amends Title 11, Chapter 3 - Definitions, Chapter 10, Article A – Public Facilities Zone (PF), and Chapter 21 – Landscaping Standards and Requirements.

BE IT ORDAINED BY THE CLEARFIELD CITY COUNCIL:

Section 1. Enactment:

Title 11, Chapter 3, Section 3 – Land Use, Definitions, Terms Defined is hereby amended by enacting a definition for "Public Works Facility:"

PUBLIC WORKS FACILITY: Any publicly owned and/or operated facility meant for the physical functions of a public entity, including construction operations, maintenance, and the storage of vehicles, equipment, and materials.

Title 11, Chapter 10, Article A, Section 2 – Land Use, Public Facilities Zone (PF), Permitted Uses (P-F Zone) is hereby amended to read as follows:

11-10A-2: PERMITTED USES (P-F ZONE):

The following buildings, structures, and uses of land shall be permitted in the PF public facilities zone upon compliance with the requirements set forth in this code:

Churches.

Parking lots, stand alone.

Parks and open space.

Public uses.

Public works facilities.

Title 11, Chapter 10, Article A, Chapter 12, Section Paragraph A, Subparagraph 2 – Land Use, Public Facilities Zone (PF), Other Requirements, Landscaping and Open Space is hereby amended to read as follows:

2. A minimum of five percent (5%) of the total project area shall be provided as landscaped open space for the following uses: Public utility facilities and Public works facilities.

Title 11, Chapter 21, Section 4 – Land Use, Landscaping Standards and Requirements, Commercial, Industrial, Multi-family, and Public Facility Development Standards is hereby amended to read as follows:

A. Open Space:

1. Commercial Developments: A minimum of ten percent (10%) of the total lot or parcel area of all commercial developments shall be provided as landscaped open space. All open space required shall be landscaped with a minimum of one tree for every six hundred (600) square feet of landscaped area and one shrub for every two hundred (200) square feet of landscaped area. Planter beds shall be planted to provide a minimum of 50% ground plane coverage when plant material reaches maturity. Canopies of deciduous trees shall not count towards the coverage calculation. Park strips are exempt from the ground plane coverage requirements.

2. Multi-family Developments: A minimum of twenty percent (20%) of the total lot or parcel area of multi-family developments located in the R-2 Zone shall be provided as landscaped open space. A minimum of twenty-five percent (25%) of the total lot or parcel area of multi-family developments located in the R-3 Zone shall be provided as landscaped open space. All open space required shall be landscaped with a minimum of one tree for every six hundred (600) square feet of landscaped area and one shrub for every two hundred (200) square feet of landscaped area. Planter beds shall be planted to provide a minimum of 50% ground plane coverage when plant material reaches maturity. Canopies of deciduous trees shall not count towards the coverage calculation. Park strips are exempt from the ground plane coverage requirements.

3. Industrial Developments: A minimum of five percent (5%) of the total lot or parcel area shall be provided as landscaped open space. All open space required shall be landscaped with a minimum of one tree for every one thousand (1,000) square feet of landscaped area and one shrub for every six hundred (600) square feet of landscaped area.

a. All yard areas between a street frontage and buildings, parking areas, or storage areas which are not used for vehicular or pedestrian access shall be landscaped with a minimum buffer landscaping depth of ten feet (10').

b. If adjacent to a residential zoning district, an additional building setback of ten feet (10') shall be provided adjacent to the residential use to reduce the visual impact of large-scale industrial buildings. The additional ten feet (10') shall be landscaped with trees to provide buffering and shall not include parking, vehicular access, or storage areas for equipment or mechanical systems. Those uses may exist beyond the ten foot (10') buffer.

