

***FEASIBILITY STUDY OF THE
LOLOFF RESERVOIR
ACQUISITION***

Sponsored by:
Ogilvy Augmentation Company
in conjunction with the
Colorado Water Conservation Board

Prepared by:
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TABLE OF CONTENTS

INTRODUCTION	1
PROJECT SPONSOR	1
PROJECT SERVICE AREA	2
WATER RIGHTS.....	3
WATER AVAILABILITY ANALYSIS	4
NEED FOR THE PROJECT	4
ALTERNATIVES	6
PROJECT COSTS.....	7
IMPLEMENTATION	9
PERMITTING	9
INSTITUTIONAL CONSIDERATIONS	9
FINANCIAL ANALYSIS	10
COLATERAL	11
ECONOMIC ANALYSIS	11
SOCIAL AND PHYSICAL IMPACTS	11
CONCLUSION	12

LIST OF FIGURES

- FIGURE 1 – GENERAL LOCATION MAP, OGILVY DITCH AND LOLOFF RESERVOIR
FIGURE 2 – OGILVY DITCH SERVICE AREA

LIST OF TABLES

- TABLE 1 – OGILVY AUGMENTATION COMPANY MEMBERSHIP LIST
TABLE 2 – NUMBER OF FREE RIVER DAYS, CACHE LA POUDRE RIVER AT LOLOFF RESERVOIR
TABLE 3 – WATER AVAILABLE FOR DIVERSION UNDER JUNIOR PRIORITY AT OGILVY DITCH / LOLOFF RESERVOIR (40 CFS DIVERSION LIMIT)
TABLE 4 – ESTIMATED CONSTRUCTION COSTS
TABLE 5 – ESTIMATED TOTAL PROJECT COSTS

LIST OF APPENDICES

- APPENDIX A – ARTICLES OF INCORPORATION FOR THE OGILVY AUGMENTATION COMPANY
APPENDIX B – BYLAWS OF THE OGILVY AUGMENTATION COMPANY
APPENDIX C – 2022 SUBSTITUTE WATER SUPPLY PLAN FOR LOLOFF PIT
APPENDIX D – CONSTRUCTION DRAWINGS
APPENDIX E –FINANCIAL STATEMENTS OF THE OGILVY AUGMENTATION COMPANY.

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INTRODUCTION

The Ogilvy Irrigating and Land Company (OILC) and Ogilvy Augmentation Company (OAC) recently acquired Loloff Reservoir and the development of ancillary facilities is being pursued. Loloff Reservoir is a reclaimed gravel pit which has been lined with a slurry wall and can now be utilized as a lined reservoir with no future augmentation requirements. The reservoir is ideally located near the Ogilvy Ditch river headgate (see Figure 1). This location facilitates diversions into the reservoir and releases from the reservoir directly into the Ogilvy Ditch. Loloff Reservoir has a capacity of 1,998 acre-feet. The acquisition cost of the reservoir site was \$4,800,228, of which \$960,045 was financed from Loloff Construction, Inc. The allocation of the reservoir and ancillary facilities is 80 percent to OILC and 20 percent to OAC. The OAC's 20 percent allocation of the reservoir site purchase (\$960,045) is financed by Loloff Construction for a period of one year. The development of ancillary facilities includes a 42-inch pipeline connecting the Loloff Reservoir to the Ogilvy Ditch, a pipe discharge structure in the reservoir and the installation of instrumentation. The total ancillary costs are estimated to be \$722,00, of which \$144,400 (20 percent) will be allocated to OAC. OAC is seeking to obtain a Colorado Water Conservation Board (CWCB) loan to finance its' 20 percent allocation for the purchase Loloff Reservoir and develop the necessary ancillary facilities for the reservoir.

PROJECT SPONSOR

The OAC is a non-profit corporation registered in the State of Colorado. OAC was established in 2005 and has been in operation continuously since its inception. Articles of Incorporation and Bylaws for the company are included in Appendix A and Appendix B, respectively. There are currently 9 individual memberships and 15 wells in the OAC. Table 1 provides a listing of the active memberships in OAC.

Table 1
Ogilvy Augmentation Company
Membership List

MEMBER NAME	NO. OF WELLS
Cockroft Dairy Farm, LLLP	2
Judith T. Peterson	2
Seyler Kersey Farms LLC	1
Donald Wacker	4
Crow Creek Farms, LLC	2
SLW Farm Company, LLC	1
Scot A. Reynolds	1
SLW Ranch Company, LLC	1
C & S INC.	1
TOTAL	15

PROJECT SERVICE AREA

The OILC owns and operates the Ogilvy Ditch and Seeley Lake for the benefit of the shareholders of OILC by providing direct flow and storage of irrigation water. These ditch and reservoir facilities are located in Weld County in Colorado. The Ogilvy Ditch system extends from the Cache la Poudre River diversion located on the east edge of Greeley to farms east of Kersey, Colorado in Weld County. The Ogilvy Ditch is utilized to deliver both direct flow diversions from the Cache la Poudre River and storage releases from Seeley Reservoir, which is located just north of Greeley, Colorado. Loloff Reservoir is ideally located near the river headgate of the Ogilvy Ditch.

Seeley Reservoir (a.k.a. Seeley Lake / Seeley Lake Reservoir / Seely Lake Reservoir) is decreed to store local inflow, seep water and diversions from the Cache la Poudre River delivered via the Greeley Canal No. 2. From storage in Seeley Reservoir, the water can be released into the Cache la Poudre River, conveyed approximately 10 miles downstream and diverted into the Ogilvy Ditch river headgate, which is located just upstream from the confluence with the South Platte River. Ogilvy Ditch facilities consist of approximately 15 miles of supply ditch including control structures, checks,

and headgates. The supply ditch bifurcates into the north and south forks of the Ogilvy Ditch. Figure 2 included herein is a map of the system which shows the approximate service area of the OILC system. The stockholders own both direct flow water and storage in Seeley Reservoir through their stock ownership in the OILC.

Members of the OAC own 245 shares (68.1 percent) of the OILC. The total irrigation under the Ogilvy Ditch system is approximately 3,600 acres of land. The augmentation plan developed and administered by the OAC allows for the operation of 15 irrigation wells within the Ogilvy Ditch system to provide supplemental irrigation water supplies on approximately 1,400 acres of land.

WATER RIGHTS

The acquisition of Loloff Reservoir did not include storage water rights for the reservoir. However, it did include a conditional direct flow water right (Loloff Section 4 Ditch) in the amount of 4 cfs for irrigation and augmentation uses as decreed in Case No. 87CW0153. The water right has an adjudication date of December 31, 1987 and an appropriation date of March 15, 1987. OAC and OILC intend to utilize the direct flow water right to the extent that it is available for the decreed uses.

The lining of Loloff Reservoir was approved by letter dated April 26, 2019, from the Colorado Division of Water Resources. The approval letter states that the test data provided indicates that the reservoir has been lined to the design standard referenced in the August 1999 State Engineer Guidelines for Lining Criteria for Gravel Pits (1999 SEO Guidelines). There are ongoing lagged stream depletions that are resulting from depletions at Loloff Reservoir prior to being lined. A current substitute water supply plan (SWSP) is in place for the replacement of lagged depletions, a copy of which is included in Appendix C. The water supplies for the SWSP include free river water currently stored in Loloff Reservoir, one share of GIC owned by Loloff Construction, and the Loloff Section 4 Ditch water right. There is currently a total of 235 acre-feet of water stored in Loloff Reservoir. OAC and OILC expect to utilize the water stored in Loloff Reservoir and other available augmentation water supplies, including the Loloff Section 4 Ditch, five shares of GIC water owned by OAC and water stored in Seeley Reservoir, to provide future replacement obligations for Loloff Reservoir.

WATER AVAILABILITY ANALYSIS

OILC and OAC anticipate filing a new water rights application for a new storage right for Loloff Reservoir. A water availability analysis was performed to determine the amount of unappropriated water is available to Loloff Reservoir. The analysis included a study period of 1998 through 2018 and included an analysis of recorded streamflow of the Cache la Poudre River at Greeley, which is located 1.8 miles downstream from the Ogilvy Ditch river headgate and point of diversion for Loloff Reservoir. The historical daily streamflow recorded at the gaging station was reduced by 100 cfs to account for new water rights claimed by Fort Morgan Farms for future diversions off of the Poudre River. The available water supply to Loloff Reservoir was further limited to historical free river days and a maximum diversion rate of 40 cfs, which is the expected maximum delivery rate to Loloff Reservoir after the new pipeline is developed. Table 2 summarizes the number of free river days during the study period, which shows that 129 free-river on average during the study period. Table 3 summarizes the estimated volume of water available for diversion into Loloff Reservoir using the above-described limitations. The results of the analysis show an average of 5,763 acre-feet of water available to Loloff Reservoir on an average annual basis. Operational analysis indicates that Loloff Reservoir may provide a firm annual yield of 510 acre-feet per year.

NEED FOR THE PROJECT

Reservoir storage space is critical to the Ogilvy Ditch irrigation operations, particularly during drought years when direct flow water supplies available to the Ogilvy Ditch are insufficient to meet demands. The storage of water in Loloff Reservoir is expected to provide both supplemental direct flow water to the Ogilvy Ditch and supplemental augmentation water to allow for increased well pumping from wells included in the OAC plan for augmentation. OAC's 20 percent interest in the estimated firm annual yield of 510 acre-feet per year is 102 ac-ft per year. The average presumptive depletion factor for all wells included in the OAC plan for augmentation is 68 percent, meaning that an average of 68 percent of the total water pumped is consumed and the remaining 32 percent is returned to the river through surface runoff and deep percolation. OAC's 102 acre-feet of firm annual yield from Loloff Reservoir will provide for 150 acre-feet of supplemental pumping ($102 \text{ acre-feet} / 0.68 = 150 \text{ acre-feet}$). This supplemental 150 acre-feet of well quota would represent on

increase the OAC well pumping quota by approximately 34 percent above the quota issued in recent years.

The OAC plan for augmentation has historically relied on various augmentation sources including 6 shares of Greeley Irrigation Company (GIC) that were acquired by CWCB loan in 2008. OAC also obtained junior water rights including storage at Seeley Reservoir and a direct flow water right in Case No. 07CW331. In recent years, the OAC has supplemented its senior augmentation water supply by leasing 5 shares of GIC water. The 5 shares of leased GIC water provide an average annual yield of 51.6 consumptive use acre-feet per year. OAC's interest in the firm annual yield provided in Loloff Reservoir exceeds the average annual yield of the leased GIC shares. OAC expects to continue leasing the 5 shares of GIC, but Loloff Reservoir will provide the necessary supplemental water if the lease becomes unavailable, or infeasible, in the future.

OILC and OAC obtained approval of funding from CWCB for the Seeley Reservoir Dredging project in 2018. That project is expected to be initiated this winter or in early 2023. The Seeley Reservoir Dredging Project is expected to remove approximately 356 AF of sediment and restore the reservoir to its original capacity of 1,543 acre-feet. To initiate the project, OILC and OAC will evacuate water stored in Seeley Reservoir and drain the sediment material prior to dredging. The OILC and OAC will seek approval from Colorado Division of Water Resources to release from Seeley Reservoir, convey the water downstream, then divert and temporarily store that water in Loloff Reservoir. Although short-term, this is an immediate need for Loloff Reservoir to preserve irrigation and augmentation water supplies currently stored in Seeley Reservoir. The loss of augmentation water out of Seeley Reservoir could result in an adverse impact to the OAC plan for augmentation on a short-term basis.

The OAC applied for CWCB funding in August 2008 to facilitate the purchase of water rights, development of a recharge structure and development of lined reservoir storage, all for the purpose of developing its plan for augmentation. The funding was provided by CWCB for the purchase of water rights and development of a recharge structure. However, the development of lined reservoir storage was not pursued. The lined storage considered in 2008 included various alternatives that would have provided between 50 and 100 acre-feet of storage.

The OILC obtained approval from CWCB in May 2018 for the Seeley Reservoir dredging project. The dredging project has not yet been initiated due to delays related to permitting and obtaining an agreement with adjacent landowners for the deposition of dredge materials. The OILC has recently obtained an agreement with an alternate adjoining landowner for deposition of the dredge materials and the project is expected to be initiated this winter. The Seeley Reservoir dredging project is expected to regain 355.7 acre-feet of storage space in Seeley Reservoir that was lost due to sedimentation. Regaining this storage space in Seeley Reservoir will be highly beneficial to both OAC and OILC, but it was determined that Loloff Reservoir presented a unique opportunity to acquire significantly more storage space at a location that is ideal for the companies.

ALTERNATIVES

Three alternatives to the proposed dredging project have been considered. They include: (1) no action; (2) development of new storage at an alternate site; and expanded storage at Seeley Reservoir.

The “no action” alternative is considered unacceptable for two reasons. First, Loloff Reservoir has already been acquired and OAC has a commitment to pay Loloff Construction an outstanding loan of \$960,045 by October 1, 2023. Also, Loloff Reservoir will have a relatively junior water storage right and it will be critical for OILC and OAC to install a pipeline to fill the reservoir at a relatively high rate during limited times when water is available in the river. Without the pipeline constructed, filling of the reservoir will be dependent on a temporary pipeline with a significantly lower capacity, and this would result in significantly lower yields from the reservoir.

The OAC applied for CWCB funding in August 2008 to acquire water rights, develop recharge and develop lined reservoir storage. The development of lined reservoir storage was not pursued at that time for various reasons, including the fact that the site available for reservoir development was limited to a small area near the end of the Ogilvy Ditch system. This site could accommodate a reservoir with only limited capacity of about 100 acre-feet. Furthermore, storage releases would have been made to the South Platte River via Crow Creek, which is downstream from the location that the OILC and OAC has delivery and replacement needs. Storage releases from this location could not be delivered to the Ogilvy Ditch river headgate, except by river exchange, which is oftentimes limited due to low flows in the South Platte River and Cache la Poudre River. For these

reasons, the development of new storage near the end of the Ogilvy Ditch system was determined infeasible.

As described above, the OILC and OAC anticipate pursuing work on the Seeley Reservoir dredging project this winter. The dredging project is expected to regain storage space that has been lost due to sedimentation collected in the reservoir. The potential for expanding the project to develop additional storage space in Seeley Reservoir was considered as an alternative to Loloff Reservoir. The potential expansion of Seeley Reservoir is problematic for several reasons. Expansion for the storage space by dredging, or excavation, is limited due to the proximity to bedrock and the property limitations. The vertical excavation depth is limited due to the presence of bedrock as determined from prior geotechnical investigations. The horizontal excavation extends beyond the current reservoir pool is also limited due to the close proximity of property boundaries and development. Expanding Seeley Reservoir by raising the dam is not an option due to residential development along the shoreline of the reservoir and near the current high-water elevation. Expansion of Seeley Reservoir by excavation may be possible to limited extent, but the unit cost per acre-foot of storage gained far exceeds the unit cost per acre-foot acquired in Loloff Reservoir (\$10,332 per acre-foot at Seeley Reservoir compared to \$2,403 per acre-foot at Loloff). The higher unit cost is justified for the Seeley Reservoir dredging project because the senior storage rights will be utilized to fill to re-gained space.

PROJECT COSTS

The OAC is seeking a low interest loan from CWCB for purposes of financing its' pro rata interest in the purchase of Loloff Reservoir and the construction of ancillary facilities for the reservoir.

Promissory Note dated September 28, 2022 shows a principal sum of \$960,045.70. Principal sum plus interest charged at 4.75 percent per annum must be paid to Loloff Construction Inc. by October 1, 2023. The total cost of Loloff Rervoir was \$4,800,228.48, which included the reservoir structure, pipeline easement between the reservoir site and the Ogilvy Ditch, and engineering design services for the conveyance pipeline. The proposed pipeline connecting Loloff Reservoir to the Ogilvy Ditch is 42-inch diameter with a total length of 1,415 feet and a design capacity of 40 cfs. The pipeline will cross two roadways, including E. 8th Street and Balsam Avenue. The construction drawings for the pipeline are included in Appendix D. Final details on the pipeline inlet and outlet structures are

in process. The estimated cost for pipeline and ancillary facilities is \$722,000, as summarized in the table below.

Table 4
Estimated Construction Costs

Description	Qty	Unit	Unit Cost	Extended
Mobilization/Demobilization	1	LS	\$10,000	\$10,000
Clearing/grubbing/tree removal	1	LS	\$30,000	\$30,000
42" Dia. Ductile iron pipe	460	LF	\$660	\$303,600
42" Dia. corrugated HDPE	1,320	LF	\$110	\$145,200
96" Dia. manhole	6	EA	\$8,000	\$48,000
Pre-cast distribution box	1	EA	\$15,000	\$15,000
Concrete headwall	12	CY	\$1,200	\$14,400
Concrete discharge box	5	CY	\$1,200	\$6,000
42" slide gate	3	EA	\$15,000	\$45,000
Instrumentation	1	LS	\$5,000	\$4,000
Road re-surfacing	1	LS	\$6,000	\$6,000
Re-seeding	1.5	AC	\$500	\$750
Total Construction				<i>\$627,950</i>
Contingency (15%)				<i>\$94,193</i>
TOTAL (rounded)				<i>\$722,000</i>

The combined cost of the reservoir site and pipeline is estimated at \$5,522,228. Loloff Reservoir has a capacity of 1,997.5 acre-feet and therefore the unit cost of storage, including pipeline expense, is estimated at \$2,765 per acre-foot ($\$5,522,228 / 1997.5 \text{ acre-feet} = \$2,765$). Excluding the estimated \$722,000 pipeline cost, Loloff Reservoir has a unit cost of \$2,403 per acre-foot of storage ($\$4,800,228.48 / 1997.5 \text{ acre-feet} = \$2,403$).

IMPLEMENTATION

J&T Consulting has been diligently proceeding with the pipeline design and approvals. The following schedule is proposed for implementation of the project:

<u>Task</u>	<u>Target Completion Date</u>
1. Reservoir Purchase	9/28/22 (completed)
2. Feasibility Study/CWCB Application	12/1/22
3. Final Pipeline Design	12/2/22
4. Start Construction	1/16/23
5. Project Completion	2/15/23

PERMITTING

The Loloff Reservoir site is permitted under the Division of Reclamation, Mining, and Safety permit M-1985-112. The release of the reclamation bond associated with this mining permit is expected before the end of this year. All appropriate Federal, State, County and local permitting will be obtained for the construction of the pipeline project. J&T Consulting has been working with various entities including City of Greeley, Weld County, and U. S. Army Corps of Engineers to establish approvals and the necessary permit requirements for the pipeline project. The City of Greeley has approved the design drawings but still require stormwater management plan, right of way permit, and grading permit. A floodplain development permit application has been submitted to Weld County and is awaiting approval. A right of way permit will also be submitted to Weld County for the Balsam Avenue crossing. The project has been submitted to U. S. Army Corps of Engineers and is awaiting a jurisdictional determination.

INSTITUTIONAL CONSIDERATIONS

If OAC is approved for CWCB funding for this project, an initial pay request will be made in order pay off the existing bridge loan with Loloff Construction, Inc. It is expected that the pipeline and ancillary facility construction may be completed prior to CWCB approval for lending of funds for this project. OILC will fund the construction activity, as necessary. As soon as funding is available, OAC will make CWCB pay requests to reimburse OILC for its' 20 percent interest of the pipeline construction costs.

FINANCIAL ANALYSIS

The total anticipated cost of the project is \$5,642,830, as summarized in the following table.

Table 5
Estimated Total Project Costs

Feasibility Study (Engineering)	\$20,000
Engineering/Surveying	\$25,000
Legal Fees (review and permitting)	\$30,000
Reservoir Site Purchase	\$4,800,228
Bridge Loan Interest	\$45,602
Pipeline	\$722,000
Estimated Total Costs	\$5,642,830
OAC 20% Interest of Total Cost	\$1,128,566

OAC is seeking funding from the CWCB Water Project Loan Program for 20 percent of the project cost, or \$1,128,56, which is the OAC interest in the project. The term and rate for the CWCB loan is requested to be 30 years at 1.8 percent. The loan amount, with a 30-year re-payment period and 1.8 percent interest rate, would have annual payments in the amount of \$49,015.

The OAC is a well-established company with a long history debt re-payment. In August 2008, OAC obtained a CWCB low interest loan for the Ogilvy Augmentation Company Well Augmentation Project (CWCB Contract C150273). Annual payments on this current CWCB loan are \$25,015.61 and the loan re-payment period extends to April 2043. Similar to the previously approved loan, OAC anticipates repayment of the new CWCB loan through assessment of its shareholders. The annual CWCB loan payment, as estimated above, will be \$49,015, or \$3,267.67 per well for the 15 active wells in the plan. OAC will place 10 percent of the annual payment, or \$4,901.50, into a reserve account during the first 10 years of the loan re-payment period in order to establish sufficient funds in reserve for a full annual payment after 10 years. Appendix E includes copies of the financial statements for the OAC for the past three years.

COLATERAL

As security of the loan, the OAC will pledge revenue from assessments as allowed by the OAC by-laws and articles of incorporation, and the project itself. OAC will also pledge its' 20 percent interest in Loloff Reservoir and the associated pipeline facilities.

ECONOMIC ANALYSIS

The economic benefit of the project is considerable as it will result in approximately 1,997.5 acre-feet of reservoir storage space. The unit cost per acre-foot of storage space is \$2,403 per acre-foot, which is very reasonable when compared to other storage development projects. This storage space will result in increased supplemental irrigation direct water deliveries to the farms under the Ogilvy Ditch system and increase augmentation supplies available to OAC, both of which will increase property values. The water storage will also provide a permanent supplemental water supply to the Ogilvy plan for augmentation making the plan extremely beneficial without the need for short-term leasing of water.