4. Developments in the P-F Zone (Public Facilities):

a. Public Utility Facilities and Public Works Facilities shall comply with the open space and landscaping standards of Industrial Developments.

b. All other uses in the P-F Zone shall provide a minimum of fifteen percent (15%) of the total lot or parcel area as landscaped open space. All open space required shall be landscaped

with a minimum of one tree for every six hundred (600) square feet of landscaped area and one shrub for every two hundred (200) square feet of landscaped area. Planter beds shall be planted to provide a minimum of 50% ground plane coverage when plant material reaches maturity. Canopies of deciduous trees shall not count towards the coverage calculation. Park strips are exempt from the ground plane coverage requirements.

B. Landscape Design Standards:

1. Plant Selection:

a. Plants shall be well-suited to conditions at the project site. Both native and locally adapted plants are acceptable. Plants with similar water needs shall be grouped together as much as possible.

b. Areas with slopes greater than 33% shall be landscaped with deep-rooting, water-conserving plants for erosion control and soil stabilization.

c. Park strips and other landscaped areas less than eight (8) feet wide shall not be landscaped with turf and shall be maintained free of weeds. Any hardscape installed within a park strip shall cover no more than fifty percent (50%) of the park strip area, unless otherwise required by city code.

d. Turf area shall not exceed 15% of the total landscaped area, outside of active recreation areas.

Note: Please visit weberbasin.com for a list of recommended water-conserving plants (not a comprehensive list).

2. Mulch: After completion of planting, all irrigated non-turf areas shall be covered with a minimum three (3) inch layer of mulch to retain water, inhibit weed growth, and moderate soil temperature. Non-porous material such as concrete or asphalt shall not be placed under the mulch.

3. Tree Selection: Tree species shall be selected based on growth characteristics and site conditions, including available space, overhead clearance, soil conditions, exposure, and desired color and appearance. Trees shall be selected as follows:

a. Broad canopy trees shall be selected where shade or screening of tall objects is desired;

b. Low-growing trees shall be selected for spaces under utility wires;

c. Trees shall be selected from which lower branches can be trimmed to maintain a healthy growth habit where vision clearance and natural surveillance is a concern;

d. Narrow or columnar trees shall be selected where awnings or other building features limit growth, or where greater visibility is desired between buildings and the street for natural surveillance;

e. Street trees shall be planted within existing and proposed park strips, and in sidewalk tree wells on streets without park strips. Tree placement shall provide canopy cover (shade) and

avoid conflicts with existing trees, retaining walls, utilities, lighting, and other obstacles. All street trees shall comply with the clear vision standards of this Title;

f. All trees to be installed on public property or on property to be maintained by the city shall be subject to approval by the city arborist or designee;

4. Plant Material Size at Installation:

a. Deciduous trees shall be installed at a minimum size of two (2) inches in caliper, measured eight (8) inches above the soil line.

b. Evergreen trees shall be installed at a minimum height of six (6) feet.

c. Shrubs shall be installed at a minimum size of three (3) gallon.

d. Ornamentals grasses and perennials shall be installed at a minimum size of one (1) gallon.

e. Groundcover shall be installed at a minimum height of three (3) inches.

C. Landscape and Irrigation Plan Submittal: A copy of a landscape and irrigation plan shall be submitted to and approved by the city prior to the issue of any permit. The plans shall be prepared by a registered landscape architect and shall consist of the following items:

1. Landscape Plan. A detailed landscape plan shall be drawn at a scale that clearly identifies the following:

a. Project name and address, and landscape architect's information;

b. Location of all plant materials, a legend with botanical and common names, and size of plant materials;

c. Location of landscape features, ground and water forms, walks, hardscape, mulch, and other features;

d. Property lines and street names;

e. Existing and proposed buildings, walls, fences, utilities, paved areas and other site improvements;

f. Existing trees and plant materials to be removed or retained;

g. Scale: graphic and written;

h. Date of design;

i. Designation of a landscape zone; and

j. Details and specifications for tree staking, soil preparation, and other planting work.

2. Irrigation Plan. A detailed irrigation plan shall be drawn at the same scale as the planting plan and shall contain the following information:

a. Layout of the irrigation system and a legend summarizing the type and size of all components of the system, including manufacturer name and model numbers;

b. Static water pressure in pounds per square inch (PSI) at the point of connection to the public water supply;

c. Flow rate in gallons per minute and design operating pressure in psi for each valve and precipitation rate in inches per hour for each valve with sprinklers; and

d. Installation details for irrigation components.

D. Plan Review, Construction Inspection, and Post-Construction Monitoring:

1. As part of the land use approval process, a copy of the landscape and irrigation plans shall be submitted to the city for review and approval before construction begins.

2. All installers and designers shall meet state and local license, insurance, and bonding requirements, and be able to show proof of such.

3. During construction, site inspection of the landscaping may be performed by the city.

4. Following construction and prior to issuing the approval for occupancy, an inspection shall be scheduled with the Community Development Department to verify compliance with the approved landscape plans.

Note: The City reserves the right to perform site inspections at any time before, during, or after the irrigation system and landscape installation, and to require corrective measures if requirements of this chapter are not satisfied.

Title 11, Chapter 21, Section 5 – Land Use, Landscaping Standards and Requirements, Single-Family Residential is hereby amended to read as follows:

11-21-5: SINGLE-FAMILY RESIDENTIAL:

A. Open Space:

1. Single-family Residential Developments: Each lot or parcel located within a platted single-family subdivision shall comply with the minimum open space requirements of the zone in which the property is located.
2. Planned Single-family Residential Developments: Developments shall comply with the open space requirements of the zone in which the property is located or comply with the requirements of any applicable development agreement.

B. Landscape Design Standards:

1. Plant Selection:

a. Plants shall be well-suited to the microclimate and soil conditions at the project site. Both native and locally adapted plants are acceptable. Plants with similar water needs should be grouped together as much as possible.

b. Areas with slopes greater than 33% shall be landscaped with deep-rooting, water-conserving plants for erosion control and soil stabilization.

c. Park strips and other landscaped areas less than eight (8) feet wide shall not be landscaped with turf and shall be maintained free of weeds. Any hardscape installed within a park strip shall cover no more than twenty-five percent (25%) of the park strip area.

d. Turf area shall not exceed 35% of the combined front and interior side yard landscaped areas of the lot or parcel or 250 square feet, whichever is greater.

Note: Please visit weberbasin.com for a list of recommended water-conserving plants (not a comprehensive list).

2. Mulch: After completion of all planting, all irrigated non-turf areas and all non-irrigated park strip areas shall be covered with a minimum three (3) inch layer of mulch to retain water, inhibit weed growth, and moderate soil temperature. Non-porous material shall not be placed under the mulch.

C. Homebuilders and Developers:

1. Homebuilders and developers subdividing lots and/or constructing new single-family residential homes within a planned development with common ownership and maintenance of landscaped areas shall comply with all of the water efficient landscaping and irrigation standards of this chapter, and provide water efficient designs, such as the Localscapes® design style, to prospective home buyers.

2. Any Model Home shall meet the water-efficient landscaping standards of this chapter and provide an informational brochure on water-efficient landscaping. Brochures can be obtained from the City Planning Division.

Title 11, Chapter 21, Section 5 – Land Use, Landscaping Standards and Requirements, Irrigation Design Standards is hereby amended to read as follows:

11-21-6: IRRIGATION DESIGN STANDARDS:

A. Irrigation systems shall be designed to maximize irrigation efficiency.

B. Landscaped areas shall be provided with a smart automatic irrigation controller. Smart irrigation controllers shall be WaterSense® labeled and automatically adjust the frequency and/or duration of irrigation events in response to changing weather conditions. All controllers shall be equipped with automatic rain delay or rain shut-off capabilities.