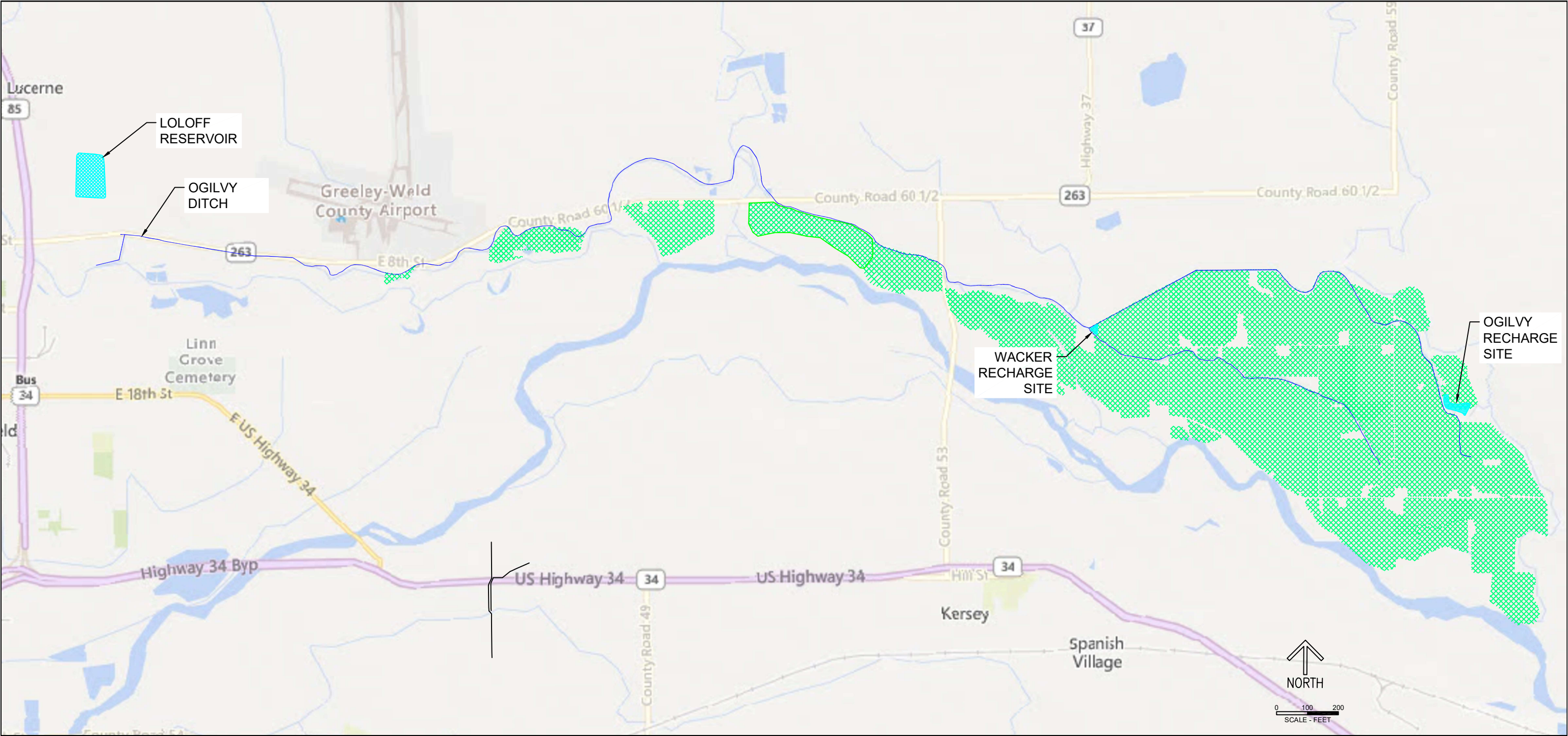
SOCIAL AND PHYSICAL IMPACTS

The project will have no significant social impacts, since it will assure the continued operation of 15 irrigation wells within the service area, resulting in the continuation of historical agricultural operations. The reservoir site will be reclaimed in accordance with Division of Reclamation, Mining and Safety permit requirements. The pipeline construction will require closure of 8th Street and Balsam Avenue for a short period of time while the pipeline is installed at those locations. It is expected that the road closures will occur separately, and detour routes will be provided. The pipeline construction will also require the re-location of a City of Greeley water main line, which may result in temporary interruption in water service to customers east of the pipeline. The interruption is expected to be only a few hours in length and customers will be provided with advance notice to prepare for the interruption.

CONCLUSION

1. The OAC is an incorporated entity in the State of Colorado with the ability to enter into a contract with the CWCB for obtaining a Construction Fund loan.
2. The project will provide OAC with a 20 percent interest in the 1997.5 acre-foot capacity Loloff Reservoir, or 399.5 acre-feet. The project also includes a conveyance pipeline for filling and releasing reservoir storage. Both the OILC and OAC will benefit from use of new reservoir storage by supplementing the irrigation water supply and well pumping supply for lands under the Ogilvy Ditch system.
3. The total estimated cost of the project is \$5,642,830 of which 20%, or \$1,128,566, is allocated to OAC and will be financed by the CWCB Water Project Loan Program, if approved.
4. The project is technically and financially feasible.

FIGURES



Legend Ogilvy Service Area (approx.)	NOCO ENGINEERING, INC. (970) 988-1459 FAX: (970) 352-8866 8209 W. 20TH ST., STE A GREELEY, CO 80634	Ogilvy Augmentation Co.	FIGURE 2
	Date: November, 2022	Service Area of the Ogilvy	

TABLES

Table 2
Number of Free River Days
Cache la Poudre River at Loloff Reservoir

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1998	31	28	31	30	31	19	8	31	30	31	30	31	331
1999	31	28	15	9	31	30	13	31	30	31	30	31	310
2000	31	29	31	30	9	0	0	0	0	0	0	19	149
2001	31	28	31	30	20	14	2	0	22	31	30	31	270
2002	31	28	31	17	1	0	0	0	0	0	0	0	108
2003	0	0	0	0	0	1	0	0	0	0	0	0	1
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	1	0	18	0	0	0	3	0	0	22
2006	0	2	6	0	0	0	0	0	5	1	0	10	24
2007	10	7	0	6	31	15	0	0	7	0	0	14	90
2008	21	0	0	0	0	0	0	3	2	0	0	11	37
2009	0	0	0	7	5	29	10	8	7	31	30	31	158
2010	31	10	27	27	31	27	0	4	0	8	0	0	165
2011	30	28	15	0	16	30	31	9	15	31	30	31	266
2012	31	29	26	0	0	0	1	0	0	0	0	0	87
2013	0	0	0	0	0	0	0	0	19	31	6	0	56
2014	0	0	0	0	0	0	2	20	30	31	30	31	144
2015	31	28	31	22	31	30	31	4	0	0	0	0	208
2016	0	0	0	0	0	0	0	0	0	0	0	22	22
2017	31	21	13	0	13	19	0	0	0	29	0	17	143
2018	31	28	31	8	17	9	0	0	0	0	0	0	124
AVG	17.7	14.0	13.7	8.9	11.2	11.5	4.7	5.2	8.0	12.3	8.9	13.3	129.3

Table 3
Water Available for Diversion Under Junior Priority
at Ogilvy Ditch / Loloff Reservoir (40 cfs diversion limit)
(acre-feet)

[illegible]

APPENDIX A

ARTICLES OF INCORPORATION FOR THE OGILVY AUGMENTATION COMPANY

ARTICLES OF INCORPORATION
OF
OGILVY AUGMENTATION COMPANY
(a Colorado nonprofit corporation)

THE UNDERSIGNED natural person, who is more than eighteen (18) years of age, acting as incorporator, hereby establishes a nonprofit corporation pursuant to the laws of the State of Colorado and the Colorado Revised Nonprofit Corporation Act, C.R.S. 7-121-101, et seq., and adopts the following Articles of Incorporation for such corporation:

FIRST: The name of the corporation shall be: OGILVY AUGMENTATION COMPANY.

SECOND: The corporation shall have perpetual existence.

THIRD: The nature, object and purpose of the corporation shall be to exercise all the rights, powers and privileges conferred upon nonprofit corporations organized under the laws of Colorado. In furtherance of the foregoing purposes, the corporation shall have and may exercise all of the rights, powers and privileges now or hereafter conferred upon nonprofit corporations organized under the laws of Colorado. Said purposes and goals include activities qualifying under Section 501(c)(12) of the Internal Revenue Service Code. The corporation shall have and exercise all powers necessary or convenient to affect its purposes, including those set forth in the Colorado Revised Nonprofit Corporation Act and the corporation's Bylaws.

FOURTH: The initial registered agent of the corporation, and the name of the registered agent at such address is:

Stow L. Witwer, Jr.
822 7th Street, Suite 760
Greeley, CO 80631

FIFTH: The initial board of directors shall consist of five (5) directors. The names and addresses of the persons who are to serve as directors until their successors are appointed and have qualified are:

Stow L. Witwer, Jr.
822 7th Street, Suite 760
Greeley, CO 80631

Dennis Hoshiko
P.O. Box 398
Kersey, CO 80644

Joe Silva
24250 Hwy 263
Greeley, CO 80631

Kenneth Clark
27496 Weld Cnty. Rd. 57 ½
Kersey, CO 80644

Don Wacker
28639 Weld Cnty. Rd. 58 ½
Greeley, CO 80631

SIXTH: The address of the corporation's initial principal office is:

822 7th Street, Suite 760
Greeley, CO 80631

SEVENTH: The name and address of the incorporator is:

Fischer, Brown & Gunn, P.C.
1319 E. Prospect Road
Fort Collins, CO 80525

EIGHTH: The corporation will have voting members.

NINTH: Upon the dissolution of the corporation, assets shall be distributed pursuant to Colorado Revised Nonprofit Corporation Act.

TENTH: A director of the corporation shall not be personally liable to the corporation for monetary damages for the breach of fiduciary duty as a director, except for liability arising from (i) any breach of the director's duty of loyalty to the corporation, (ii) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) any transaction from which the director derived any improper personal benefit, or (iv) any other act expressly proscribed or for which directors are otherwise liable under the Colorado Revised Nonprofit Corporation Act. If the Colorado Revised Nonprofit Corporation Act is subsequently amended to authorize corporate action further limiting or eliminating the personal liability of directors, then the liability of a director of the corporation shall be limited or eliminated to the fullest extent permitted by the Colorado Revised Nonprofit Corporation Act, or other Colorado law, as from time to time amended. Any repeal or modification of this Article by the corporation shall not adversely affect any right or protection of a director of the corporation existing at the time of such repeal or modification.

ELEVENTH: The name and mailing address of the filer who caused this document to be delivered for filing, and to whom the Secretary of State may deliver notice if filing of this document is refused, is:

Brent Bartlett, Esq.
Fischer, Brown & Gunn, P.C.
1319 E. Prospect Road
Fort Collins, CO 80525
Telephone: 970-407-9000
Facsimile: 970-407-1055

APPENDIX B

BYLAWS OF THE OGILVY AUGMENTATION COMPANY

BYLAWS
OF
OGILVY AUGMENTATION COMPANY

ARTICLE I

OFFICES

Section 1.1 PRINCIPAL PLACE OF BUSINESS. The principal place of business of the corporation shall be located at 822 7th Street, Suite 760, Greeley, Colorado. The corporation may have such other offices, either within or outside of the State of Colorado as the Board of Directors may designate, or as the business of the corporation may require from time to time.

Section 1.2 REGISTERED OFFICE AND AGENT. The address of the registered office of the corporation is 822 7th Street, Suite 760, Greeley, Colorado, the name of the registered agent is Stow L. Witwer Jr.. The registered office and the registered agent may be changed by the Board of Directors at any time.

ARTICLE II

MEMBERS

The Corporation shall have members, and it shall maintain a roll or list of persons or entities which are members. However, no certificate, share or other muniment of title or ownership shall be provided to members.

Section 2.1 MEMBERS. Qualifying members shall be (1) persons or entities who own a water well located in the South Platte River basin drainage; and (2) persons owning such wells as are included within the augmentation plan of the Corporation, or any future augmentation plan of the Corporation.

Section 2.2 MEMBERSHIP, VOTING AND UNITS. Members shall be admitted to membership in the Corporation at such time as an application for membership is accepted by the Board of Directors and the membership fee, if any, as may be established by the Board of Directors is paid. A member must purchase one unit for each well to be included within the augmentation plan of the Corporation. A member shall be entitled one vote for each unit the member owns.

Section 2.3 RESTRICTIONS ON ADMISSION AND TRANSFER OF MEMBERSHIPS.

No new member shall be admitted without the consent of a majority vote of the Board of Directors and in accordance with Section 2.2. Membership may be transferred only by the sale, assignment, or other transfer of the well with which the membership is associated. All members shall only operate their wells pursuant to the plan for augmentation and substitute water supply plan to which the well is subject.

Section 2.4 WATER DEVELOPED. Any water or right to use water which is developed by any member of the Corporation, from any source, which relates to a well which is included within the augmentation plan of the Corporation, or any future augmentation plan of the Corporation, shall be leased or otherwise transferred to the Corporation so the beneficial use and right of such water shall accrue to the Corporation.

Section 2.5 TERMINATION OF MEMBERSHIP. Membership may be terminated by a majority vote of the directors for failure to pay assessments or other charges, failure to use the water produced from the member's well as set forth in the water court augmentation plan decree or Substitute Water Supply Plan, or as set forth in policies enacted by the board of directors, and taking or failing to take actions necessary to allow other members the decreed use of water from their wells. Not less than 30 days before the effective date of the termination, written notice thereof and the reasons therefor shall be sent by first-class or certified mail to the last address of the member shown on the corporation records. The member shall have an opportunity to be heard by the board of directors, either orally or in writing, no less than 5 days before the effective date of the termination. Upon termination of membership, if a member's capital account balance is a deficit, the terminated member shall pay the deficit to the corporation. Non-deficit balances in a member's capital account shall be forfeit to the corporation upon a member's termination. Upon termination a member shall be responsible for all past and future well depletions associated with the member's well(s) that have not been replaced by the Corporation by the date of termination.

Section 2.6 ANNUAL MEETING OF THE MEMBERS. Annual Meetings of the members of the Corporation shall be held on the 2nd Tuesday in October each year at 7:00 p.m., beginning with the year 2005, for the purpose of electing directors and for the transaction of such other business as may come before the members. If the day fixed for the annual meeting shall be a legal holiday in the State of Colorado, such meeting shall be held on the next succeeding business day. If the election of directors shall not be held on the day designated herein for an annual meeting of the members, or at any adjournment thereof, the Board of Directors shall cause the election to be held at a special meeting of the members as soon thereafter as may be convenient.

Section 2.7 SPECIAL MEMBER MEETINGS. Special member meetings may be called by the president or secretary upon order of the board of directors. If one-third of the entire membership of said corporation petitions the board of directors for such special meeting in writing, the board shall call a special meeting of the members. Such petition shall specify the reasons for calling such special meeting and the business desired to be transaction.

Section 2.8 NOTICE OF MEMBER MEETINGS. Written, printed or published notice stating the place, date, and time of the meeting, a description of any matters that must be approved by the members, and, in case of a special meeting, the purpose or purposes for which the special meeting is called, shall be delivered or mailed, not less than ten (10) nor more than thirty (30) days before the date of the meeting. If written or printed notice is given it shall be delivered personally

or by mail, by or at the direction of the president, or the secretary, or the officer or persons calling the meeting, to each member of record entitled to vote at such meeting. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail, addressed to the member at his address as it appears on the membership books of the corporation, with postage thereon prepaid. If such personal notice is impracticable, notice may be given by publication in a newspaper of general circulation in Weld County, Colorado. The notice must be published five separate times with the first such publication no more than sixty days, and the last no fewer than ten days, before the meeting date. Such publication shall constitute actual notice of any meeting to all members.

Section 2.9 QUORUM. Twenty five percent (25%) of the members of the corporation entitled to vote, represented in person or by proxy, shall constitute a quorum at a meeting of the members. In the absence of a quorum at any such meeting, a majority of the members so represented may adjourn the meeting from time to time without further notice. At such adjourned meeting at which a quorum is present or represented, any business may be transacted that might have been transacted at the meeting as originally notified. The members present at a duly organized meeting may continue to transact business until adjournment, notwithstanding the withdrawal of enough members to leave less than a quorum.

Section 2.10 PROXIES. At all meetings of members, a member may vote by proxy executed in writing by the member or by his duly authorized attorney if fact. Such proxy shall be filed with the secretary of the Corporation before or at the time of the meeting. No proxy shall be valid after eleven (11) months from the date of its execution, unless otherwise provided in the proxy.

ARTICLE III

BOARD OF DIRECTORS

Section 3.1 GENERAL POWERS. The business and affairs of the corporation shall be managed by its Board of Directors.

Section 3.2 PERFORMANCE OF DUTIES. A director of the corporation shall perform his duties as a director, including his duties as a member of any committee of the board upon which he may serve, in good faith, in a manner he reasonably believes to be in the best interests of the corporation, and with such case as an ordinarily prudent person in a like position would use under similar circumstances. In performing his duties, a director shall be entitled to rely on information, opinions, reports, or statements, including financial statements and other financial data, in each case prepared or presented by persons and groups listed in paragraphs (a), (b), and (c) of this Section 3.2; but he shall not be considered to be acting in good faith if he has knowledge concerning the matter in question that would cause such reliance to be unwarranted. A person who so performs his duties shall not have any liability by reason of being or having been a director of the corporation. Those persons and groups on whose information, opinions, reports, and statements a director is entitled to rely upon are:

- a. One or more officers or employees of the corporation whom the director reasonably believes to be reliable and competent in the matters presented;

b. Counsel, public accountants, or other persons as to matters which the director reasonably believes to be within such persons' professional or expert competence; or

c. A committee of the board upon which he does not serve, duly designated in accordance with the provision of the articles of incorporation or the bylaws, as to matters within its designated authority, which committee the director reasonably believes to merit confidence.

Section 3.3 NUMBER, TENURE AND QUALIFICATIONS. The number of directors of the corporation shall be fixed from time to time by resolution of the Board of Directors, but in no instance shall there be less than one director. Each director shall hold office until the next annual meeting of members or until his or her successor shall have been elected and qualified. Directors shall be natural persons, eighteen years of age or older, but need not be residents of the State of Colorado or members of the corporation.

There shall be a Chairman of the Board, who has been elected from among the directors. He or she shall preside at all meetings of the members and of the Board of Directors. He or she shall have such other powers and duties, as may be prescribed by the Board of Directors.

Section 3.4 ANNUAL MEETINGS. An annual meeting of the Board of Directors shall be held immediately after, and at the same place as, the annual meeting of members for the purpose of organization, election of corporate officers, election or appointment of other officers, agents or employees and for any other proper business. The Board of Directors may provide, by resolution, the time and place, either within or without the State of Colorado, for the holding of additional regular meetings.

Section 3.5 SPECIAL MEETINGS. Special meetings of the Board of Directors may be called by or at the request of the president or any two directors. The person or persons authorized to call special meetings of the Board of Directors may fix any place, either within or without the State of Colorado, as the place for holding any special meeting of the Board of Directors called by them.

Section 3.6 NOTICE OF MEETING. Notice of any annual, regular or special meeting shall be given at least two days previously thereto by verbal communication, or written notice delivered personally or by telex, telegram or radiogram. If mailed, such notice shall be given four days in advance and shall be deemed to be delivered when deposited in the United States mails, so addressed, with postage thereon prepaid. If notice is given by telex, telegram or radiogram, such notice shall be deemed to be delivered when the telegram is delivered to the telegraph company. A director may waive in writing notice of a meeting, whether before, at, or after the time stated therein, and this shall be equivalent to the giving of the notice. The attendance of a director at a meeting shall constitute a waiver of notice of such meeting, except where a director attends a meeting for the express purpose of objecting to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any annual, regular, or special meeting of the Board of Directors need be specified in the notice or waiver of notice of such meeting.

Section 3.7 QUORUM. A majority of the number of directors fixed in Section 3.3 of this Article III shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, but if less than such majority is present at a meeting, a majority of the directors present may adjourn the meeting from time to time without further notice. The act of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

Section 3.8 MANNER OF ACTING. Except as otherwise required by law or by the Articles of Incorporation, the act of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

Section 3.9 INFORMAL ACTION BY DIRECTORS. If all the directors severally or collectively consent in writing to any action taken or to be taken by the corporation and the writing or writings evidencing their consent are filed with the secretary of the corporation, the action shall be as valid as though it had been authorized at a meeting of the board.

Section 3.10 MEETINGS OF DIRECTORS USING TELECOMMUNICATIONS. The Board of Directors or any committee designated by the board may participate in any meeting of the board or committee by means of telephone conference or similar communications equipment that enables all participants in the meeting to hear each other at the same time. Such participants shall constitute presence in person at the meeting.

Section 3.11 REMOVAL OF DIRECTORS. At a meeting called expressly for that purpose, the entire Board of Directors or any lesser number may be removed, with or without cause, by a majority vote of the members in the manner provided by the Colorado Business Corporation Act.

Section 3.12 VACANCIES. Any vacancy occurring in the Board of Directors may be filled by the affirmative vote of a majority of the remaining directors though less than a quorum of the Board of Directors. A director elected to fill a vacancy shall be elected for the unexpired term of his predecessor in office. Any directorship to be filled by reason of an increase in the number of directors may be filled by election by the Board of Directors for a term of office continuing only until the next election of directors by the members.

Section 3.13 RESIGNATION. Any director of the corporation may resign at any time by giving written notice to the president or the secretary of the corporation. The resignation of any director shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and, unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective. When one or more directors shall resign from the board, effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective.

Section 3.14 COMPENSATION. By resolution of the Board of Directors, each director may be paid his expenses, if any, of attendance at each meeting of the Board of Directors, and may be paid a stated salary as director or a fixed sum for attendance at each meeting of the Board of Directors or both. No such payment shall preclude any director from serving the corporation in any other capacity and receiving compensation therefor.

Section 3.15 PRESUMPTION OF ASSENT. A director of the corporation who is present at a meeting of the Board of Directors at which action on any corporate matter is taken shall be presumed to have assented to the action taken unless the director's dissent is entered in the minutes of the meeting or unless the director shall file a written dissent to the action with the person acting as the secretary of the meeting before the adjournment thereof or forwards the dissent by registered mail to the secretary of the corporation immediately after the adjournment of the meeting. The right to dissent shall not apply to a director who voted in favor of the action.

Section 3.16 EXECUTIVE AND OTHER COMMITTEES. The Board of Directors by resolution may designate from among its members an executive committee and one or more other committees each of which, to the extent provided in the resolution, shall have all of the authority of the Board of Directors, except as otherwise provided by the Colorado Business Corporation Act.

ARTICLE IV

OFFICERS

Section 4.1 NUMBER AND QUALIFICATIONS. The principal officers of the corporation shall be a President, Treasurer, and a Secretary, each of whom shall be elected by the Board of Directors. Other officers (including one or more vice presidents), assistant officers, agents, and employees that the Board of Directors may deem necessary may be elected by the board or may be appointed in a manner prescribed by these bylaws. The same person may hold any two or more offices. The officers of the corporation shall be natural persons, eighteen years of age or older.

Section 4.2 ELECTION AND TERM OF OFFICE. The principal officers of the corporation to be elected by the Board of Directors shall be elected annually by vote of the Board of Directors at the first meeting of the Board of Directors held after each annual meeting of the members. Officers shall hold office until their successors shall have been elected, appointed or chosen and have qualified or until their death or until they shall resign or are removed in the manner provided by these bylaws.

Section 4.3 REMOVAL OF OFFICERS. Any officer or agent may be removed by the Board of Directors whenever in its judgment the best interests of the corporation will be served thereby, but such removal shall be without prejudice to the contract rights, if any, of the person so removed. Election or appointment of an officer or agent shall not of itself create contract rights.

Section 4.4 VACANCIES. A vacancy in any office because of death resignation, removal, disqualification or otherwise, may be filled by the Board of Directors.

Section 4.5 PRESIDENT. The President shall be the chief executive officer of the corporation and, subject to the control of the Board of Directors, shall in general supervise and control all of the business and affairs of the corporation. He or she shall, when present, and in the absence of a Chair of the Board, preside at all meetings of the members and of the Board of Directors. He or she may sign, with the Secretary or any other proper officer of the corporation thereunto authorized by the Board of Directors, deeds, mortgages, bonds, contracts, or other instruments which the Board of Directors has authorized to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the Board of Directors or by these By-laws to some other officer or agent of the corporation, or shall be required by law to be otherwise signed or executed; and in general shall perform all duties incident to the office of President and such other duties as may be prescribed by the Board of Directors from time to time.

Section 4.6 VICE-PRESIDENT. The Vice President (or in the event there be more than one vice president, the vice presidents in the order designated at the time of their election, or in the absence of any designation, then in the order of their election) shall, in the absence of the President or in the event of his or her death, inability or refusal to act, perform all duties of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President. Any Vice President shall perform such other duties as from time to time may be assigned to him or her by the President or by the Board of Directors.

Section 4.7 SECRETARY. The Secretary shall: (a) keep the minutes of the proceedings of the members and of the Board of Directors in one or more books provided for that purpose; (b) see that all notices are duly given in accordance with the provisions of these By-laws or as required by law; (c) be custodian of the corporate records and of the seal of the corporation and see that the seal of the corporation is affixed to all documents the execution of which on behalf of the corporation under its seal is duly authorized; (d) keep a register of the post office address of each member which shall be furnished to the Secretary by such member; and (e) in general perform all duties incident to the office of Secretary and such other duties as from time to time may be assigned to him or her by the President or by the Board of Directors.

Section 4.8 TREASURER. The Treasurer shall: (a) have charge and custody of and be responsible for all funds and securities of the corporation; (b) receive and give receipts for moneys due and payable to the corporation from any source whatsoever, and deposit all such moneys in the name of the corporation in such banks, trust companies or other depositories as shall be selected in accordance with the provisions of Article V of these By-laws; and (c) in general perform all of the duties incident to the office of Treasurer and such other duties as from time to time may be assigned to him or her by the President or by the Board of Directors.

Section 4.9 ASSISTANT SECRETARIES AND ASSISTANT TREASURERS. The Assistant Secretaries and Assistant Treasurers, in general, shall perform such duties as shall be assigned to them by the Secretary or the Treasurer, respectively, or by the President or the Board of Directors.

Section 4.10 BONDS. If the Board of Directors by resolution shall so require, any officer or agent of the corporation shall give bond to the corporation in such amount, and with such surety as the Board of Directors may deem sufficient, conditioned upon the faithful performance of their respective duties and offices.

Section 4.11 SALARIES. The salaries of the officers shall be fixed from time to time by the Board of Directors and no officer shall be prevented from receiving such salary by reason of the fact that he is also a director of the corporation.

ARTICLE V

CONTRACTS, LOANS, CHECKS, AND DEPOSITS

Section 5.1 CONTRACTS. The board of directors may authorize any officer or officers, agent or agents, to enter into any contract or execute and delivers any instrument in the name of and on behalf of the corporation, and such authority may be general or confined to specific instances.

Section 5.2 LOANS. No loans shall be contracted on behalf of the corporation and no evidences of indebtedness shall be issued in its name unless authorized by a resolution of the board of directors. Such authority may be general or confined to specific instances.

Section 5.3 CHECKS, DRAFTS, OR ORDERS. All checks, drafts, or other orders for the payment of money, notes, or other evidences of indebtedness issued in the name of the corporation shall be signed by such officer or officers, agent or agents of the corporation and in such manner as provided by these bylaws or as shall from time to time be determined by resolution of the board of directors.

Section 5.4 DEPOSITS. All funds of the corporation not otherwise employed shall be deposited from time to time to the credit of the corporation in such banks, trust companies, or other depositories as the board of directors may select.

ARTICLE VI

ASSESSMENTS

Section 6.1 POWER. The corporation shall have the power to make an assessment on the members, to be levied pro-rata on the members payable in money for any of the purposes of the corporation or alternatively to be levied based on the benefits provided to the member.

Section 6.2 MAKING ASSESSMENT. The initial board of directors may make assessments before the first annual meeting of the members. No subsequent assessment shall be made unless a question of making the assessment shall be first submitted to the members of the corporation at an annual meeting or at a special meeting called for that purpose, and a majority of the members present, represented either in person or by proxy, voting thereon shall vote in favor of making such assessments; and if said members fail to hold any such meeting, fail to obtain a

quorum or fail to make or authorize any assessment by the date of the annual members' meeting in any year, the directors shall have the power to make any such assessment at any regular or special meeting called therefor for that year.

Section 6.3 TYPE OF ASSESSMENT. The Board of Directors may recommend to the members or may subsequently approve, in accordance with Section 6.2. of this Article VI above, two types of assessments. Any corporation costs or expenditures which generally benefit all members shall be considered capital expenditures and shall be assessed pro-rata by member. Corporation costs or expenditures which benefit members unequally, such as irrigation or augmentation benefits, shall be assessed per acre-foot of depletions associated with the members' wells.

Section 6.4 EMERGENCY SPECIAL ASSESSMENT. For purposes of promptly paying the obligations of the corporation, for emergencies or for such other special purposes as determined solely in the discretion of the board of directors, the board of directors, by majority vote, may levy a special assessment, without prior approval or subsequent approval of the members.

ARTICLE VII

BOOKS AND RECORDS

The books, records and papers of the Corporation shall at all times, during reasonable business hours, be subject to inspection by any board member. The Articles of Incorporation and the Bylaws of the Corporation, minutes and audited financial statement shall be available for inspection by the members at the principal office of the Corporation.

ARTICLE VIII

CORPORATE SEAL

The Board of Directors may provide a corporate seal, which shall be circular in form and shall have inscribed thereon the name of the corporation and the state of incorporation and the words "CORPORATE SEAL."

ARTICLE IX

AMENDMENTS

Section 9.1 AMENDMENT OF BYLAWS. These bylaws may be altered, amended, or repealed and new bylaws may be adopted by the board of directors at any regular or special meeting of the board; however, the number of directors allowed shall not be increased or decreased nor shall the provisions of Article II, concerning the members, be substantially altered without the prior approval of the members at a regular or special meeting of the members, or by written consent. Changes in and additions to the bylaws by the board of directors shall be reported to the members at their next regular meeting and shall be subject to the approval or disapproval of

the members at such meeting. If no action is then taken by the members or a change in or addition to the bylaws, such change or addition shall be deemed to be fully approved and ratified by the members.

Section 9.2 ARTICLES CONTROL. In the case of any conflict between the Articles of Incorporation and these Bylaws, the Articles shall control.

ARTICLE X

FISCAL YEAR

The fiscal year of the corporation shall be as determined by the Board of Directors of the corporation.

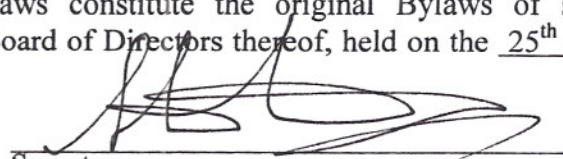
ARTICLE XI

WAIVER OF NOTICE

Whenever any notice is required to be given under the provisions of these Bylaws or under the provisions of the Articles of Incorporation or under the provisions of the Colorado Business Corporation Act, or otherwise, a waiver thereof in writing, signed by the person or persons entitled to such notice, whether before or after the event or other circumstance requiring such before or after the event or other circumstance requiring such notice, shall be deemed equivalent to the giving of such notice.

CERTIFICATION

I hereby certify that the foregoing Bylaws constitute the original Bylaws of said Corporation, as duly adopted at a meeting of the Board of Directors thereof, held on the 25th day of January, 2005.


Secretary

APPENDIX C

2022 SUBSTITUTE WATER SUPPLY PLAN FOR LOLOFF PIT

March 18, 2022

Paul Weiss, P.E.
Williams and Weiss Consulting, LLC
5255 Ronald Reagan Boulevard, Ste. 220
Johnstown, CO 80534

Re: Loloff Substitute Water Supply Plan (WDID 0302524, Plan ID 3270)
Loloff Pit, DRMS Permit No. M-1985-112 (WDID 0303012)
SE¼ NW¼ Section 4, T5N, R65W, 6th P.M.
Water Division 1, Water District 3, Weld County

Approval Period: April 1, 2022 through March 31, 2023
Contact information for Mr. Weiss: 970-221-5159; pswwater@msn.com

Dear Mr. Weiss:

We have reviewed your letter dated January 25, 2022 requesting renewal of the above-referenced substitute water supply plan ("SWSP") on behalf of Loloff Construction, Inc. ("Loloff" or "Applicant"). This SWSP is requested in accordance with section 37-90-137(11), C.R.S., to cover depletions caused by an existing sand and gravel mining operation known as the Loloff Pit. The required fee of \$257.00 for the renewal of this substitute water supply plan has been submitted (receipt no. 10018480).

SWSP Operations

The Loloff Pit is located in the SE¼ of the NW¼ of Section 4, Township 5 North, Range 65 West of the 6th P.M., in Weld County. Gravel mining at the site concluded in August 2019, and no dewatering has occurred at the site since July 2019. The slurry wall liner for the Loloff Pit was approved by the State Engineer's Office as meeting the design standard for liners on April 26, 2019, and the Loloff Pit is now classified as a lined reservoir in accordance with the *August 1999 State Engineer Guidelines for Lining Criteria for Gravel Pits* (Loloff Reservoir, WDID 0303483). This SWSP will make replacements to the Cache la Poudre River to offset lagged depletions from past mining and dewatering operations at the site. There will be no consumptive use of groundwater at the Loloff Pit during this plan period. The replacement sources proposed to be utilized in this SWSP are yield from one share of the Greeley Irrigation Company, yield from Loloff Constructions Inc.'s water right decreed in case no. 1987CW0153, and water stored in the Loloff Pit under free river conditions.



Depletions

There will be no new depletions at the Loloff Pit during this plan period, only replacement of ongoing lagged depletions associated with past mining and dewatering operations at the site.

Dewatering at the site began in April 2013 and continued at consistent rates up until the commencement of construction of a slurry wall at the site in the summer of 2017, when dewatering rates began to taper off. Dewatering at the site ceased entirely after July 2019. Water pumped from the Loloff Pit for dewatering purposes was discharged into an unnamed natural seep located just south of the property. The seep is connected to a large pond area, from which water flows southeast approximately $\frac{1}{4}$ mile through a natural channel before reaching the Ogilvy Ditch. Approximately $\frac{1}{2}$ mile after entering the Ogilvy Ditch, the water reaches an outlet structure which pipes the water back to the Cache la Poudre River. A diagram of the travel path is attached as Map 2. Due to the existence of the pond area and the travel distance to the river, you have estimated that 50% of the dewatering water discharged into the seep infiltrated into the ground as a subsurface flow and 50% reached the river as surface flow. Lagged accretions from the portion of dewatering water returning to the river as subsurface flow partially offset the lagged depletions from past dewatering.

In the past, lagged depletions and accretions to the Cache la Poudre River were calculated using the IDS Alluvial Water Accounting System (AWAS) analytical stream depletion model executed in Effective SDF mode, using a stream depletion factor (SDF) of 60 days for the Loloff Pit site. As recommended by this office, beginning with this plan period you have revised the modeling of lagged depletions by switching from Effective SDF to the Alluvial Aquifer option with the following aquifer parameters: a distance (X) of 2,775 feet from the exposed groundwater surface to the river; a distance (W) of 11,490 feet from the stream to the impermeable boundary; a harmonic transmissivity (T) of 76,056 gallons per day per foot; and a specific yield (S) of 0.2. This results in the depletions accruing to the river in a shorter amount of time than previously estimated, and also results in an increase in the magnitude (volume) of the depletions that are estimated to have already occurred. You have calculated the volume of depletions remaining to be replaced as of the start of this plan period to be 833.26 acre-feet using the Effective SDF option, and the amount of depletions remaining to be replaced as of the start of this plan period to be 518.91 acre-feet using the Alluvial Aquifer option. In order to ensure that this change in methodology does not result in unreplaced depletions to the river, you have scaled up the volume of depletions calculated using the Alluvial Aquifer option by a factor of 1.61 ($833.26 \div 518.91$). The total amount of depletions replaced under the alluvial aquifer method will therefore be equal to the total amount of remaining depletions calculated using the SDF method.

Lagged depletions for this plan period were calculated to total 244.18 acre-feet, as shown in the attached Table 2. Depletions are assumed to impact the Cache la Poudre River perpendicular to the Loloff Pit, just above the headgate of the Ogilvy Ditch (WDID 0300937).

Replacement Sources

The replacement sources proposed to be used under this SWSP consist of the yield from one share of the Greeley Irrigation Company ("GIC") available during the irrigation season, water diverted under the 1987CW0153 right for the Loloff Section 4 Ditch, and water stored in the Loloff Pit under free river conditions.

Greeley Irrigation Company Share

Loloff owns one share of the Greeley Irrigation Company, Certificate No. 3391. A share of GIC water provides the shareholder with GIC direct flow water and Fossil Creek Reservoir water. The share was historically used for the irrigation of approximately 8.3 acres of land in the SW¼ of the NE¼ of Section 15, Township 5 North, Range 65 West of the 6th P.M., which have been removed from production as part of the share acquisition.

A portion of the Greeley Canal No. 3 (WDID 0300934) was changed in Division 1 Water Court in case no. 1996CW658 based on a ditch-wide analysis by the Poudre Prairie Mutual Reservoir and Irrigation Company. The use of the subject ditch share in this plan shall be in accordance with the terms and conditions decreed in case no. 1996CW658, including monthly and annual volumetric limits on water deliveries and monthly return flow requirements. The average annual irrigation delivery of GIC's water rights was determined to be 9,690 acre-feet in case no. 1996CW658, based on an average annual river headgate diversion of 11,400 acre-feet and an average conveyance loss of 15%, or 18.6 acre-feet per share (9,690 acre-feet/519.7 shares). The decree found that 519.7 shares were used to irrigate 3,501 acres with an average historical consumptive use of 5,358 acre-feet per year, which yields an average consumptive use credit of 10.31 acre-feet per share (5,358 acre-feet/519.7 shares).

In paragraph 6.7.4 of the decree in case no. 1996CW658, future farm headgate deliveries of the 67.75 shares were limited to 1,712 acre-feet per year (25.26 acre-feet per share) and 12,631 acre-feet (186.43 acre-feet per share) in any consecutive 10 year period. Deliveries of Loloff's share of GIC water under this plan must comply with these limits. The historical return flows shall be maintained in accordance with the return flow factors identified in case no. 1996CW658. The return flows associated with the delivery of Fossil Creek Reservoir water that is attributable to the subject GIC share shall also be maintained in accordance with the surface and subsurface factors decreed in case no. 1996CW658.

For projections of 2022 deliveries, you have used an estimated irrigation delivery attributable to GIC direct flow diversions of 17.50 acre-feet per share and an estimated irrigation delivery attributable to Fossil Creek Reservoir deliveries of 0.40 acre-foot per share. As specified in case no. 1996CW658, all deliveries of GIC water incur an immediate surface return flow obligation of 23.7% for direct deliveries and 20.1% for Fossil Creek deliveries, which corresponds to surface return flow obligations of 4.15 acre-feet and 0.08 acre-feet, respectively, for this plan period. Pursuant to paragraph 6.7.6 of case no. 1996CW658, the subsurface component of the return flow obligation shall be calculated by multiplying the 5-year running average annual farm headgate deliveries of GIC water (direct flow water and Fossil Creek Reservoir water) by the factors given in Appendix A-2 of case no. 1996CW658. The subsurface return flow obligations for the GIC direct deliveries and Fossil Creek Reservoir deliveries are 3.93 acre-feet and 0.10 acre-feet during this plan period, respectively. A calculation of the return flow obligations is shown in the attached Table 1.

Loloff has proposed to discontinue taking delivery of their GIC share and notify the ditch company should the yield cause them to exceed the historical delivery average of 18.6 acre-feet. Based on information provided on behalf of the Greeley Irrigation Company, there are a total of 251.97 shares and 1,103.87 acres remaining available for irrigation under the ditch system, resulting in an average of 4.38 acres irrigated per share. This is well below the historically irrigated acreage of 6.74 acres per share. As such, no additional terms and conditions are required to assure that this SWSP does not result in an expansion of use of the Applicant's share should the Applicant reach their

annual volumetric limit and cease diverting water or decide not to take delivery of their share. This position applies only to this SWSP and has no bearing on the position of the State and Division Engineers in any water court case involving a change of GIC shares.

The area formerly irrigated by the subject GIC share continues to contain residual pasture grass. The measured depth to groundwater in the area ranges between 6 and 7.5 feet. In order to ensure the required dry-up conditions exist during the approval period of this SWSP, and to ensure the historical consumptive use calculated for the ditch shares changed by this SWSP do not include any credit resulting from the consumption of groundwater, you have proposed to apply a 5% reduction to the monthly consumptive use credits claimed for the subject GIC share.

Delivery of the yield from the subject share is expected to continue to occur at the 23rd Avenue augmentation station (WDID 0302318). Water is returned to the river in the SW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 31, Township 6 North, Range 65 West of the 6th P.M., approximately 2.5 miles upstream of the point of depletions and upstream of the Ogilvy Ditch headgate, which is the first senior water right that could be injured by depletions from the Loloff Pit. Based on conversations the Applicant has had with the GIC, the Applicant can also request delivery of the yield from the subject share at either the 16th Street or F Street augmentation stations. The 16th Street augmentation return (WDID 0302319) is located approximately 1.8 miles downstream of the point of depletions and downstream of the Ogilvy Ditch headgate. The F Street return (WDID 0302320) is located approximately 7.9 miles upstream of the point of depletions and upstream of the Ogilvy Ditch headgate. At times when the Ogilvy Ditch is calling, the Applicant must make replacements at or above the Ogilvy Ditch headgate. A transit loss may be assessed by the water commissioner for the delivery of such replacement water.

Loloff Section 4 Ditch

Loloff obtained a conditional water right in Division 1 Water Court case no. 1987CW153 for the diversion of 4 cfs through the Loloff Section 4 Ditch (WDID 0300754), with an appropriation date of March 15, 1987. The decreed point of diversion is in the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 4, Township 5 North, Range 65 West of the 6th P.M., approximately 700 feet South and 50 feet West of the north quarter corner of said Section 4. The decreed use of the water is the irrigation of 55 acres in the NW $\frac{1}{4}$ of Section 4 and augmentation water. When in priority, the water is proposed to be diverted from the Loloff Section 4 Ditch into the Loloff Pit, and pumped back to the Cache la Poudre River for replacement purposes. It is the understanding of this office that the measurement structure for the Loloff Section 4 Ditch is in disrepair and easily submerged. **The measurement structure must be repaired to the satisfaction of the water commissioner and approved by the water commissioner prior to the use of the Loloff Section 4 Ditch to divert water, or no credit will be given for replacement water from this source.**

Loloff Reservoir

As of the date of the SWSP request, Loloff had approximately 760 acre-feet of water stored in the lined Loloff Pit (WDID 0303483) that was diverted under free river conditions with the knowledge and approval of the water commissioner. A stage-area-storage capacity table has been provided to this office, and a staff gauge has been installed in the reservoir to measure the amount of water in storage. The Applicant has been submitting reservoir accounting for the Loloff Reservoir and must continue to do so on a monthly basis in order to continue to be able to use water stored in this structure as a replacement source in this SWSP. Water was diverted into storage by diverting from the river at the Ogilvy Ditch, conveying the water down the ditch, and pumping the water from the

ditch into the pit. A copy of an agreement between the Ogilvy Irrigating and Land Company and Mill Iron Mining LLC, which is associated with Loloff Construction, Inc., allowing for the use of the Ogilvy Ditch for this purpose was provided with the SWSP request and is attached to this approval. Under the agreement, Mill Iron Mining is entitled to use the first 200 acre-feet of free river water stored in the Loloff Pit annually for augmentation purposes. Metered pumping from Loloff Pit will be discharged into the unnamed natural seep located south of the property, from where it will work its way back to the Cache la Poudre River. As quantified in the past, 50% of the releases will be deemed to enter the river system as surface water, while the other 50% will be lagged back to the river system using the AWAS parameters previously described. For this plan period, you have projected that a total of 311 acre-feet of previously stored free river water will be pumped from the Loloff Pit, of which 50% (155.50 acre-feet) will return to the river as surface flows, and 50% will return to the river as subsurface return flows. Lagged subsurface return flows from past and projected deliveries of stored water will result in 91.93 acre-feet of accretions at the river during this plan period, in addition to the 155.50 acre-feet of water anticipated to enter the river as surface flow.

Water Balance

A water balance showing the lagged depletions and projected replacements for this plan period is provided in the attached Table 2.

Long Term Augmentation

In accordance with the letter dated April 30, 2010 (copy attached) from the Colorado Division of Reclamation, Mining, and Safety (“DRMS”), all sand and gravel mining operators must comply with the requirements of the Colorado Reclamation Act and the Mineral Rules and Regulations for the protection of water resources. The April 30, 2010 letter from DRMS requires that you provide information to DRMS to demonstrate you can replace long term injurious stream depletions that result from mining related exposure of groundwater. The DRMS letter identifies four approaches to satisfy this requirement.

The approved reclamation plan for this site is reclamation to a lined reservoir with a surface area of approximately 46.94 acres. As previously indicated, the liner at the Loloff Pit has been approved by the State Engineer’s office, and the pit is now classified as a lined reservoir; however, ongoing depletions from past operations at the site are still impacting the river. In accordance with approach no. 4, you have provided an affidavit dated May 30, 2014 that dedicates the Applicant’s one share of the Greeley Irrigation Company (certificate no. 3391) and one share of the New Cache La Poudre Irrigation Company (certificate no. 4635) as replacement water solely for this SWSP for as long as there are depletions at this gravel pit site or until such time as another replacement source is obtained. A copy of the affidavit is attached to this letter. For the purposes of this SWSP, this affidavit will be accepted for the dedication of the shares; however, if the State Engineer determines that a different affidavit or dedication process is necessary to assure proper dedication of the shares, additional information may be required prior to future SWSP approvals.

Conditions of Approval

I hereby approve the proposed substitute water supply plan in accordance with section 37-90-137(11), C.R.S., subject to the following conditions:

1. This SWSP shall be valid for the period of April 1, 2022 through March 31, 2023, unless otherwise revoked or superseded by decree. Any renewal request must be submitted to this office with the statutory fee (currently \$257) no later than February 1, 2023. If a renewal request is received after the expiration date of this plan, it may be considered a request for a new SWSP, in which case a \$1,593 filing fee will apply.
2. This SWSP does not authorize the exposure of any groundwater or any consumptive use of groundwater at the site. Any use of groundwater at the Loloff Pit must first be approved by this office through an amendment to this SWSP.
3. Replacement of lagged depletions shall continue until there is no longer an effect on stream flow. The Applicant must renew and maintain a valid SWSP until all lagged depletions resulting from operation under this SWSP have been fully replaced in time, location, and amount. After the end of this plan period, a total of 589.08 acre-feet of depletions will remain to be replaced.
4. All releases of replacement water must be sufficient to cover all out-of-priority depletions in time, place, and amount and must be made under the direction and/or the approval of the water commissioner. Notice must be provided and approval made by the water commissioner at least 48 hours prior to the release of replacement water, or as required by the water commissioner. The Applicant is required to coordinate with the water commissioner the delivery location of replacement water to ensure out-of-priority depletions are adequately replaced to prevent injury to other water rights.
5. The release of replacement water may be aggregated to maximize beneficial use. The water commissioner and/or the division engineer shall determine the rate and timing of an aggregated release.
6. The replacement water that is the subject of this plan cannot be sold or leased to any other entity. As a condition of subsequent renewals of this substitute water supply plan, the replacement water must be appurtenant to this site unless a plan for augmentation is obtained.
7. All deliveries of water to storage and deliveries of replacement water shall be measured in a manner acceptable to the division engineer. The Applicant shall install and maintain measuring devices as required by the division engineer for operation of this SWSP. Reservoir accounting must continue to be submitted for the Loloff Reservoir (WDID 0303483). **No credit will be given for replacement water diverted through the Loloff Section 4 Ditch unless the measurement structure is first repaired and approved by the water commissioner.**
8. Conveyance loss for delivery of augmentation water is subject to assessment and modification as determined by the division engineer.
9. The name, address, and phone number of the contact person who will be responsible for the operation and accounting of this plan must be provided on the accounting forms submitted to the division engineer and the water commissioner.

10. The Applicant shall provide daily accounting (including, but not limited to diversions, depletions, replacement sources, and river calls) on a monthly basis. The accounting must be uploaded to the CDSS Online Reporting Tool within 30 days of the end of the month for which the accounting applies (<https://dwr.state.co.us/Tools/reporting>). Instructions for using the tool are available on the Division of Water Resources website on the “Services” → “Data & Information” page under the heading of Online Data Submittal. Accounting and reporting procedures are subject to approval and modification by the division engineer. Accounting forms need to identify the WDID number for each structure operating under this SWSP. Additional information regarding accounting requirements can be found in the attached Augmentation Plan Accounting Administration Protocol for Division One. **NOTE:** Monthly accounting, even during the winter non-irrigation season, is required.
11. The Applicant shall perform an inspection of the 8.3 acres of dry-up area, submit a certification of that inspection, and provide a zipped GIS shapefile of the dried-up land as follows:
 - The Applicant’s inspection of dry-up must be submitted on the *Dry-Up Report - Verified Statement to Division Engineer* form at the beginning of the irrigation season indicating planned dry-up and then again in the fall after the irrigation season confirming the planned dry-up was accomplished. A pdf map may be attached to that report. The Dry-Up Report form is available for download from the Division of Water Resources’ website at: https://drive.google.com/drive/folders/1TF0a1Nt6f5fla0Xz_n1_iAGCg4xusRN2 (Water Administration → eForms Dashboard → South Platte: Dry up Certification). The Dry-Up Report must be signed by an individual with personal knowledge of the dry-up for the entire irrigation season for each parcel of land associated with the change of water right in this SWSP.
 - GIS shapefiles in a file format *.zip outlining the dry-up shall also be submitted at the same time as the Dry-Up Report. The GIS files must include any accompanying attribute data and the datum must be NAD83 and the UTM projection must be Zone 13N.
 - Submittals shall be made **by May 31, 2022** for planned dry-up and **by October 31, 2022** for dry-up confirmation. Submittals shall be made through the CDSS Online Reporting Tool (<https://dwr.state.co.us/Tools/reporting>). Two new Reporting Submittal Tool elements will be created for this SWSP: (1) Dry-up shapefile and (2) Dry-Up Report - Verified Statement. For additional assistance with Online Reporting Submittals, contact Dawn Ewing in the Division 1 office at dnr_div1accounting@state.co.us.
12. The historical consumptive use attributed to Loloff’s GIC share shall not include groundwater contributions. As a result, the historical consumptive use (“HCU”) credit calculated for the GIC share proposed to be used for replacement purposes under this SWSP shall be reduced by any ongoing sub-irrigation from groundwater. For this plan period, you have proposed to use a constant reduction of 5% for the 2022 irrigation season, based on the historical depth to groundwater. For the purposes of this SWSP, the proposed reduction is acceptable, although a different method may be required in future SWSP approvals or if there is significant fluctuation in groundwater levels from one month or one year to the next.
13. The State Engineer may revoke this SWSP or add additional restrictions to its operation if at any time the State Engineer determines that injury to other vested water rights has occurred

or will occur as a result of the operation of this SWSP. Should this SWSP expire or be revoked prior to replacement of all remaining lagged depletions, the Applicant will be subject to enforcement.

14. In accordance with amendments to section 25-8-202(7), C.R.S., and "Senate Bill 89-181 Rules and Regulations" adopted on February 4, 1992, the State Engineer shall determine whether the substitute supply is of a quality to meet requirements of use to senior appropriators. As such, water quality data or analysis may be requested at any time to determine if the water quality is appropriate for downstream water users.
15. The decision of the State Engineer shall have no precedential or evidentiary force, shall not create any presumptions, shift the burden of proof, or serve as a defense in any water court case or any other legal action that may be initiated concerning this SWSP. This decision shall not bind the State Engineer to act in a similar manner in any other applications involving other SWSPs, or in any proposed renewal of this SWSP, and shall not imply concurrence with any findings of fact or conclusions of law contained herein, or with the engineering methodologies used by the Applicant.

If you have any questions concerning this approval, please contact Sarah Brucker in Denver at (303) 866-3581 or Michael Hein in Greeley at (970) 352-8712.

Sincerely,



for Jeff Deatherage, P.E.
Chief of Water Supply

Attachments: Map 2
Tables 1 & 2
Ogilvy/Mill Iron Mining Agreement
Share Dedication Affidavit
DRMS April 30, 2010 letter
Augmentation Plan Accounting Administration Protocol for Division One

Cc: Michael Hein, Lead Assistant Division Engineer, Michael.Hein@state.co.us
Mark Simpson, Water Commissioner, District 3, Mark.Simpson@state.co.us
Louis Flink, Tabulation/Diversion Records Coordinator, Louis.Flink@state.co.us
Dawn Ewing, Accounting Coordinator, Dawn.Ewing@state.co.us
Peter S. Hays, Division of Reclamation Mining and Safety, Peter.Hays@state.co.us

Map 2. Dewatering Seep and Pond

dewatering enters seep at this location



there is a pipe inlet right here
discharges directly south under property to river



Loloft Pit
GIC Yields and Return Flow Obligations
Table 1

Williams and Weiss Consulting, LLC

Submitted by:

Paul Weiss, P.E.

5255 Ronald Reagan Boulevard, Suite 220

Johnstown, CO 80534

	Direct Flow portion				Fossil Creek portion				Net
	diversion	c.u.	surf	sub	balance	diversion	c.u.	surf	
JAN	0.00	0.00	0.00	0.29	-0.29	0.00	0.00	0.00	-0.30
FEB	0.00	0.00	0.00	0.28	-0.28	0.00	0.00	0.00	-0.29
MAR	0.00	0.00	0.00	0.26	-0.26	0.00	0.00	0.00	-0.27
APR	1.00	0.52	0.24	0.25	0.52	0.00	0.00	0.00	0.51
MAY	2.00	1.04	0.47	0.29	1.23	0.00	0.00	0.00	1.23
JUN	3.00	1.57	0.71	0.34	1.95	0.00	0.00	0.00	1.94
JUL	4.00	2.09	0.95	0.38	2.68	0.00	0.00	0.00	2.67
AUG	3.50	1.83	0.83	0.39	2.28	0.00	0.00	0.00	2.27
SEP	3.00	1.57	0.71	0.39	1.90	0.30	0.18	0.06	2.12
OCT	1.00	0.52	0.24	0.38	0.39	0.10	0.06	0.02	0.46
NOV	0.00	0.00	0.00	0.34	-0.34	0.00	0.00	0.00	-0.35
DEC	0.00	0.00	0.00	0.33	-0.33	0.00	0.00	0.00	-0.34
TOTAL	17.50	9.14	4.15	3.93	9.42	0.40	0.24	0.08	9.65

1) historical consumptive use on direct flow component of GIC share is 52.2%

2) historical consumptive use on Fossil Creek component of GIC share is 59.0%

3) monthly GIC return flows calculated using Appendix A-2 of 96-CW-658

4) subsurface return flows based upon 5-Year average delivery (2017-2021)

18.05 Fossil Crk 0.46

SINGLE YEAR

volumetric on direct flow 1712.00

for 67.75 shares

diversion per share

c.u. per share

25.27

13.19

RETURN FLOW OBLIGATION Factors

from Appendix A-2 of Poudre Prairie Decree

DIRECT FLOW WATER

surface sub surface sub

JAN 0.237 0.018 0.201 0.017

FEB 0.237 0.017 0.201 0.016

MAR 0.237 0.016 0.201 0.015

APR 0.237 0.015 0.201 0.014

MAY 0.237 0.018 0.201 0.013

JUN 0.237 0.021 0.201 0.012

JUL 0.237 0.023 0.201 0.015

AUG 0.237 0.024 0.201 0.024

SEP 0.237 0.024 0.201 0.025

OCT 0.237 0.023 0.201 0.021

NOV 0.237 0.021 0.201 0.02

DEC 0.237 0.02 0.201 0.018

ROLLING 10-YEAR AVG

volumetric on direct flow

for 67.75 shares

diversion per share

c.u. per share

12631

1263.1

per year

186.4

97.3

18.6

9.7

2022 Dewatering Impacts: Loloff Pit Substitute Water Supply Plan

Table 2

Williams and Weiss Consulting, LLC

Submitted by:

Paul Weiss, P.E.

5255 Ronald Reagan Boulevard, Suite 220

Johnstown, CO 80534

Month	Monthly Dewatering Depletions (ac-ft)	% of Month under Call	Depletions Requiring Augmenting (ac-ft)	Monthly Loloff Pit Release (ac-ft)	Surface Returns to River (ac-ft)	Lagged Returns to River (ac-ft)	GIC No.3 Credits (ac-ft)	Supplemental Credits (ac-ft)	Total Replacements (ac-ft)	Water Balance (ac-ft)
Apr-22	23.73	100%	23.73	40.00	20.00	3.47	0.51	0.00	23.98	0.25
May-22	23.06	100%	23.06	35.00	17.50	6.00	1.23	0.00	24.73	1.67
Jun-22	22.40	100%	22.40	30.00	15.00	7.53	1.94	0.00	24.47	2.07
Jul-22	21.76	100%	21.76	30.00	15.00	8.20	2.67	0.00	25.87	4.11
Aug-22	21.15	100%	21.15	25.00	12.50	8.57	2.27	0.00	23.34	2.19
Sep-22	20.54	100%	20.54	22.00	11.00	8.52	2.12	0.00	21.64	1.11
Oct-22	19.96	100%	19.96	23.00	11.50	8.33	0.46	0.00	20.29	0.33
Nov-22	19.38	100%	19.38	23.00	11.50	8.32	-0.35	0.00	19.47	0.09
Dec-22	18.84	100%	18.84	22.00	11.00	8.34	-0.34	0.00	19.00	0.17
Jan-23	18.31	100%	18.31	21.00	10.50	8.31	-0.30	0.00	18.51	0.20
Feb-23	17.78	100%	17.78	20.00	10.00	8.22	-0.29	0.00	17.93	0.16
Mar-23	17.28	100%	17.28	20.00	10.00	8.12	-0.27	0.00	17.85	0.57
TOTAL	244.18		244.18	311.00	155.50	91.93	9.65	0.00	257.08	12.90

Notes:

(A) Lagged depletions from historical dewatering operations

(B) % of month under call

(C) col B x col C

(D) Measured pumping from Loloff Pit

(E) 50% of col D

(F) 50% of col D lagged using AWAS

(G) GIC no.3 Credits

(H) Supplemental water supply if needed

(I) E + F + G + H

(J) Water Balance I - C

Exhibit 2. Loloff / Ogilvy Term Sheet

March 23, 2020
Kelly Hodge
Mill Iron Mining LLC

RE: Loloff Pit Term Sheet

The following sets forth the basic terms of understanding ("Term Sheet") between Ogilvy Irrigating and Land Company (herein after "Ogilvy") and Mill Iron Mining LLC (herein after "MIM") concerning the immediate use and eventual purchase, by Ogilvy, of the Loloff Pit ("Pit"). The Term Sheet is intended to set forth the parties' understanding and will be used as the basis for the development of a legally binding agreement between the parties ("Agreement"). however, this Term Sheet does not bind either party to enter into the Agreement, but shall govern the delivery and use free river water to Pit upon execution while the Agreement is being negotiated and executed.

Purposes:

- Allow MIM to start pumping free river water to the Pit as soon as possible while free river exists to help MIM with its immediate augmentation needs.
- Allow Ogilvy to store free river in the Pit for water sales and augmentation needs.
- Set forth general terms by which Ogilvy will purchase the Pit in 2022.

Free River Storage Prior to Agreement:

- The parties will coordinate and cooperate to pump free river water, when it is available, from the Ogilvy Ditch.
- To the extent necessary, Ogilvy grants a carrying right in the Ogilvy Ditch for this purpose. The carrying right is for free river water to be delivered by Ogilvy in the Ditch at times when it will not be injurious to the Company or its shareholders. However, to the extent possible the parties will maximize the delivery and use of free river water for storage in the Pit.
- The parties will coordinate on the location and set-up for the pump that will allow water to be pumped from the Ditch to the Pit, but such pump shall be a minimum 8" pump.
- This understanding is intended to govern free water deliveries prior to Ogilvy acquiring the Pit.

- MIM shall be entitled to use the first 200 acre feet of free river water stored in the Pit annually for augmentation of the Pit. Any additional amount, up to 500 acre feet, from any source (other than free river), may be stored each year and available for Ogilvy.
- MIM may pump possible excess water from the Dust & Dirt property into the Loloff Pit and take back to Dust & Dirt when needed. This shall not be deemed a conflict or detrimental to this Agreement.
- MIM shall pay the cost and expense of pumping the first 200 acre feet. Ogilvy shall pay the costs of any additional amount pumped. The parties shall share the cost of pump set up and break down in relation to the amount of water pumped by each, if any. The parties shall share metering data, but shall otherwise be responsible for their own accounting. MIM shall be responsible for accounting for the Pit. The parties shall share evaporation/seepage in proportion to the amount of water each has stored in the Pit.
- The parties shall individually bear the cost and responsibility for delivering their water from the Pit to the ditch or the river. MIM shall be entitled to discharge to the river via the Ogilvy Ditch, provided that such discharge doesn't displace Ogilvy water from the Ditch. Ogilvy shall have the right to access and use the Pit and MIM property to the extent necessary to remove its water and deliver it to the Ditch. The parties shall work to cooperate to the extent possible to make joint deliveries to and releases from the Pit. Any additional metering or measuring devices needed by MIM as the operation of its plan for augmentation (e.g. for measuring returns to the river) shall be borne by MIM.

These terms of use shall govern until the Agreement is executed or until the parties determine no such Agreement will be executed. In the later event, Ogilvy shall have until the following storage season (commencing November 1) to remove any water it has stored in the Pit.

The parties hereto agree as of the date first written above.

Ogilvy Irrigating and Land Company

By: Donald G. Wacker
Donald G. Wacker, President

Mill Iron Mining, LLC

By: Kelly Hodge
Kelly Hodge, Manager

Dedication Of Water Rights to the
Loloff Pit Permanent Water Supply Plan

I Don Loloff President of Loloff Construction Inc. which owns 1 share of the Greeley Irrigation Company evidenced by Certificate No 3391 one share of the New Cache La Poudre Irrigation Company evidenced by Certificate No 4635, hereby affirm that the two shares will be dedicated solely to the Loloff Pit Permanent Water Supply Plan for as long as there are depletion's at this gravel pit or until such time as another replacement source is obtained. The 2 shares will not be sold or traded to others during the term of this dedication.

Signed

Don Loloff

Date

May 30, 2014

State of Colorado

County of Weld

The foregoing instrument was acknowledged before me this 30 day of may 2014
By Don Loloff and _____

My commission expires: 6/10/2017

Witness my hand and official seal:

Evelyn Darter
Notary Public

DIVISION OF RECLAMATION, MINING AND SAFETY

Department of Natural Resources

1313 Sherman St., Room 215

Denver, Colorado 80203

Phone: (303) 866-3567

FAX: (303) 832-8106



Bill Ritter, Jr.
Governor

James B. Martin
Executive Director

Loretta E. Piñeda
Director

April 30, 2010

Loloff Construction, Inc.
P.O. Box 518
206 Hill St.
Kersey, CO 806440000

RE: Mining Operations with Exposed Ground water

To Whom It May Concern:

The Division of Reclamation Mining and Safety is responsible for ensuring that Sand and Gravel mining operators comply with the requirements of the Colorado Land Reclamation Act for the Extraction of Construction Materials (Act) and the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials (Rules). Among these requirements are provisions for the protection of water resources. The Act requires that reclamation plans must ensure minimization of disturbances to the prevailing hydrologic balance, including disturbances to the quantity of water in the area affected by mining and in the surrounding areas. § 34-32.5-116(4)(h). Rule 3.1.6(1)(a) requires compliance with Colorado water laws and regulations governing injury to existing water rights both during and after mining. Permits must specify how the permittee will comply with applicable Colorado water laws and regulations governing injury to existing water right rights. Rule 6.3.3(j); Rule 6.4.5(2)(c). After an extensive review, the Division determined that several operators may not have appropriate permit conditions to address certain reclamation liabilities arising from impacts to water resources.

In September 2009 the Division of Water Resources (DWR) updated its Guidelines for Sand and Gravel Pits. These guidelines provide guidance on achieving compliance with state law regarding replacement of depletions from sand and gravel mining, thus the guidelines provide a benchmark for the protection of hydrologic balance required under the Act and Rules. As noted in the Guidelines, sand and gravel operations which expose groundwater without complying with state law create a reclamation liability by impacting available groundwater.

State law requires that any person exposing ground water must obtain a well permit from the SEO pursuant to § 37-90-137(11). Because exposed groundwater results in out-of-priority water depletions, operations which expose ground water must also eventually obtain a water-court approved augmentation plan. Currently, several operators do not have either an augmentation plan or bonding to provide an alternative method to mitigate injurious stream depletions that result from mining-related exposure of ground water. The Division has a statutory duty to ensure that lands affected by mining are reclaimed in a manner that complies with state law and to ensure that operators have sufficient bonding to achieve reclamation. In order to assist operators in achieving compliance with these requirements, the Division proposes that, by April 30, 2011, operators should contact the Division and agree upon a plan for achieving compliance.

The Division has identified four approaches for operators:

1. File a financial warranty that will ensure backfilling of the pit to cover the exposed ground water to a depth of two feet above the static ground water level or,
2. Obtain a court approved augmentation plan prior to exposing ground water or,
3. File a financial warranty to cover the cost of installing a clay liner or slurry wall that meets the Division of Water Resources requirements for preventing ground water exposure or,
4. Obtain approval from the Division of Water Resources that acknowledges compliance with the SEO's requirements pursuant to § 37-90-137(11).

The Division will work with operators on an individual basis as they move to implement one of these plans. It is likely that options 1 and 3 will require the submittal of a technical revision or an amendment to the existing permit depending on the nature of the current mining and reclamation plan and the proposed changes. Increased financial warranties, as a result of these modifications, may be posted in a phased manner not to exceed three years. Amendments or revisions currently under review will be required to be approved by April 30, 2011 and may use the phased financial warranty approach described above. New applications going forward or presently under review by the Division will be required to meet the requirements of one of the options 1-4 at the time of application approval. Failure of affected operators to initiate contact with the Division and gain compliance as described above could result in an enforcement action being issued by the Division.

If you have any questions, please contact Tony Waldron at 303-866-3567, extension 8150.

cc: M1985112 Loloff Mine

ADMINISTRATION PROTOCOL Augmentation Plan Accounting Division One - South Platte River Revised October, 2021

This protocol establishes the accounting and reporting process required to enable the division engineer's office to determine if depletions from all out-of-priority diversions are being replaced so as to prevent injury to vested water rights. The accounting must follow "cradle to grave" accounting practices that track exactly how the data are manipulated from raw data input (e.g., meter readings) to the resultant impact on the river. While this protocol is subordinate to any decreed language addressing specific accounting requirements, it generally addresses the minimum requirements of such accounting.

The accounting must use the standard convention where a depletion is shown as a negative value and an accretion or other replacement source is shown as a positive value. The difference of depletions and replacements will then result in either a negative or positive impact on the stream.

1. Accounting must be submitted electronically to the division engineer and water commissioner through the online data submittal portal at the following link on our website: <https://dwr.state.co.us/Tools/reporting>. If not already registered, you will need to create a new account through that link.

Typically, submittals are due within 30 days of the end of the month for which the accounting is being submitted, unless decreed otherwise. Additional data or more frequent submittals may be required by the water commissioner if required for administration. Accounting submittals not submitted through the online data submittal portal or questions regarding accounting submittals may be emailed to dnr_Div1Accounting@state.co.us.

The following naming convention must be used for all files submitted via email:
"PlanWDID_YYMMDD"

where: PlanWDID is the WDID assigned by the division engineer's office

YYMMDD corresponds to the date the accounting is submitted.

As an example, the assigned WDID for the former GASP plan was 0103333. If accounting using Excel® was submitted for that plan on May 15, 2004, the file name would be:
"0103333_040515.xls"

2. The accounting must include a Contact & Plan Information tab, that includes the 7-digit WDID for the plan for augmentation/SWSP, the 4-digit SWSP ID (if applicable), and contact information (i.e., name, phone number, email address) for the augmentation plan accounting including:
 - a. the owner(s) of each augmented structure
 - b. the person responsible for submitting the accounting
 - c. the plan administrator and/or the plan attorney.

3. All of the raw input data (i.e., meter readings, water pumped from wells, etc.) must be provided and organized in a single location, such as an “Input” worksheet, etc. The accounting must include the following input data listed below, as well as relevant WDIDs and permit numbers.
 - a. Diversion data from flumes or weirs and unit of measurement.
 - b. The required input data for each well is:
 - i. the monthly flow meter reading as shown on the flow meter; date of the meter reading; flow meter multiplier (i.e., 0.001, 10, 1); units of volume (i.e., gallons or acre-feet); the meter serial number; correction factor, if any.
 - ii. The total volume pumped, showing the calculations using the information in Item “i” above.
 - iii. factors from the decree or SWSP that provide for the well consumptive use and depletions (i.e., presumptive depletion factor (PDF), water balance methodology, lagging parameters, etc.).
 - iv. Any well permitted or decreed as an alternate point of diversion (APOD) to a surface water right must report pumping on a daily basis if any of the diversions during the month is claimed as being “in priority”. (See Administration Protocol - APOD Wells for more details.)
 - c. If applicable, data for each recharge structure must be included and comply with the appropriate decree(s) or SWSP Approval requirements and any applicable current statewide Administration Protocol. At a minimum the following should be reported in the accounting:
 - i. 7-digit WDID and name of recharge structure
 - ii. daily volume in AF diverted into the site;
 - iii. monthly volume in AF released from the site;
 - iv. monthly gross evaporative loss in AF;
 - v. volume of water in AF remaining at the end of the month.
 - d. The accounting must identify each source of replacement water actually delivered to the stream and how replacement water at that location offset the depletions. To demonstrate the water was actually delivered to the required location will require the following information:
 - i. the name (water court case, lease, etc.) and WDID of the originating source of the replacement water, date released and volume of water released;
 - ii. transit losses from point of release to point of depletion or use, if any, using stream loss factors approved by the water commissioner;
 - iii. the volume of water actually delivered on a daily basis past any surface water diversion that was sweeping the river as corroborated by the water commissioner. (See Administration Protocol - Delivery of Water for more details on delivering water).

For each source of replacement water that has been “changed” for use as a source of augmentation, such as changed reservoir shares, changed rights from a ditch, or credits from dry-up, etc., the following input information must be reported:

- i. the decreed volume of return flow obligation;
 - ii. if not specified in the decree or SWSP, the location and timing of the owed return flow on the stream(s).
4. If required by the decree or SWSP, the accounting must include a monthly projection of the plan’s operation at least through March 31 of the next calendar year, or as specified in the decree or SWSP.
5. The accounting submittal must include output associated with modeling showing monthly delayed depletions (from well pumping or return flow obligations) and/or accretions (from recharge).

6. All accounting must provide a net impact summary that shows a daily balance of the out-of-priority depletions, accretions from each recharge site, volume of replacement water actually delivered and the resultant net impact. If necessary, a net impact must be shown for each applicable river and reach.

While modeling may use a monthly step function to determine the depletions from pumping and accretions from recharge, the monthly result must then be divided by the number of days in the month in order to simulate a daily impact, as water rights are administered on a daily and not monthly basis.

The accounting should indicate that the replacement water is equal to the depletion(s) such that the daily net impact (using the simulated daily numbers from the modeling) is not negative, unless the water commissioner approves less frequent aggregation of replacements without injury to downstream water rights.

In the instance that aggregation is allowed, replacement is needed only for days with out-of-priority depletions. For example, if a well is out-of-priority for 15 days during a month, replacement must be made only for the 15 days the well is out-of-priority. Likewise, any simulated daily accretions will only count toward replacing the depletion on the days the well is out-of-priority. The accretions that accrue to the river when the well is in priority cannot be applied to different days with out-of-priority depletions.

7. The basis for determining that the depletions are out-of-priority should be data from the Division of Water Resources' Administrative Calls & Analysis Tool (<https://dwr.state.co.us/Tools/AdministrativeCalls/Active>) and should be included in the accounting along with the relative steps in the determination of a structure being in or out of priority. The analysis may be done, unless otherwise limited by decree, for each well or groups of wells, provided the most junior water right associated with the group of wells is used as the reference water right for the group's out-of-priority status.
8. The accounting shall include all the required information for the month of the submittal in addition to the information submitted from previous months such that the information and monthly submittals are a cumulative report each month throughout the 12 month reporting period.
9. If a well is covered in multiple SWSPs or augmentation plans, the monthly meter readings must be the same in the accounting for each plan covering the subject well. The accounting for every plan covering the well shall state the proportionate and total pumping amount covered by each plan to assure all out-of-priority depletions are replaced.
10. The following additional accounting requirements apply when sources of replacement water are used in more than one plan.
 - a. The entity providing replacement water to the stream is responsible for accounting for the total amount of replacement water and how much of the total went to each plan.
 - b. The amount of replacement water claimed for a particular augmentation plan must match the amount in the accounting from the entity providing the replacement water to the stream.
 - c. The amount of replacement water claimed for use by one or more water users shall not exceed the amount of replacement water physically and legally available. (See Administration Protocol - Use Of Unnamed Sources For Replacement for additional requirements concerning required notice and approval of sources of replacement not specifically described in a SWSP or augmentation plan).

APPENDIX D

CONSTRUCTION DRAWINGS

**LOCATED IN
PART OF NE 1/4 SECTION 4, T5N, R65W OF THE 6TH P.M.
COUNTY of WELD, STATE of COLORADO
MARCH, 2022**

1. COMPLY WITH ALL REQUIREMENTS OF OWNER OBTAINED PROJECT PERMITS. CONTRACTOR SHALL OBTAIN ALL OTHER PERMITS NECESSARY FOR CONSTRUCTION OF THE WORK.
2. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION.
3. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE STATE OF COLORADO PERMITTING PROCESS FOR "STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY." FOR INFORMATION, PLEASE CONTACT THE COLORADO DEPARTMENT OF HEALTH, WATER QUALITY CONTROL DIVISION, 4300 CHERRY DRIVE SOUTH, DENVER, COLORADO 80246-1530. ATTENTION: PERMITS SECTION. PHONE 303-692-3500.
4. IF DEWATERING IS REQUIRED, A STATE CONSTRUCTION DEWATERING DISCHARGE PERMIT IS REQUIRED FOR DISCHARGES TO A STORM SEWER, CHANNEL, IRRIGATION DITCH, ANY STREET THAT IS TRIBUTARY TO THE AFOREMENTIONED FACILITIES, OR ANY WATER OF THE UNITED STATES.
5. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT ALL UTILITIES TO COORDINATE SCHEDULES.
6. THE CONTRACTOR SHALL REGULARLY PATROL THE PUBLIC LANDS ADJACENT TO THE PROJECT, REMOVE CONSTRUCTION DEBRIS AND KEEP AREAS CLEAN AND SAFE.
7. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND IMPLEMENTING A SEQUENCE AND SCHEDULE FOR COMPLETION OF THE WORK IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CONTRACT DOCUMENTS.
8. VERIFY SITE ELEVATIONS PRIOR TO CONSTRUCTION.
9. THE CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES AND FEES INCLUDING, BUT NOT LIMITED TO, ALL INSPECTION CHARGES OF AGENCIES HAVING APPROPRIATE JURISDICTION.
10. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF ENTIRE PROJECT, AS SPECIFIED, UPON FINAL COMPLETION OF PROJECT.

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEDIMENT AND EROSION CONTROL AT THE SITE THROUGHOUT CONSTRUCTION.
2. BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE USED AS NECESSARY TO ADDRESS SEDIMENT AND DUST FROM SITE DISTURBANCE. ADDITIONAL MEASURES MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.
3. BMP'S MAY INCLUDE, BUT ARE NOT LIMITED TO:
 - MINIMAL DISTURBANCE FOR MINIMAL TIME PERIODS
 - GRAVEL CONSTRUCTION ENTRIES
 - SILT FENCE, STRAW BALE OR SAND BAG BARRIERS, ROCK CHECK DAMS
 - STORM SEWER INLET PROTECTION
 - SEDIMENT CAPTURE PONDS
 - SITE WATERING FOR DUST SUPPRESSION
4. BMP'S SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL INSPECT BMP'S WEEKLY AND AFTER SIGNIFICANT (GREATER THAN 0.1" PRECIPITATION) STORM EVENTS. THE MAINTENANCE AND REPAIR SHALL BE COMPLETED IN A TIMELY MANNER. SEDIMENT AND DEBRIS SHALL BE REMOVED WHEN THEY REACH HALF THE BMP HEIGHT OR IMPACT THE FUNCTION OF THE BMP.
5. SOIL STOCKPILES SHALL BE PROTECTED FROM SEDIMENT TRANSPORT BY SURFACE ROUGHENING WATERING AND PERIMETER SILT FENCING. SOILS THAT WILL BE STOCKPILED FOR MORE THAN 30 DAYS SHALL BE MULCHED AND SEEDED WITH A GRASS COVER WITHIN 14 DAYS OF STOCKPILE CONSTRUCTION.
6. THE CONTRACTOR SHALL INSURE THAT ALL LOADS OF CUT AND FILL SOILS IMPORTED TO OR EXPORTED FROM THE SITE ARE PROPERLY LOADED AND COVERED TO PREVENT LOSS DURING TRANSPORT.
7. THE CONTRACTOR SHALL REMOVE ALL SEDIMENT, MUD, AND CONSTRUCTION DEBRIS RESULTING FROM THIS PROJECT FROM FLOWLINES AND PAVEMENT OF PUBLIC STREETS IN A TIMELY MANNER.
8. SOILS EXPOSED DURING LAND DISTURBING ACTIVITY SHALL BE KEPT IN A ROUGHENED CONDITION BY RIPPING OR DISCING ALONG LAND CONTOURS UNTIL MULCH, VEGETATION OR OTHER PERMANENT EROSION CONTROL IS IN PLACE. NO SOILS SHALL REMAIN EXPOSED BY LAND DISTURBING ACTIVITY FOR MORE THAN THIRTY (30) DAYS BEFORE REQUIRED TEMPORARY OR PERMANENT EROSION CONTROL IS INSTALLED UNLESS OTHERWISE APPROVED.
9. ALL TEMPORARY SEDIMENT CONTROLS WILL BE REMOVED WITHIN 30 DAYS AFTER THE FINAL STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, WHICHEVER OCCURS FIRST.
10. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHENEVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.

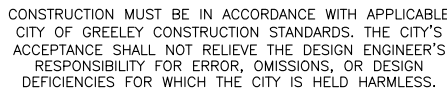
FLOOD HAZARD AREA INFORMATION AS SHOWN ON FEMA FIRM, MAP NUMBER 08123C1541E,
MAP REVISED JANUARY 20, 2016.



BROKEN ARROW INVESTMENTS
KELLY HODGE
801 8TH STREET, SUITE 130
GREELEY, CO 80631
970-566-5090

American West Land Surveying Co.
331 South 4th Avenue
P.O. Box 129
Brighton, CO 80601
303-659-1532

J&T Consulting, Inc.
J.C. York
305 Denver Ave., Ste. D
Fort Lupton, CO 80621
303-857-6222



ACCEPTED BY: _____ DATE _____
ENGINEERING DEVELOPMENT
REVIEW/CIVIL INSPECTIONS
MANAGER

1	Cover Sheet
2	Greeley Construction Notes
3	Erosion Control Plan
4	Pipe Plan & Profile
5	8th Street Utilities Map
6	Utility Lowering
7	Utility Details
8-11	Inlet Structure Details
12	HDPE Pipe Connection Details
13	Proposed Trenching Details

----	PROPERTY LINE
----	SECTION LINE
x x	FENCE LINE
—OE—	OVERHEAD ELECTRIC LINES
—T—	EXISTING TELEPHONE
—G—	EXISTING GAS LINE
—W—	EXISTING WATERLINE
—E—	EXISTING POWER
----	EXISTING ROW
—SAN—	EXISTING SANITARY SEWER
—FO—	EXISTING FIBER OPTIC
=====	DIRT ROAD
=====	EXISTING WATER/DITCH
-----	EXISTING CONTOURS
=====	PROPOSED CONTOURS
=====	EXISTING SLURRY WALL
⊕	POWER POLE
=====	PROPOSED PIPE
Ⓢ	PROPOSED MANHOLE
=====	REGULATORY 100 YR FLOODPLAIN ZONE AE
=====	REGULATORY 100 YR FLOODPLAIN ZONE AO

PROJECT CONTROL COORDINATE TABLE				
PT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1399799.08	3232408.05	4632.84	12" SPIKE
377	1400908.07	3232391.25	4636.76	12" SPIKE

HORIZONTAL COORDINATES ARE BASED UPON THE COLORADO STATE PLANE COORDINATE SYSTEM, NORTH ZONE (0501) AND HAVE BEEN MODIFIED TO GROUND AROUND 0.00N, 0.00E BY A COMBINED FACTOR OF 1.00025724 OR 0999742826.

ALL ELEVATIONS ARE BASED UPON STATIC GPS OBSERVATIONS POST PROCESSED THROUGH THE JAVAD DATA PROCESSING ONLINE SERVICE (DPOS) RESULTING IN CONTROL POINT NO. 1 AS SHOWN HEREON, HAVING AN ELEVATION OF 4632.84 NAVD 88 (GEOID 18).

I hereby certify that these plans for the construction of the Derr Pit Pipeline were prepared by me or under my direct supervision for Broken Arrow Investments, LLC.

James C. York, P.E.
Colorado Registration No. 36846

[illegible]

P:\07123 Derr Gravel Pit\Drawings\Plan Sheets\2020 pipeline\01-JT-Derr Cover.dwg, 02 Greeley Construction Notes, 9/23/2022 1:56:23 PM

1. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY, OR EASEMENT SHALL CONFORM TO THE CITY OF GREELEY CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PERMIT FROM PUBLIC WORKS DEPARTMENT (970-350-9881) IS REQUIRED FOR ALL CONSTRUCTION IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. THE CONTRACTOR SHALL NOTIFY CONSTRUCTION SERVICES (970-350-9539) AT LEAST 24 HOUR PRIOR TO REQUIRED INSPECTION.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER/ DEVELOPER, AND THE CITY, OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
5. IT IS THE RESPONSIBILITY OF THE DEVELOPER DURING CONSTRUCTION ACTIVITIES TO RESOLVE CONSTRUCTION PROBLEMS DUE TO CHANGED CONDITIONS, OR DESIGN ERRORS ENCOUNTERED BY THE CONTRACTOR DURING THE PROGRESS OF ANY PORTION OF THE PROJECT. IF, IN THE OPINION OF THE CITY, THE MODIFICATIONS PROPOSED BY THE DEVELOPER, TO THE ACCEPTED PLANS, INVOLVE SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK, OR TO THE FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE DEVELOPER SHALL BE RESPONSIBLE FOR RE-SUBMITTING THE REVISED PLANS TO THE CITY OF GREELEY FOR ACCEPTANCE PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE PROJECT. ANY IMPROVEMENTS NOT CONSTRUCTED IN ACCORDANCE WITH THE ACCEPTED PLANS, OR THE ACCEPTED REVISED PLANS, SHALL BE REMOVED AND RECONSTRUCTED ACCORDING TO THE APPROVED PLAN.
6. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
7. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE GREELEY SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION SHALL BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A PROFESSIONAL LICENSED SURVEYOR (PLS) PRIOR TO DISTURBING ANY MONUMENTS.
9. PRIOR TO FINAL PLACEMENT OF SURFACE PAVEMENT, ALL UNDERGROUND UTILITY MAINS SHALL BE INSTALLED AND SERVICE CONNECTIONS STUBBED OUT BEYOND CURB LINE, WHEN ALLOWED BY THE UTILITY. SERVICE FROM PUBLIC UTILITIES AND FROM SANITARY SEWERS SHALL BE MADE AVAILABLE FOR EACH LOT IN SUCH A MANNER THAT WILL NOT BE NECESSARY TO DISTURB THE STREET PAVEMENT, CURB, GUTTER, AND SIDEWALK WHEN CONNECTIONS ARE MADE.
10. THE CONTRACTOR SHALL RESTRICT WORKING HOURS TO BETWEEN 7:00 AM AND 6:00 PM ON NORMAL CITY OF GREELEY BUSINESS DAYS UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE CITY.

3. BEDDING FOR ALL STORM DRAINS SHALL BE PER THE STANDARD STORM DRAIN BEDDING DETAILS 6-6 AND 6-7, UNLESS SPECIFIED OTHERWISE.
2. ALL STORM DRAINAGE CONSTRUCTION SHALL CONFORM TO THE CITY OF GREELEY'S MOST RECENT STORM DRAINAGE SPECIFICATIONS. A COPY OF THE SPECIFICATIONS MAY BE OBTAINED FROM THE CITY OR FOUND ON THE CITY'S WEB PAGE - [HTTP://GREELEYGOV.COM/SERVICES/PW/DESIGN-CRITERIA-AND-CONSTRUCTION-SPECIFICATIONS](http://greeleygov.com/services/pw/design-criteria-and-construction-specifications)
3. RCP SHALL HAVE FLEXIBLE GASKET MATERIAL (WATER TIGHT RUBBER GASKETS) MEETING ASTM C443 AND BELL AND SPIGOT JOINTS. DUCTILE IRON PIPE SHALL BE POLY-WRAPPED IN ACCORDANCE WITH AWWA STANDARD C-105.
4. BACKFILL MATERIAL MAY BE LOCAL SITE MATERIAL THAT IS WELL-GRADED, NON-COHESIVE GRANULAR MATERIAL FREE OF ROCKS, FROZEN LUMPS, FOREIGN MATERIAL OR STONES GREATER THAN 3" IN ANY DIMENSION; AGGREGATE BASE COURSE; OR FLOWFILL. REMOVE ALL DEBRIS INCLUDING SODA CANS, RAGS, PIPE BANDING MATERIAL, ETC. FROM THE PIPE TRENCH BEFORE BACKFILLING.
5. ALL AREAS IMPACTED BY THE CONSTRUCTION SHALL BE CLEARED OF PROJECT GENERATED DEBRIS BY THE CONTRACTOR AT THE EARLIEST OPPORTUNITY, BUT IN NO CASE SHALL ANY ROADS OR WALKWAYS BE LEFT UNCLEAR AFTER THE COMPLETION OF THE DAY'S WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIAL TO SATISFACTORILY CLEAN THE ROADWAYS.
6. THE CONTRACTOR SHALL BE REQUIRED TO STREET SWEEP IMPACTED STREETS DAILY, IF THE CITY DEEMS IT NECESSARY, TO KEEP THE STREETS FREE OF MUD AND OTHER DEBRIS DUE TO HAULING OPERATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIALS TO SATISFACTORILY CONTROL DUST AT ALL TIMES, AND AS DIRECTED BY THE CITY. WATER SHALL BE USED AS THE DUST PALLIATIVE WHERE REQUIRED. THE CONTRACTOR SHALL FURNISH AND SPREAD WATER AT NO ADDITIONAL COST TO THE PROJECT.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE CITY OF GREELEY'S PUBLIC WORKS DEPARTMENT.
9. THE CONTRACTOR IS REQUIRED TO HAVE A CURRENT CITY OF GREELEY CONTRACTOR'S LICENSE TO PERFORM ANY WORK IN THE PUBLIC RIGHT-OF-WAY OR EASEMENTS.
10. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PERMIT FROM PUBLIC WORKS IS REQUIRED FOR ALL CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY OR EASEMENTS. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED.
11. FEES WILL BE WAIVED ON CITY INITIATED STORMWATER PROJECTS.
12. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR ALL CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS (7 AM-6 PM). THE DUTY OF THE CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
13. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE GREELEY SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL.
14. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INCLUDING BUT NOT LIMITED TO ATMOS ENERGY; CENTURY LINK; XCEL ENERGY; COMCAST CABLE; AND THE CITY OF GREELEY'S WATER AND SEWER DEPARTMENT, PRIOR TO COMMENCING CONSTRUCTION, TO HAVE ALL EXISTING LINES AND CONDUITS FIELD LOCATED.
15. THE SIZE, TYPE, AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO LOCATE ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK BEFORE COMMENCING CONSTRUCTION.

1. ALL CONSTRUCTION WORK TO BE ACCEPTED BY THE CITY SHALL CONFORM TO THE CITY OF GREELEY CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.
2. ALL OVER LOT GRADING IN THE RIGHT-OF-WAY OR EASEMENT SHALL BE COMPLETED PRIOR TO INSTALLING POTABLE WATER, SANITARY SEWER, OR NON-POTABLE IRRIGATION LINES.
3. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 OR DIAL 811 FOR UTILITY LOCATES 48 HOURS PRIOR TO ANY EXCAVATION WORK.
4. MAINTAIN A MINIMUM OF TEN (10) FEET HORIZONTAL CLEAR DISTANCE SEPARATION BETWEEN POTABLE WATER MAINS/SERVICES AND SANITARY SEWER OR NON-POTABLE IRRIGATION MAINS/SERVICES. POTABLE WATER MAINS/SERVICES ARE TO BE LOCATED 18-INCHES MINIMUM ABOVE THE SANITARY SEWER OR NON-POTABLE IRRIGATION MAINS/SERVICES. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS AND THE SANITARY SEWER OR NON-POTABLE MAINS/SERVICES CANNOT BE LOCATED BELOW THE WATER MAIN OR SERVICE, A CLEAR VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BELOW CANNOT BE MAINTAINED, OR A MINIMUM TEN (10) FOOT HORIZONTAL SEPARATION CANNOT BE ACHIEVED, THE CITY SHALL BE CONTACTED IMMEDIATELY TO REVIEW THE SITUATION.
5. IN ALL INSTANCES WHERE A WATER LINE LOWERING, POTABLE OR NON-POTABLE, IS REQUIRED DUE TO UNFORESEEN FIELD CONDITIONS, A DETAILED DRAWING SHALL BE PROVIDED TO THE CITY FOR ACCEPTANCE PRIOR TO PERFORMING THE WORK.
6. WHERE POTABLE WATER, SANITARY SEWER, AND NON-POTABLE IRRIGATION LINES ARE LOCATED IN COMMON UTILITY EASEMENT AREAS, THERE SHALL BE NO OTHER UTILITIES LOCATED HORIZONTALLY WITHIN TEN (10) FEET OF EITHER LINE EXCEPT AT APPROVED CROSSINGS.
7. CONTRACTOR SHALL NOTIFY THE CITY ONE (1) WEEK PRIOR TO COMMENCING WORK AFTER CITY ACCEPTED CONSTRUCTION DRAWINGS HAVE BEEN DISTRIBUTED AND A PRECONSTRUCTION MEETING HAS BEEN HELD WITH THE CITY.
8. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES TO BE CROSSED BY POTABLE WATER, SANITARY SEWER, OR NON-POTABLE IRRIGATION LINES AT LEAST 24 HOURS PRIOR TO CROSSING TO ENSURE 18" MINIMUM CLEARANCE FOR OPEN CUT CROSSINGS AND 36" MINIMUM CLEARANCE FOR BORED CROSSINGS. HORIZONTAL AND VERTICAL LOCATION OF CROSSED EXISTING UTILITIES SHALL BE RECORDED ON THE AS-CONSTRUCTED RECORD DRAWINGS.
9. SHOULD ANY VARIATIONS BEFORE OR DURING CONSTRUCTION TO THE POTABLE WATER DISTRIBUTION, SANITARY SEWER COLLECTION, OR NON-POTABLE IRRIGATION SYSTEM DESIGNS BE CONSIDERED, NOTICE MUST FIRST BE GIVEN TO THE CITY TO DETERMINE IF IT NEEDS ACCEPTANCE BY THE CITY. IF SO, A NEW PLAN SHALL BE DRAWN AND SUBMITTED TO THE CITY FOR ACCEPTANCE BY THE DESIGN ENGINEER 72 HOURS PRIOR TO CONSTRUCTION.
10. FINAL CONSTRUCTION PLANS ARE VALID FOR CONSTRUCTION ONE (1) YEAR FROM THE DATE OF CITY SIGNATURE ACCEPTANCE.
11. ALL POTABLE WATER MAINS, SERVICES, AND HYDRANT LINES SHALL HAVE A MINIMUM COVER OF FIVE (5) FEET AND A MAXIMUM COVER OF SIX (6) FEET UNLESS OTHERWISE INDICATED ON THE ACCEPTED CONSTRUCTION DRAWINGS.
12. ALL NON-POTABLE WATER MAINS AND SERVICES SHALL HAVE A MINIMUM COVER OF THREE AND A HALF (3.5) FEET AND A MAXIMUM COVER OF SIX (6) FEET UNLESS OTHERWISE INDICATED ON THE ACCEPTED CONSTRUCTION DRAWINGS.
13. ALL NEW WATER MAINS SHALL BE BULKHEADED AND TESTED AND APPROVED PRIOR TO CONNECTION TO THE EXISTING WATER SYSTEM. VALVES WHICH PASS TESTING FOR PRESSURE AND LEAKAGE AT THE TIME OF INSTALLATION AND THE TESTING WAS PERFORMED IN THE PRESENCE OF THE CITY MAY BE CONSIDERED AS A BULKHEAD.
14. VERIFICATION SURVEY – TOP OF PIPE ELEVATIONS AT ALL POTABLE AND NON-POTABLE WATER LINE VALVES, AND SANITARY SEWER MANHOLE INVERTS SHALL BE SURVEYED AND PROVIDED TO THE CITY BY THE DESIGN ENGINEER FOR ACCEPTANCE PRIOR TO PAVING CONSTRUCTION. THE VERIFICATION SURVEY SHALL ALSO PROVIDE SEWER PIPE SLOPES AND LENGTH AND PROPOSED FINISHED GROUND ELEVATIONS AT ALL VALVE BOXES AND MANHOLE RIM ELEVATIONS.
15. ALL UTILITY CONDUIT CROSSINGS OF POTABLE WATER, SANITARY SEWER AND NON-POTABLE IRRIGATION LINES SHALL BE ENCASED IN HIGH DENSITY POLYETHYLENE (HDPE) PIPE, WITH A MINIMUM STANDARD DIMENSION RATIO (SDR) 11 ACROSS THE ENTIRE EASEMENT OR RIGHT-OF-WAY WIDTH. THE ENCASEMENT JOINT SHALL BE BUTT FUSED. FLEXIBLE JOINTS ARE NOT ALLOWED.
16. WET TAPS SHALL BE DRILLED BY THE CITY FOR A FEE. CALL 970-350-9810 AT LEAST 48 HOURS IN ADVANCE TO PAY FEES AND SCHEDULE TAP.
17. ABANDONMENT OF EXISTING WATER SERVICE SHALL BE PER CITY OF GREELEY WATER AND SEWER SPECIFICATIONS. A CITY OF GREELEY REPRESENTATIVE MUST BE PRESENT DURING ABANDONMENT OF SERVICES.
18. PRIOR TO EXCAVATION AND CONSTRUCTION OVER AND NEAR THE EXISTING WATER AND SEWER MAINS, PLEASE CONTACT THE WATER AND SEWER DEPARTMENT RIGHT-OF-WAY STAFF AT (970) 350-9539, TO COMPLETE THE APPLICABLE DOCUMENTATION TO WORK WITHIN THE RIGHT OF WAY AND EASEMENTS.
19. AN A.S.S.E. APPROVED BACKFLOW PREVENTION ASSEMBLY IS REQUIRED ON EACH DOMESTIC WATER SERVICE LINE (WATER SERVICE, DEDICATED FIRE LINE, IRRIGATION SERVICE) IMMEDIATELY AFTER IT ENTERS THE BUILDING. INSTALLATION OF A BACKFLOW PREVENTION ASSEMBLY IS REQUIRED BY FEDERAL AND STATE HEALTH REGULATIONS. THE BACKFLOW PREVENTION ASSEMBLY SHALL BE A REDUCED PRESSURE ZONE (RPZ) DEVICE AND SHALL BE LOCATED NEAR A FLOOR DRAIN. THIS ASSEMBLY MUST BE TESTED BY A CERTIFIED TESTER UPON INSTALLATION AND THEREAFTER ON AN ANNUAL BASIS TO COMPLY WITH CITY CODE AND STATE HEALTH DEPARTMENT REGULATIONS.

THE FOLLOWING LINK PROVIDES A LIST OF CERTIFIED TESTERS FOR BACKFLOW ASSEMBLIES:
[HTTPS://GREELEYGOV.COM/DOCS/DEFAULT-SOURCE/WATER/CERTIFIED-BACKFLOW-TESTERS.PDF](https://greeleygov.com/DOCS/DEFAULT-SOURCE/WATER/CERTIFIED-BACKFLOW-TESTERS.PDF)

BACKFLOW ASSEMBLY TEST AND MAINTENANCE REPORTS CAN BE MAILED TO THE CITY OF GREELEY WATER AND SEWER DEPARTMENT AT 1001 11TH AVE, 2ND FLOOR, GREELEY, CO 80631, FROM 970-350-9805, OR EMAILED TO DEREK.HANNON@GREELEYGOV.COM. ALL BACKFLOW TEST REPORTS MUST BE PROVIDED TO THE WATER AND SEWER DEPARTMENT UPON INSTALLATION AND THEREAFTER ON AN ANNUAL BASIS.

1. ALL EASEMENTS AND RIGHTS-OF-WAY CROSSING THE CITY OF GREELEY EASEMENT ARE SUBJECT TO THE RIGHTS OF SAID CITY OF GREELEY EASEMENT.
2. THERE SHALL BE NO PERMANENT STRUCTURES, CONCRETE SLABS, DETENTION PONDS, FENCES, WALLS, TREES, OR OTHER LANDSCAPING OR BERMS GREATER THAN 3 FEET AT MATURE GROWTH, OR OTHER OBSTRUCTIONS WITHIN THE CITY OF GREELEY EASEMENT. NO COVER SHALL BE REMOVED AND/OR ADDED WITHOUT WRITTEN PERMISSION FROM CITY OF GREELEY WATER ENGINEER.
3. THERE SHALL BE NO OTHER UTILITIES WITHIN THE CITY OF GREELEY EASEMENT EXCEPT AT RIGHT ANGLE CROSSINGS AND UNLESS PREVIOUSLY APPROVED BY THE CITY OF GREELEY WATER & SEWER DEPARTMENT. ALL PLANS SHALL BE SUBMITTED DURING THE DESIGN PHASE AT LEAST TWO WEEKS PRIOR TO CONSTRUCTION AND SHALL SHOW POTHOLE LOCATIONS AND ELEVATIONS IN PLAN AND PROFILE VIEW. GREELEY WATER & SEWER WILL ISSUE APPROPRIATE CROSSING APPROVAL.
4. IN THE EVENT THAT EXCAVATION IS REQUIRED FOR THE CITY OF GREELEY WATER PIPELINES DUE TO WATER PIPELINE REPAIRS, REPLACEMENT OR OTHER OPERATIONS, THE EXCAVATION WILL BE BACKFILLED SAFELY BUT SURFACE RESTORATION WILL NOT BE DONE BY/OR AT THE EXPENSE OF THE CITY OF GREELEY.
5. GREELEY WATER PIPELINE LOCATIONS ARE APPROXIMATE, CONTACT THE TRANSMISSION LINE TECHNICIAN AT 970-350-9320 72 HOURS IN ADVANCE OF ANY LOCATE REQUEST OR ANY CONSTRUCTION ACTIVITIES WITHIN THE GREELEY WATER PIPELINE EASEMENT.
6. THERE SHALL BE NO VIBRATORY OR HEAVY SHEEPPFOOT COMPACTION WITHIN 20 FEET OF THE EXISTING WATER TRANSMISSION PIPELINE. STATIC COMPACTION EQUIPMENT SHALL BE USED.
7. GREELEY PIPELINES ARE TO HAVE A MINIMUM OF SIX (6) FEET OF COVER AT ALL LOCATIONS TO BE USED AS A LAND BRIDGE DURING ANY CONSTRUCTION ACTIVITIES.
8. GREELEY WATER LINE SUPPORT AT CROSSINGS SHALL BE INCORPORATED INTO THE DESIGN IF PROPOSED UTILITY CROSSING IS BELOW THE WATER LINE USING OPEN TRENCH CONSTRUCTION.
9. ANY IRRIGATION LINES AND/OR SPRINKLER SYSTEMS LOCATED WITHIN GREELEY EASEMENT REQUIRES CONTRACTOR TO PROVIDE GREELEY A FULL SET OF LANDSCAPING & IRRIGATION/SPRINKLER SYSTEM PLANS FOR REVIEW AND APPROVAL. PLANS TO BE PROVIDED A MINIMUM OF 2 WEEKS PRIOR TO CONSTRUCTION. VALVE BOXES ARE NOT TO BE LOCATED WITHIN GREELEY'S EASEMENT.
10. ANY WORK TO BE DONE ON CITY OF GREELEY WATERLINE(S) SHALL CONFORM TO CURRENT CITY OF GREELEY SPECIFICATIONS.

1. INSPECTION OF ALL EROSION AND SEDIMENT CONTROL BMP'S SHALL BE REQUIRED AT THE END OF EACH DAY'S WORK, WITH NECESSARY MAINTENANCE AND REPAIRS PROVIDED IMMEDIATELY.
2. STORM DRAIN INLETS SHALL BE PROTECTED FROM THE ENTRY OF SEDIMENT-LADEN WATER UNTIL FINAL STABILIZATION IS COMPLETE.

1. RESTORATION OF ANY AREAS DISTURBED BY THE PROPOSED GRADING ACTIVITIES SHALL BE DONE IN COMPLIANCE WITH THE REQUIREMENTS OUTLINED IN SECTION 14 – VEGETATION & IRRIGATION OF THE STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION STANDARDS.
2. CITY OF GREELEY REPRESENTATIVE SHALL BE ON SITE DURING ALL SEEDING ACTIVITIES TO INSPECT THE CONDITIONS AND ENSURE COMPLIANCE WITH THE STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION STANDARDS.
3. TO SCHEDULE THIS REQUIRED INSPECTION, PLEASE CALL (970) 350-9539 AT LEAST 48 HOURS IN ADVANCE OF THE SEEDING ACTIVITIES.
4. ALL SEED BAGS TAGS MUST BE TURNED IN TO THE CITY OF GREELEY STORMWATER REPRESENTATIVE.

[illegible]

	SILT FENCE
	SLOPE & SWALE PROTECTION
	VEHICLE TRACKING CONTROL

SLOPE & SWALE PROTECTION, SILT FENCE, &
VEHICLE TRACKING CONTROL TO BE PER CITY
OF GREELEY STORMWATER EROSION CONTROL
STRUCTURES DETAILS 12-1 & 12-2.

ACCEPTED BY: _____ DATE _____

ACCEPTED BY: _____ DATE _____

PROFESSIONAL
ENGINEER

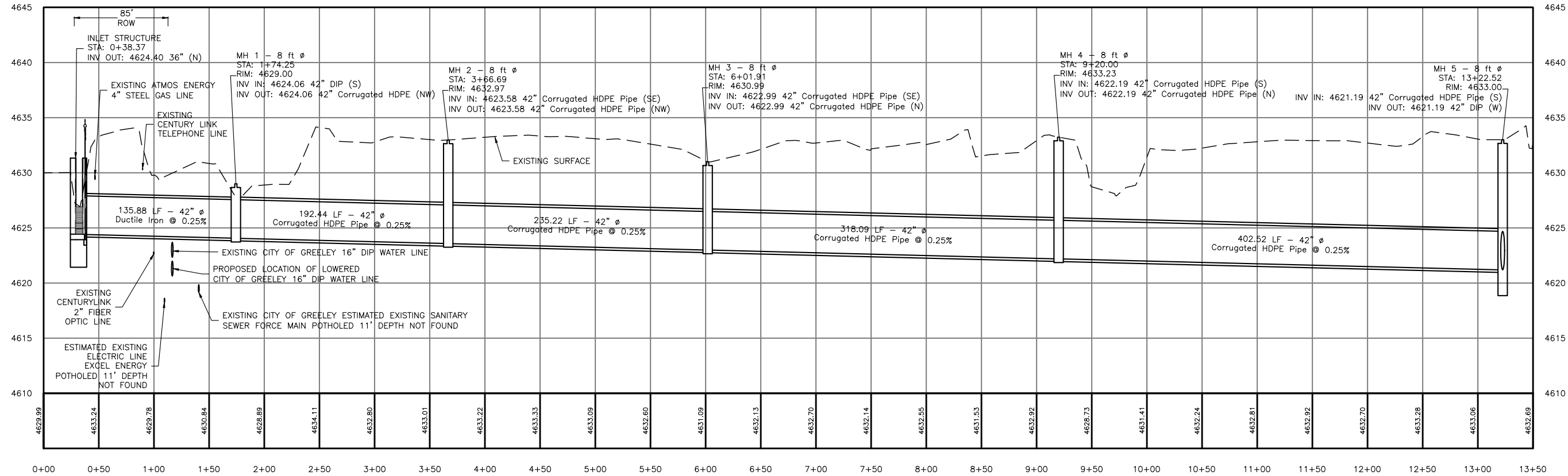
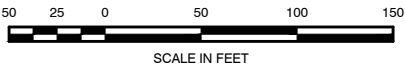


Note:
Total Disturbed Area: 2.72 Acres

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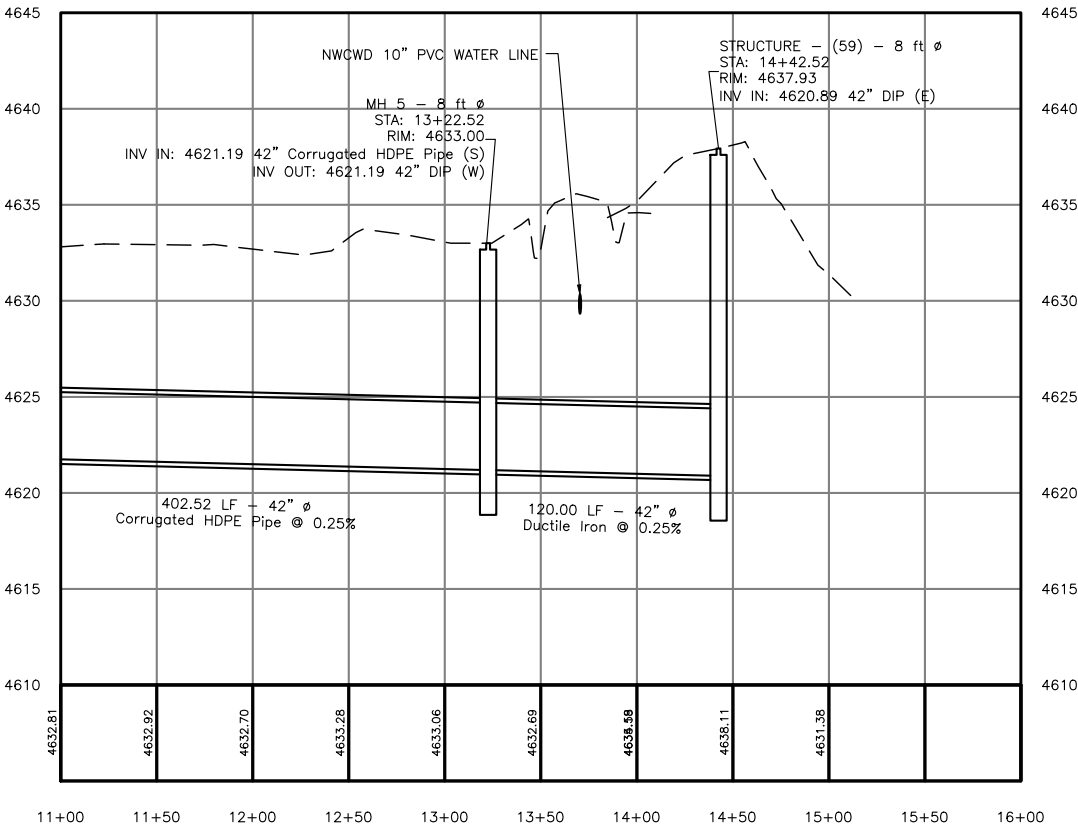
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Designed By	TPY
Checked By	JCY
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REVISIONS				Description
No.	Date	By	Chk	TPY
1	9/14/22	TPY	JCY	

Job No.	07123
Date	6.27.22
Drawn By	KJS
Designed By	TPY
Checked By	JCY
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Scale	As Shown

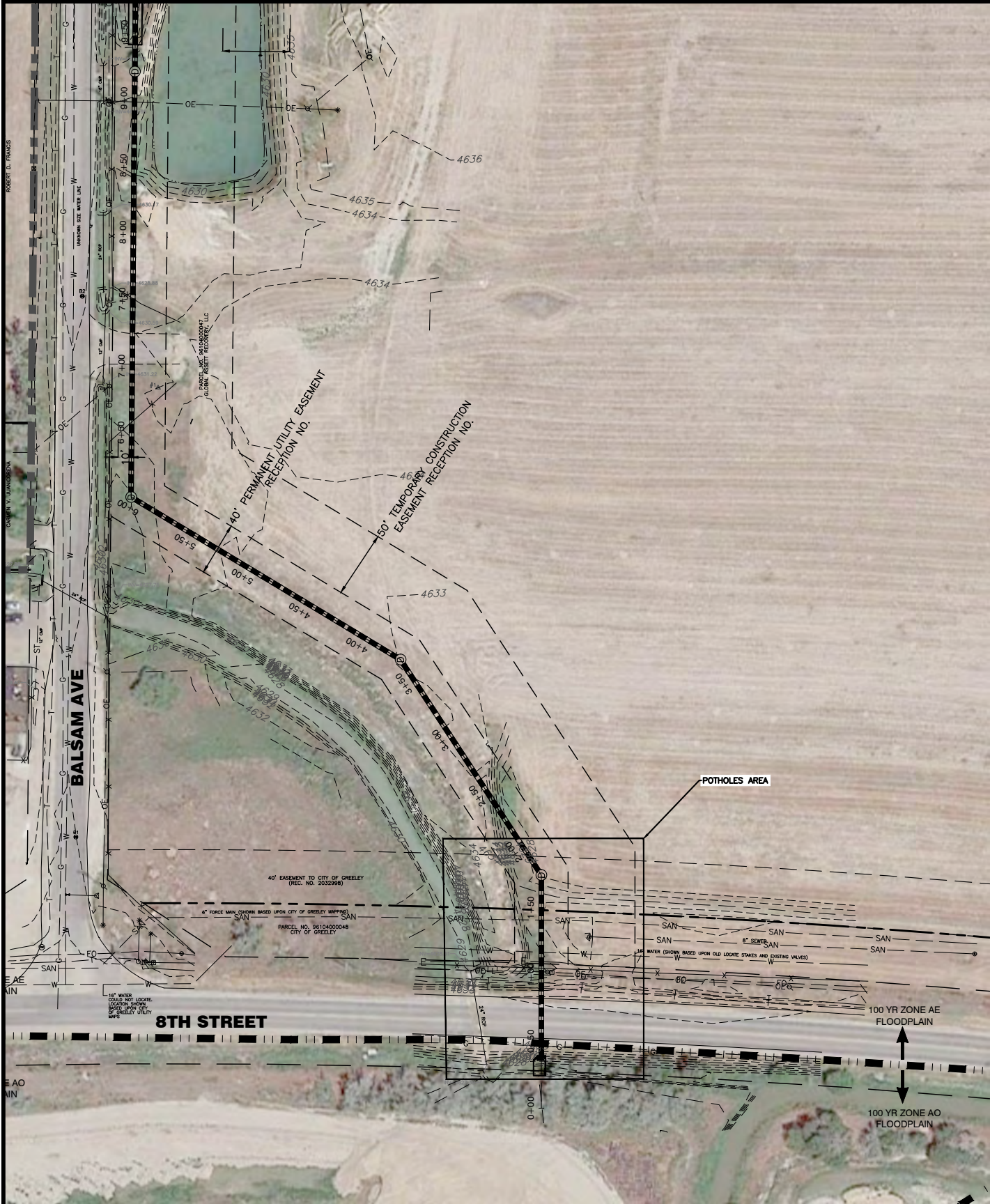


Derr Pit Pipeline

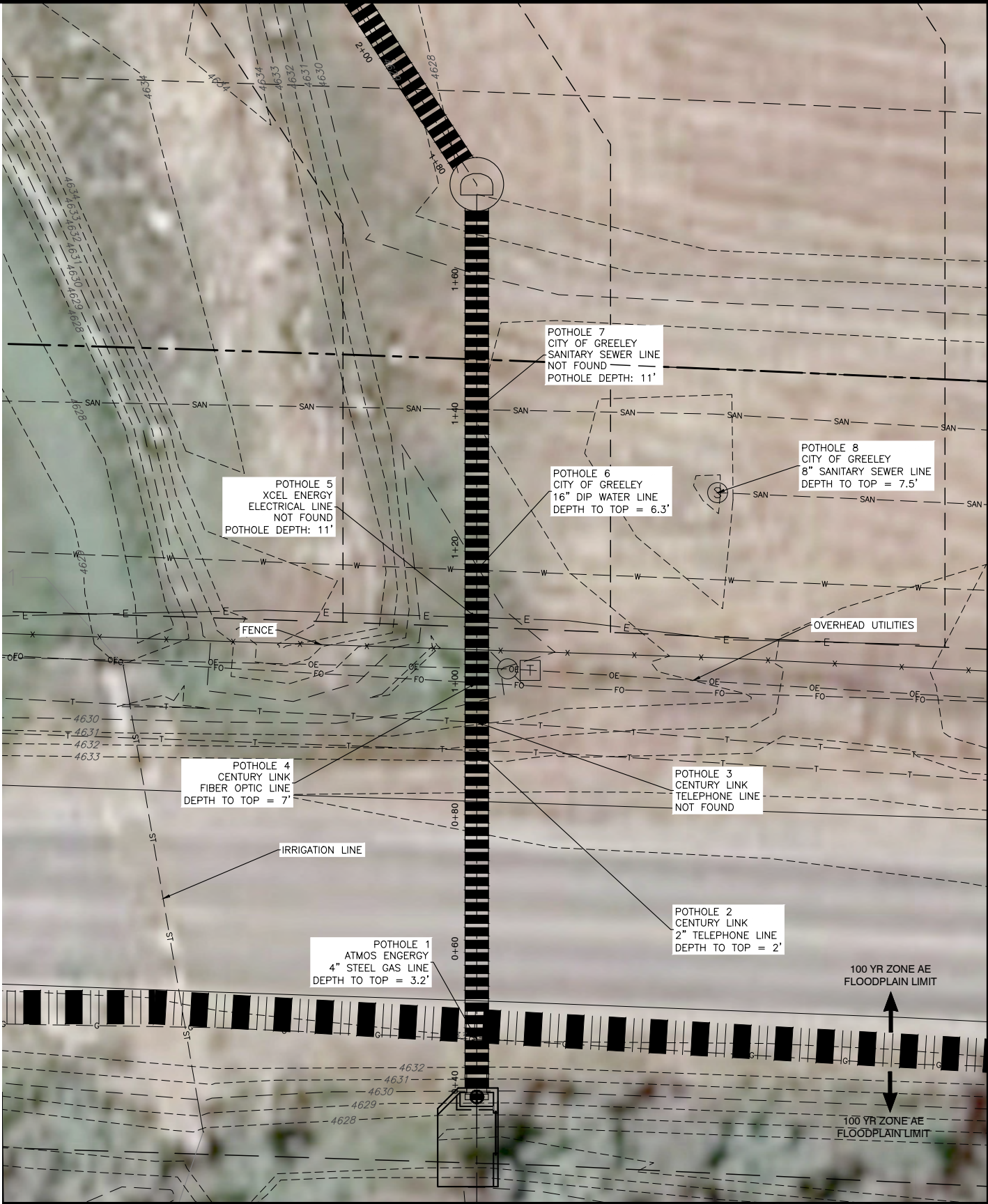
Broken Arrow Investments, LLC

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Job #	07123
Date	6.27.22
Drawn By	KJS
Designed By	TPY
Checked By	JCY
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Scale	As Shown



UTILITIES VICINITY MAP
SCALE 1" = 50'



UTILITIES MAP
SCALE 1" = 10'

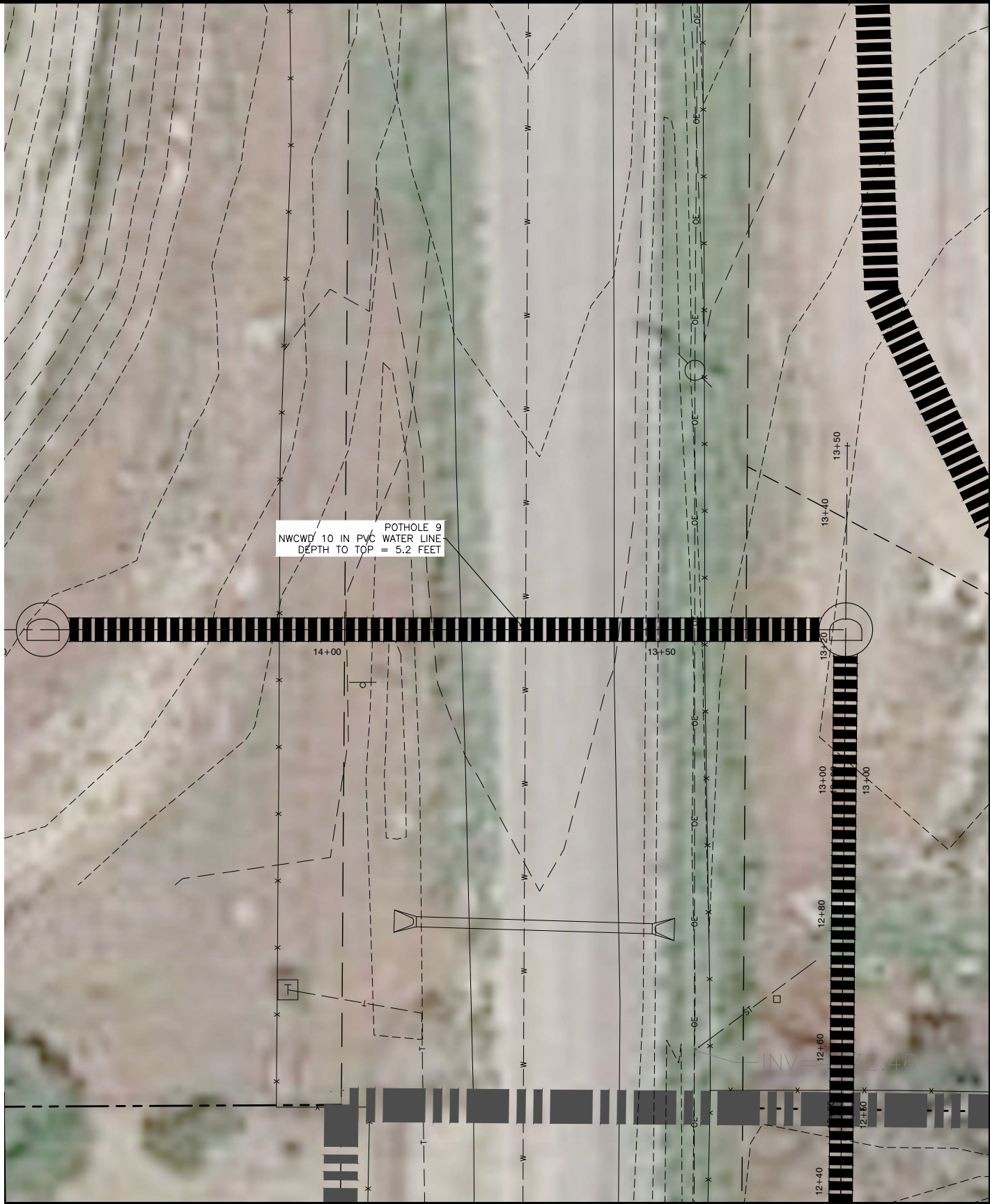


REVISIONS		Description	
No.	Date	By	Chk
1	9/14/22	TPY	JCY

Job #	07123
Date	6.27.22
Drawn By	KJS
Designed By	TPY
Checked By	JCY
File	JT-Pipeline.dwg
Scale	As Shown

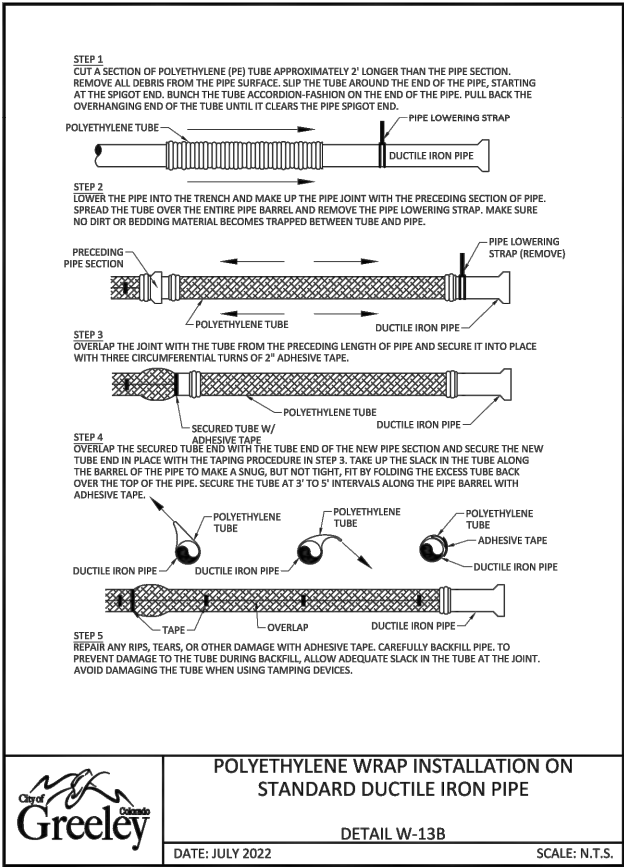
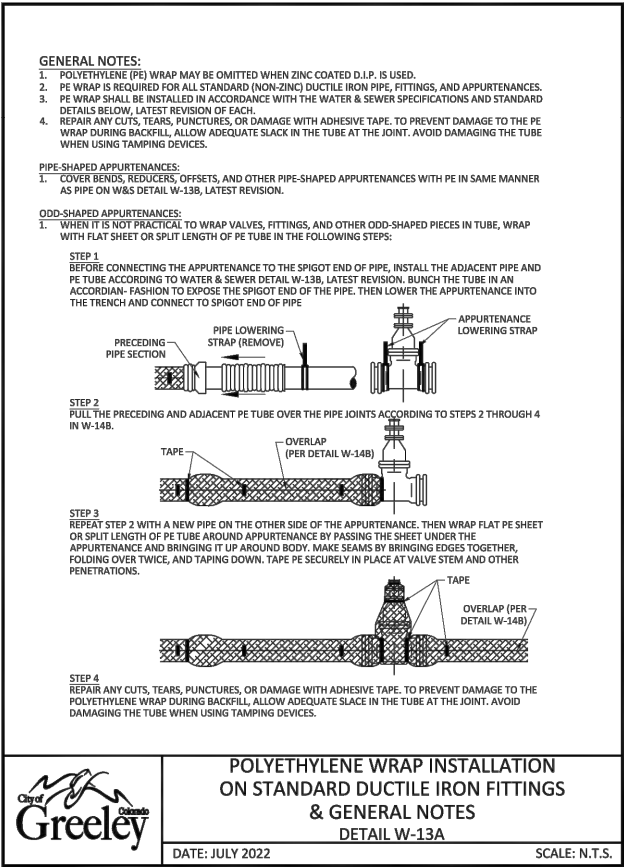
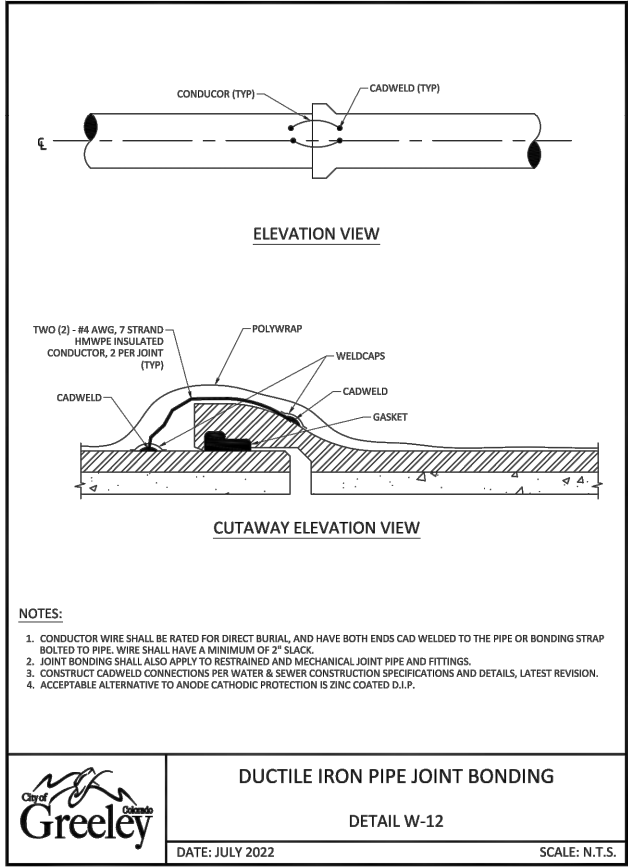
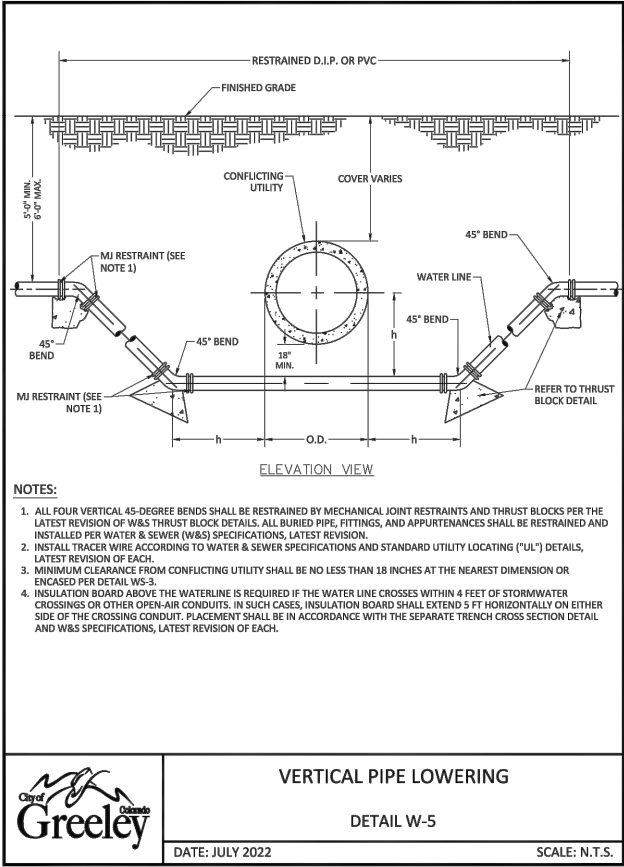
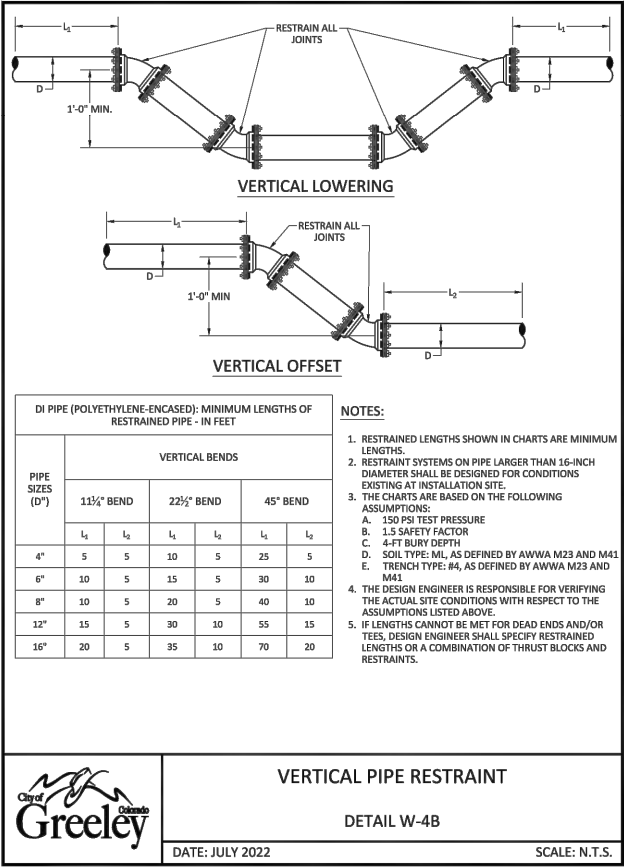
50 25 0 50 100 150

SCALE IN FEET



10 5 0 10 20 40

SCALE IN FEET



J&T Consulting, Inc.

305 Denver Avenue - Suite D

Fort Lupton, CO 80621

Ph: 303-857-6222 Fax: 303-857-6224

www.jtconsulting.com

Derr Pit Pipeline

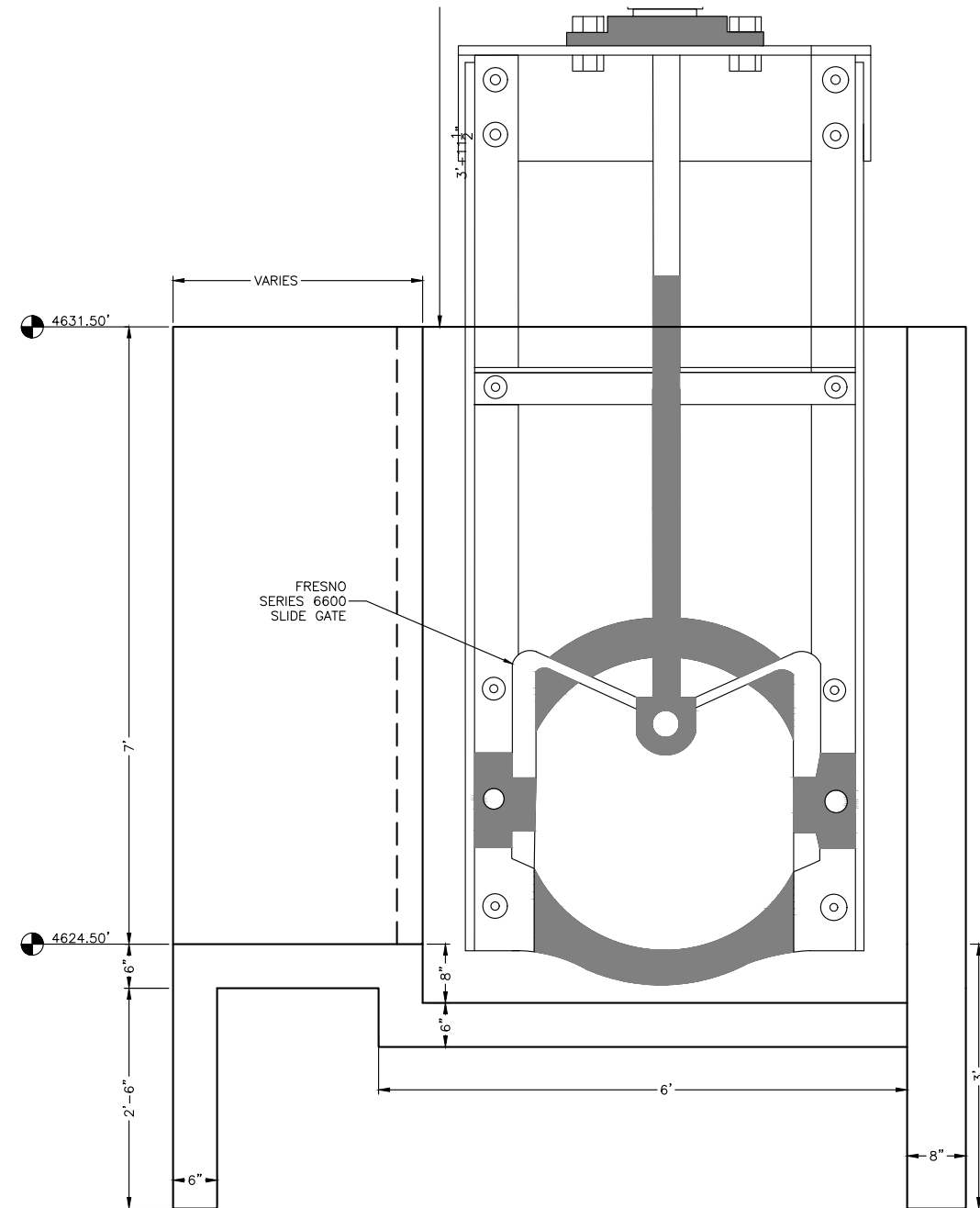
Broken Arrow Investments, LLC

Utility Details

REVISONS	
No	Description
1	9/14/22 TPY JCY

Job #	07123
Date	6.27.22
Drawn By	KJS
Designed By	TPY
Checked By	JCY
File	JT-Pipeline.dwg
Scale	As Shown

Sheet: 09 of: 15



J&T Consulting, Inc.

Derr Pit Pipeline

Inlet Structure Details 1

Broken Arrow Investments, LLC

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Job #	07123
Date	6.27.22
Drawn By	KJS
Designed By	TPY
Checked By	JCY
File	JT-Pipeline.dwg
Scale	As Shown

Sheet: **010** Of: **15**

#5 @ 12" ON CENTER,
EACH WAY, CENTERED IN WALL,
ALL WALLS

#5 @ 12" ON CENTER,
EACH WAY CENTERED IN FLOOR

2'-6" X #5 @ 12" ON CENTER ALL CORNERS
& WALL TO FLOOR CONNECTIONS

3" CLR

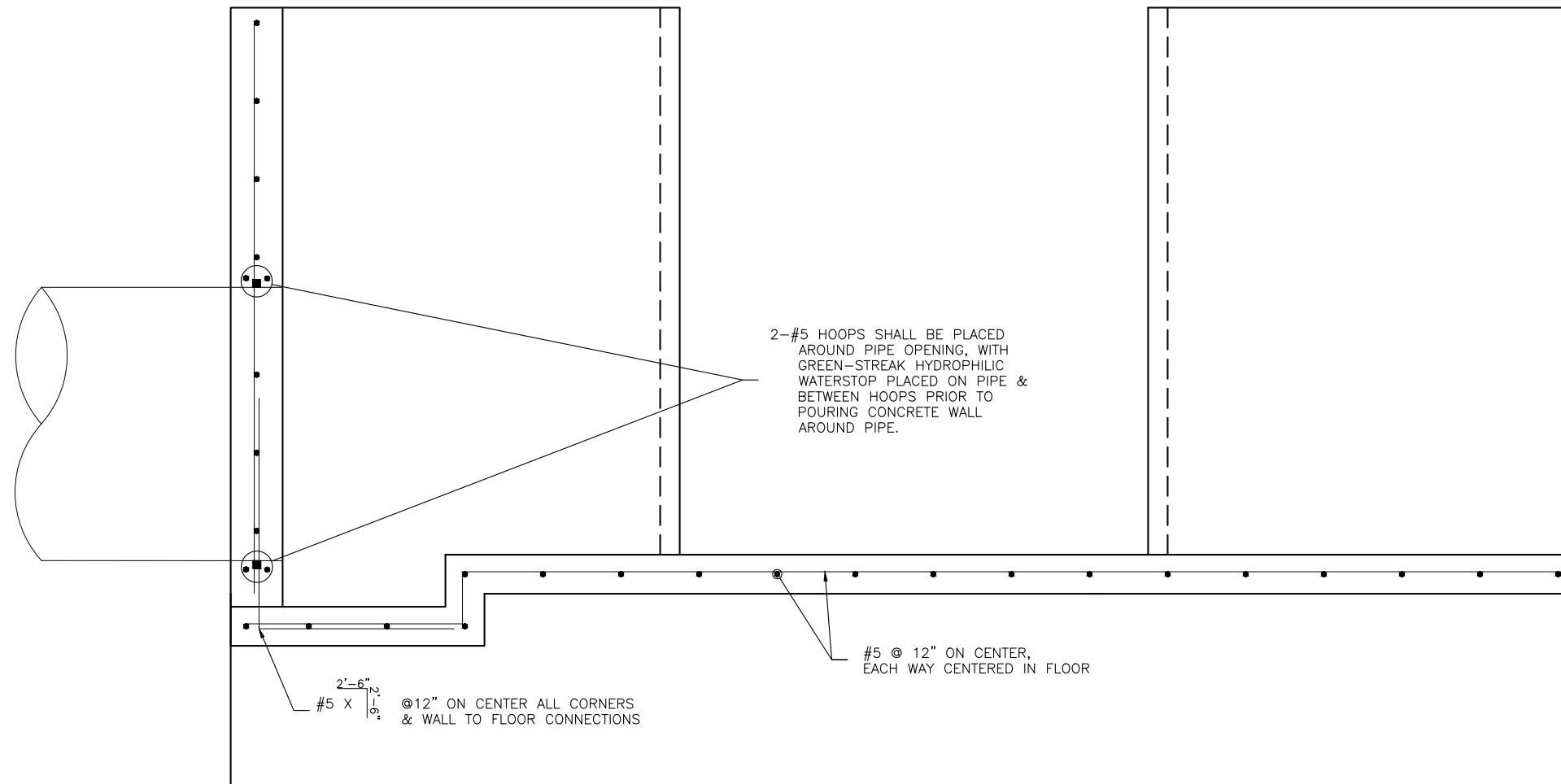
8"

SECTION A-A
SCALE 1" = 1'

SUBGRADE UNDER ALL CONCRETE TO BE SCARIFIED AND RECOMPACTED TO MIN 95% STANDARD PROCTOR MAXIMUM DRY DENSITY AT $\pm$ 2% OPTIMUM MOISTURE.

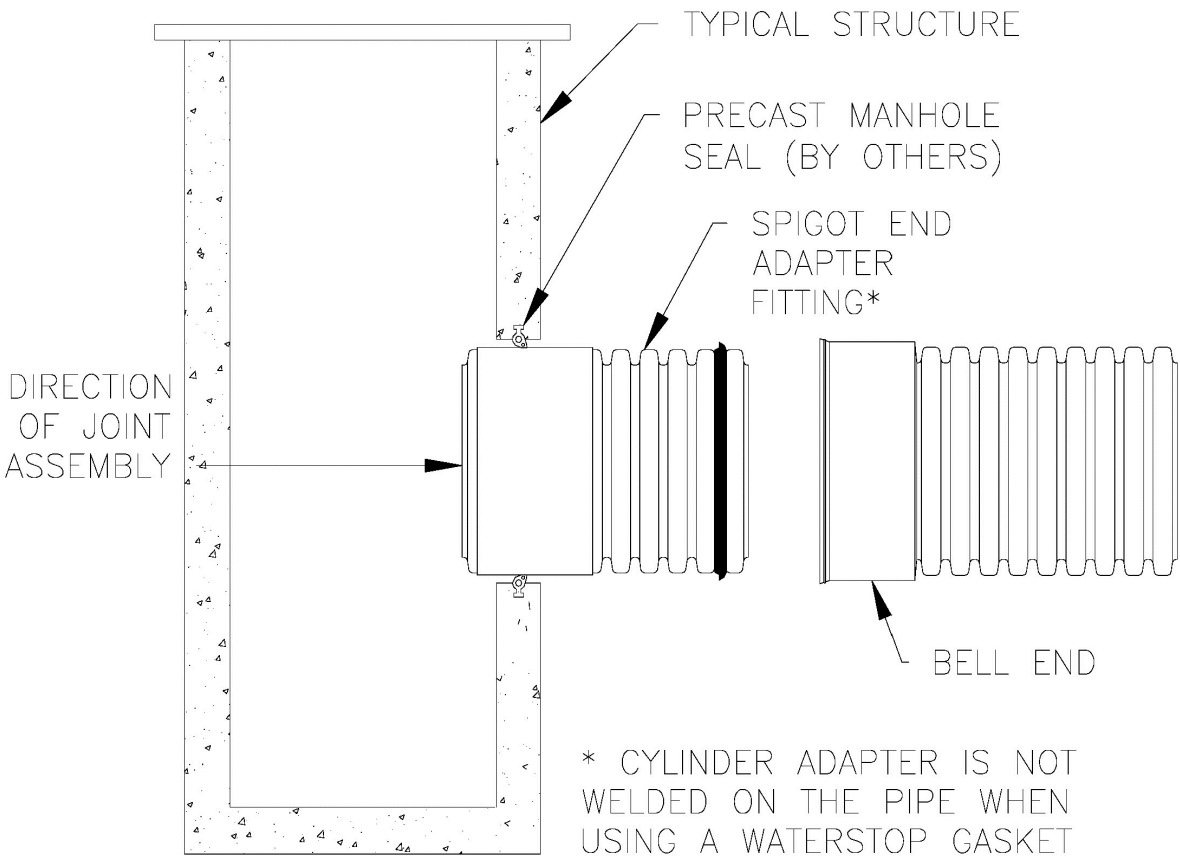
ALL CONCRETE TO BE CDOT CLASS D

CONTRACTOR TO SUBMIT SHOP DRAWING FOR APPROVAL PRIOR
TO CONSTRUCTING THE INLET STRUCTURE.

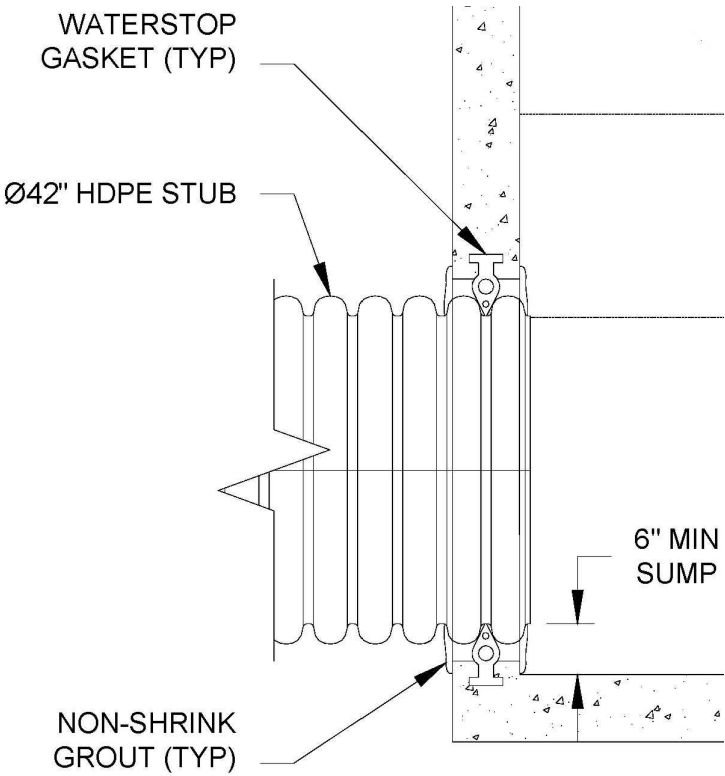


SECTION B-B
SCALE 1" = 1'

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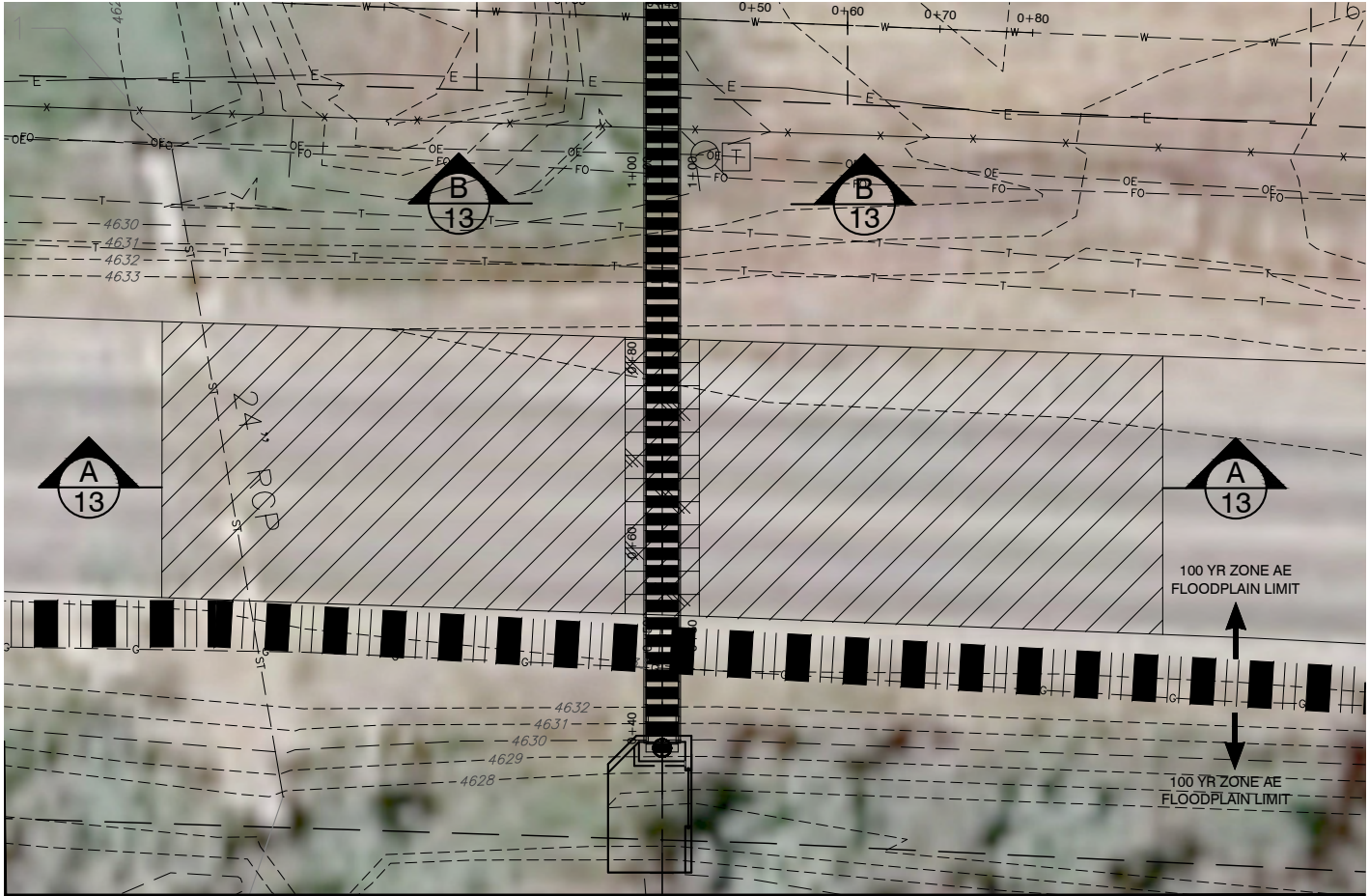
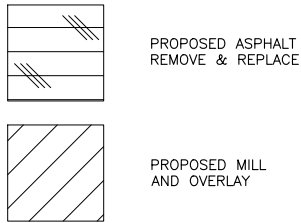
TYPICAL HDPE/MANHOLE CONNECTION



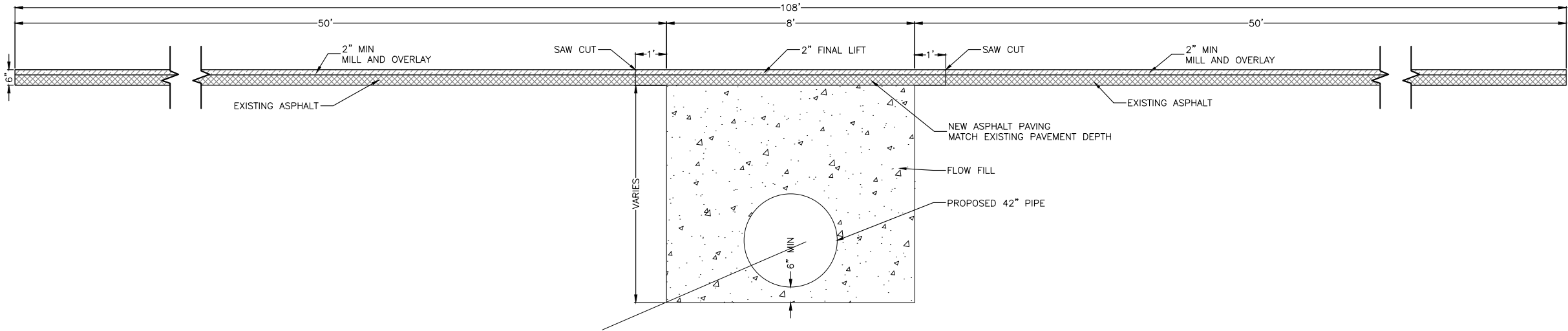
TYPICAL HDPE/OUTLET STRUCTURE CONNECTION

REVISIONS		Description	
No	Date	By	Chk
1	9.14.22	TPY	JCY

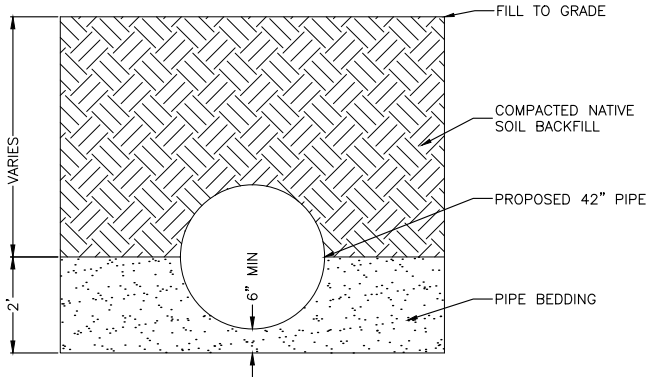
P:\07123 Derr Gravel Pit\Drawings\Plan Sheets\2020 pipeline\JT-Pipeline\0.25 slope.dwg, 015 Proposed Trenching Details, 9/23/2022 1:56:52 PM



TRENCHING PLAN VIEW
SCALE 1" = 10'



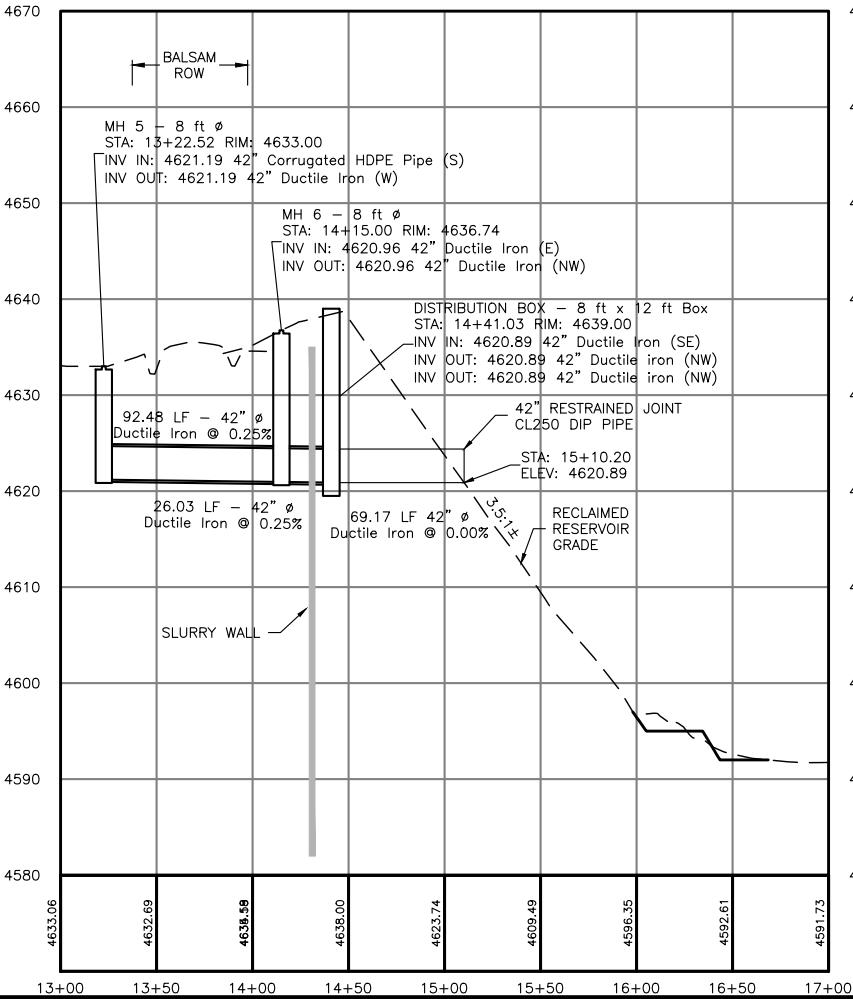
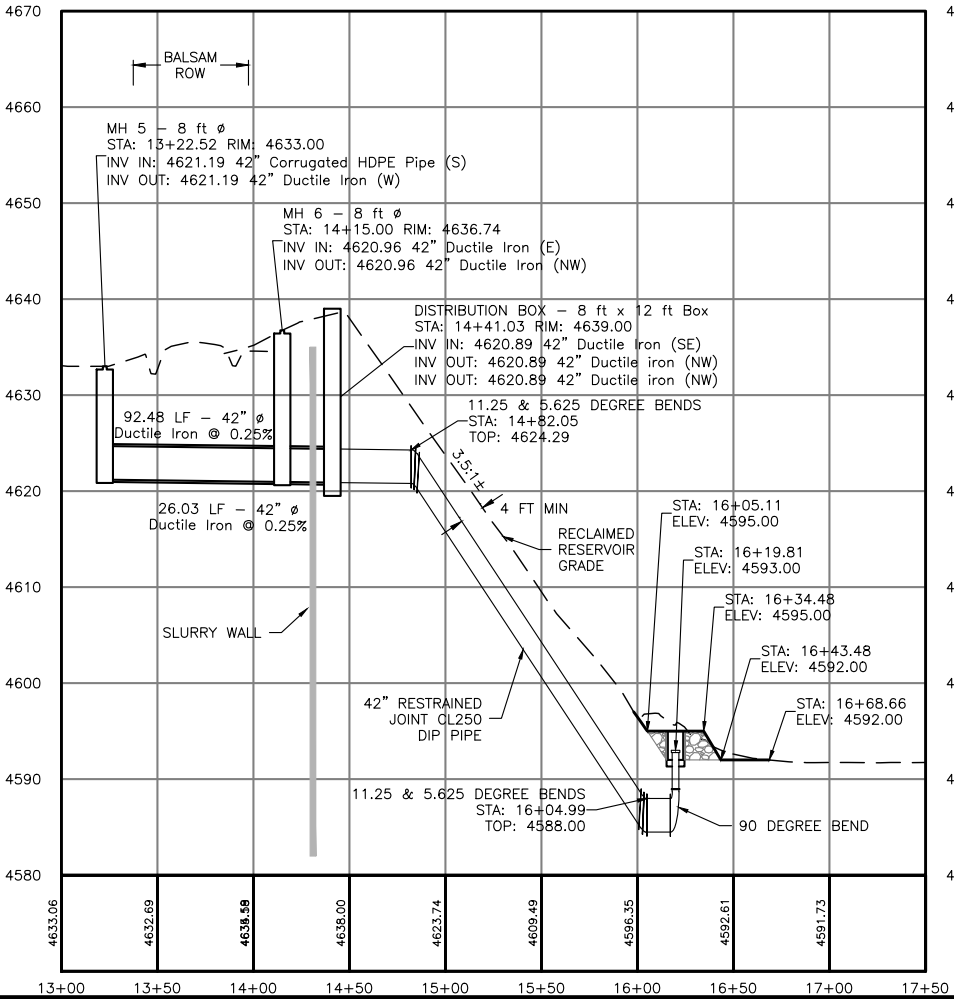
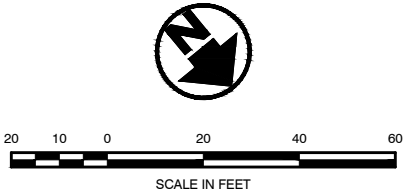
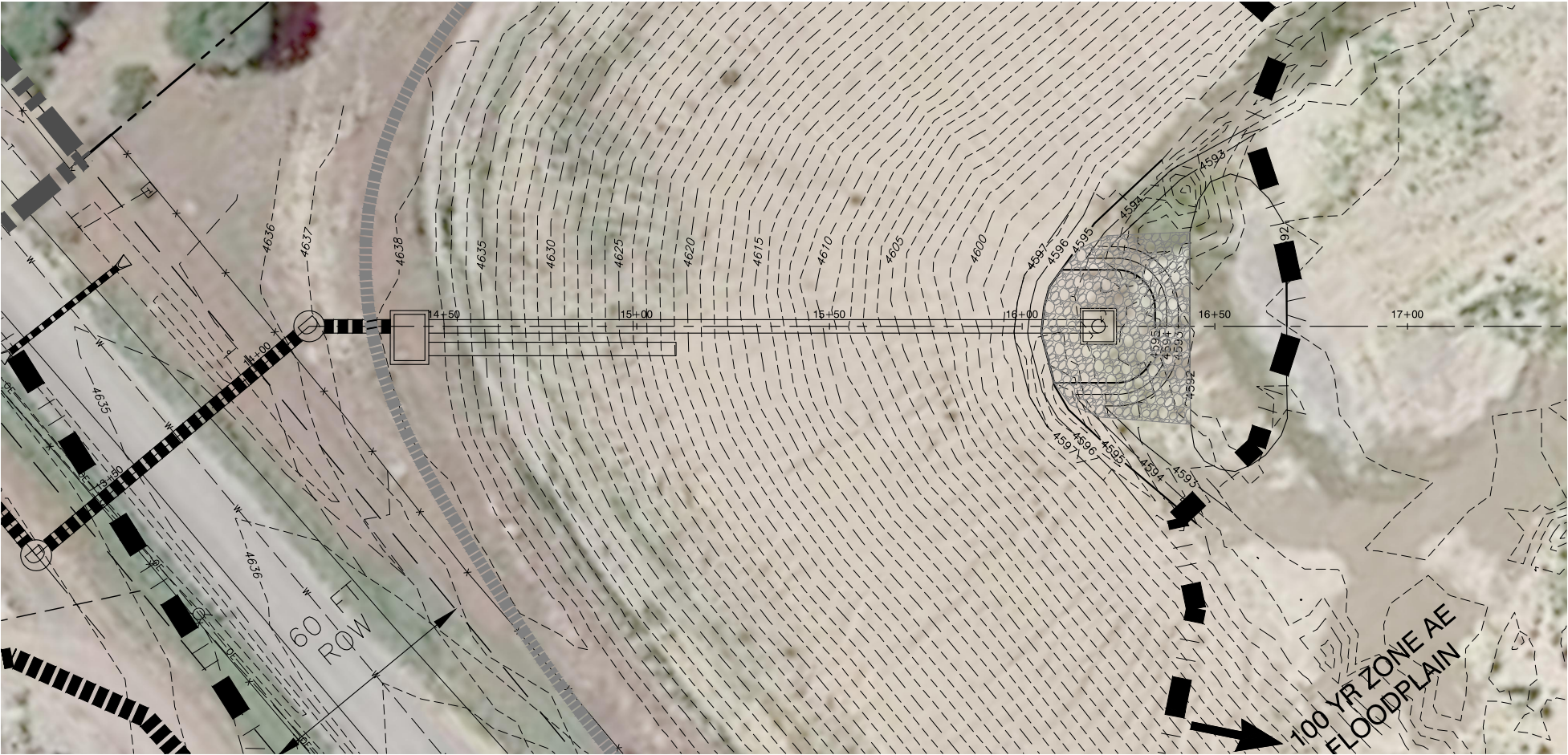
SECTION A-A
TRENCH/PATCH/OVERLAY SECTION WITHIN ROADWAY LIMITS
SCALE 1" = 2'



SECTION B-B
TYPICAL TRENCH SECTION
SCALE 1" = 2'

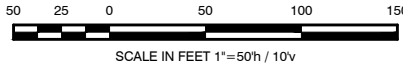
REVISIONS		Description	
No	Date	By	CHK
1	9/14/22	TPY	JCY

Job #	07123
Date	6.27.22
Drawn By	KJS
Designed By	TPY
Checked By	JCY
File	JT-Pipeline.dwg
Scale	As Shown



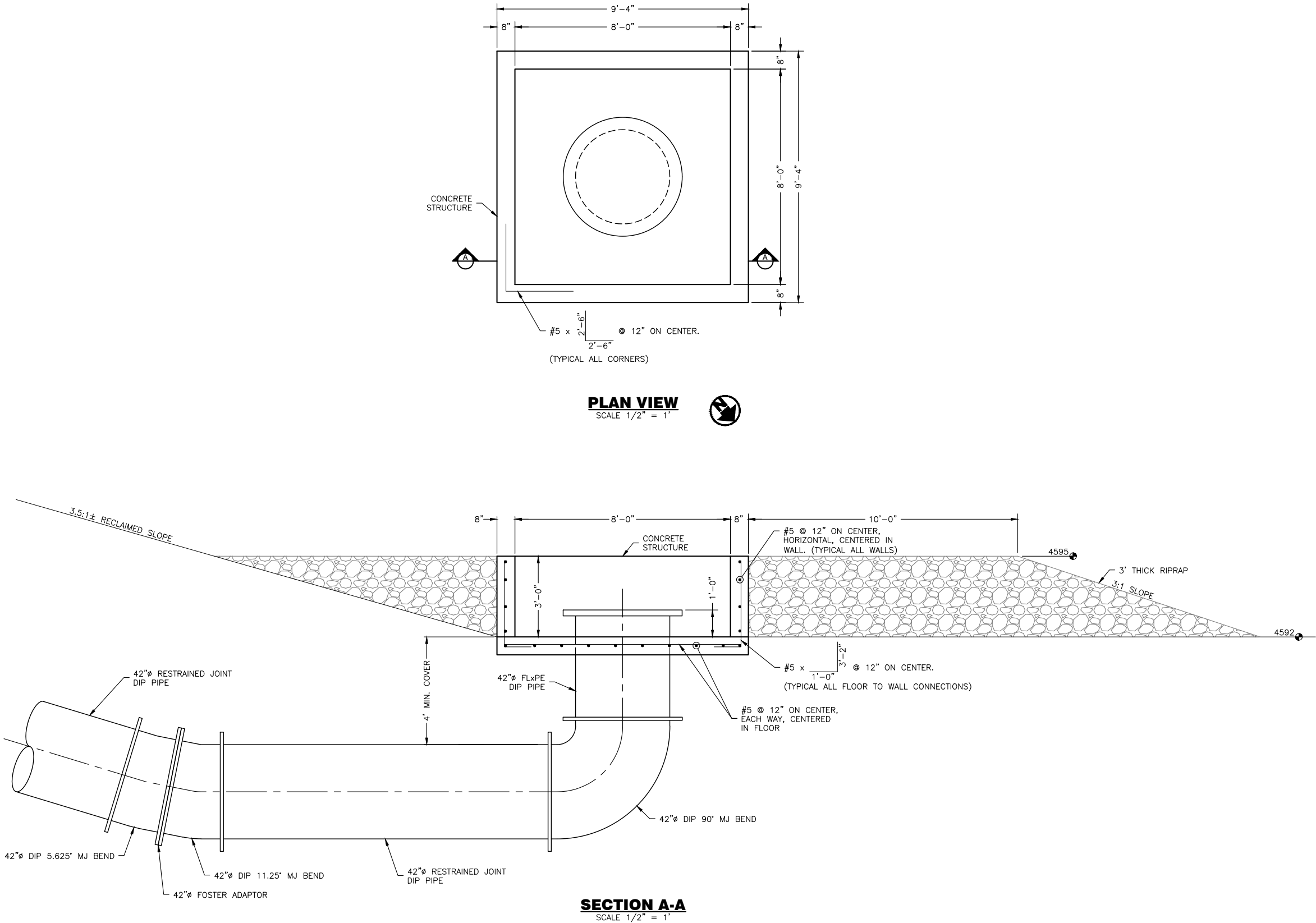
Note:

ALL EXCAVATED AREAS WITHIN 10 FEET EITHER SIDE OF SLURRY WALL TO BE REPLACED WITH COMPACTED IMPERVIOUS CLAY MATERIALS TO TIE BACK INTO THE SLURRY WALL. CLAY MATERIAL SHALL HAVE MINIMUM 60% PLASTIC MATERIAL PASSING THE #200 SIEVE.



REVISIONS		Description	
No	Date	By	Chk

Job #	07123
Date	10.18.22
Drawn By	TPY
Designed By	TPY
Checked By	JCY
File	JT-Pipeline0.25 slope.dwg
Scale	As Shown



REVISIONS				Description
No	Date	By	Chk	

Job #	07123
Date	10.18.22
Drawn By	TPY
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