C. Each valve shall irrigate a landscape with similar site, slope, and soil conditions. Plants watered by a valve should have similar watering needs. Turf and non-turf areas shall be irrigated on separate valves. Drip emitters and sprinklers shall be placed on separate valves.

D. Drip emitters or a bubbler shall be provided for each tree. Bubblers shall not exceed 1.5 gallons per minute per device. Bubblers for trees shall be placed on a separate valve unless specifically exempted by the City due to the limited number of trees on the project site. Drip irrigation or bubblers shall be used to irrigate plants in non-turf areas.

E. Pop-up spray heads shall be at a minimum of four (4) inches in height to avoid blockage from lawn foliage.

F. Sprinkler heads shall be attached to rigid lateral lines with flexible material (swing joints) to reduce potential for breakage.

G. Check valves shall be required where elevation differences cause low-head drainage. Pressure compensating valves and sprinklers shall be required where a significant variation in water pressure occurs within the irrigation system due to elevation differences.

H. Filters shall be required on all secondary water service connections. Filters shall have as a minimum a 30 mesh screen and shall be cleaned and maintained by the property owner on a regular basis.

I. Drip irrigation lines require additional filtration at or after the zone valve at a minimum of 200 mesh and end flush valves are required as necessary for drip irrigation lines.

J. Valves with spray or stream sprinklers shall be scheduled to operate in accordance with local water supplier restrictions to reduce water loss from wind, evaporation, or other environmental conditions not suitable for irrigation.

K. Program valves for multiple repeat cycles where necessary to reduce runoff, particularly on slopes and soils with slow infiltration rates.

Section 2. Repealer: Any provision or ordinances that are in conflict with this ordinance are hereby repealed.

Section 3. Effective Date: This Ordinance shall become effective immediately upon its posting in three public places within Clearfield City.

DATED this 23rd day of April, 2024, at the regularly scheduled meeting of the Clearfield City Council.

CLEARFIELD CITY CORPORATION

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Mark R. Shepherd, Mayor

ATTEST

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Nancy R. Dean, City Recorder

VOTE OF THE COUNCIL

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NAY:

CLEARFIELD CITY ORDINANCE 2024-07

AN ORDINANCE AMENDING TITLE 11 OF THE CLEARFIELD CITY CODE

PREAMBLE: This Ordinance amends Title 11, Chapter 1 – Land Use, General Provisions by enacting Section 18 – Clearfield Development, Design, and Construction Standards.

BE IT ORDAINED BY THE CLEARFIELD CITY COUNCIL:

Section 1. Enactment:

Title 11, Chapter 1 – Land Use, General Provisions is hereby amended by enacting Section 18 – Clearfield Development, Design and Construction as follows:

11-1-18: CLEARFIELD DEVELOPMENT, DESIGN, AND CONSTRUCTION STANDARDS:

The City Engineer, or a designee, is hereby authorized to draft, approve, adopt, and interpret a set of Development, Design, and Construction Standards for development, design, and construction activity approvals in Clearfield City. Such guidelines and standards may be administratively amended from time to time as determined necessary by the City Engineer. The standards shall be based upon reasonable engineering standards and practices. Any appeal from a standard imposed by the City Engineer shall follow the modification process as outlined in Section 1.06 of the Development, Design, and Construction Standards. At such future time that a significant design change is needed or the Development, Design, and Construction Standards undertake a comprehensive update, the changes shall follow the formal adoption process used for zoning text amendments.

Section 2. Repealer: Any provision or ordinances that are in conflict with this ordinance are hereby repealed.

Section 3. Effective Date: This Ordinance shall become effective immediately upon its posting in three public places within Clearfield City.

DATED this 23rd day of April, 2024, at the regularly scheduled meeting of the Clearfield City Council.

CLEARFIELD CITY CORPORATION

_____
Mark R. Shepherd, Mayor

ATTEST

_____
Nancy R. Dean, City Recorder

VOTE OF THE COUNCIL

AYE:

NAY: