

INTERAGENCY AGREEMENT
Contract # 503186

THIS INTERAGENCY AGREEMENT is made and entered into as of the Effective Date (as hereinafter defined) between the City and County of Denver, acting by and through its Board of Water Commissioners, a municipal corporation of the State of Colorado (the “Board”), and the City and County of Denver a municipal corporation of the State of Colorado (the “City”).

RECITALS

1. The City is planning a reconstruction project to widen and improve Federal Blvd. The “Work” includes engineering, design and construction work necessary to replace an existing water main; add a new water main; perform work associated with Conduit No. 1 and Conduit No. 3 and all other work described in the Utility Clearance Letter dated October 10, 2017 (**Exhibit A**) and in the “Plans” (**Exhibit C**).
2. This agreement sets forth the parties’ responsibilities concerning the Work.
3. The estimated cost for the Work is shown in the Federal Blvd 7th to Holden – Draft Denver Water Cost Breakout (the “Cost Estimate”) (**Exhibit B**).
4. The work will be performed in conformance with the Federal Boulevard Reconstruction 5th to Howard Place plans submitted October 2, 2017 (the “Plans”) (**Exhibit C**).
5. In accordance with the Colorado Constitution and the Charter of the City and County of Denver, the City and the Board are authorized to enter into agreements of this nature.

NOW, THEREFORE, the Board and the City agree as follows:

1. COORDINATION AND LIAISON.

A. The Executive Director of Public Works is the City’s authorized representative for purposes of performing the City’s obligations under this Agreement. The Executive Director hereby designates the City Engineer as the Executive Director’s authorized representative for purposes of directing and administering the City’s activities under this Agreement. The City Engineer has designated James Geist as the Project Manager to generally oversee construction and act as a liaison between the Board and the City’s construction contractor. The City may change its authorized representatives at any time by providing written notice to the Board of such change.

B. The Board’s Director of Engineering is the Board’s authorized representative for purposes of directing and administering the Board’s activities under this

Agreement. The Board may change its authorized representative at any time by providing written notice to the City of such change.

2. THE WORK. The City's consultant will provide design services for the Work and City's contractor will construct the Work as shown on the Plans and specifications approved by the Board. The Board hereby authorizes the City's contractor to exercise the Board's rights with regard to service line replacements pursuant to the Denver Water Operating Rules.

3. DESIGN AND CONSTRUCTION.

A. Board Responsibilities

(1) As requested by the City, Board representatives shall attend any pre-bid conferences scheduled by the City, assist in the preparation of any required addenda, attend the pre-construction meeting, and attend regularly scheduled construction meetings to address issues related to the Work. The Board shall pay the City the costs associated with the Work based upon the City's estimated costs of design as described herein.

(2) The Board shall participate in a final inspection of the Work to verify Work completion and acceptance.

(3) In performing its construction-related obligations, the Board, unless otherwise directed by the City's Project Manager, shall not direct the City's construction contractor, but shall instead communicate with the City's Project Manager.

B. City Responsibilities

(1) The City through its consultant Tsiouvaras Simmons Holderness will perform engineering.

(2) The City, through its contractor, shall complete the Work in accordance with the Board's Operating Rules and Engineering Standards and Capital Projects Construction Standards (CPCS).

4. REIMBURSEMENT.

A. The Board agrees to reimburse the City for all costs associated with the Work. For budgeting purposes, and not as a limit on the Board's obligation, the parties estimate the total cost of the Work to be \$740,333.94, which the Board represents it has budgeted for the purpose of this Agreement.

B. In the event the City determines that the cost of the Work will exceed the preceding cost estimate, the City shall provide notice to the Board.

C. The City shall invoice the Board upon completion of the Work or each month for Work completed during the previous month. The invoice shall include a detailed accounting of the actual costs expended for the Work by the City. The Board shall review the invoice and, unless disputing the invoice or the Work as completed, shall pay the invoice in one lump sum payment within thirty (30) days of the receipt of the invoice.

5. **RECORDS AND AUDITS.** The City shall at all times maintain a system of accounting records in accordance with its normal procedures, together with supporting documentation for all Work under this Agreement, which shall be made available for audit and reproduction by the Board at the Board's request. The parties agree that, for a period of at least three (3) years from the final scheduled payment under this Agreement, any duly authorized representative of the City or the Board, including the City Auditor or the City Auditor's designee, shall have access to and the right to examine any directly pertinent books, documents, papers, and records of the parties involving the transactions and other activities related to this Agreement.

6. **BEST EFFORTS.** The City and the Board agree to work diligently together, and in good faith, using their best efforts to resolve any unforeseen issues and disputes regarding the design, construction, completion, and acceptance of the Work.

7. **INSPECTION AND ACCEPTANCE.** The Board, at its own cost will be allowed to and shall undertake such inspections, as it deems necessary to verify that the Work is being constructed in accordance with the accepted Work plans. If the Board observes that the Work is not being constructed in accordance with the accepted plans, then the Board shall provide timely notice of these observations to the City. If the City fails to take action on these concerns, the Board's representative may stop all work on the Board's facilities.

8. **OWNERSHIP AND MAINTENANCE.** Upon completion, inspection, and acceptance of the Work, the Board shall own and operate the completed Work. The City shall ensure its contractor is responsible for all costs associated with the maintenance, repair, and replacements of the Work for a period of one year following the Board's acceptance.

9. **LIABILITY.** Each party shall be liable for the errors and omissions of its agents and employees to the extent provided by the Colorado Governmental Immunity Act. This obligation shall survive termination of the Agreement.

10. **APPROPRIATION.** The City's obligations, whether direct or contingent, extend only to funds appropriated annually by the Denver City Council, paid into the Treasury of the City, and encumbered for the purpose of this agreement. The City does not by this agreement irrevocably pledge present cash reserves for payment or performance in future fiscal years, and this agreement does not and is not intended to create a multiple-fiscal year direct or indirect debt or financial obligation of the City.

11. **NOTICES.** All notices required or given under this Agreement shall be in writing and shall be deemed effective: (a) when delivered personally to the other party; or (b) seven days after posting in the United States mail, first-class postage prepaid, and properly addressed as follows; or (c) when sent by email transmission and the receipt is confirmed by return email transmission.

If sent to the City: James Geist, City and County of Denver Dept. of Public Works, Engineering Division, Capital Projects Management, 201 W. Colfax Ave., Dept. 506, Denver, Colorado 80202; james.geist@denvergov.org.

If sent to the Board: Paul Peloquin, Distribution Engineering, Denver Water, 1600 West 12th Avenue, Denver, Colorado 80204; paul.peloquin@denverwater.org or such other persons or addresses as the parties may have designated in writing.

12. NO DISCRIMINATION IN EMPLOYMENT. In connection with the performance of work under this Agreement, the parties agree not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, gender identity or gender expression, marital status, or physical or mental disability. The parties further agree to insert the foregoing or a similar provision in all contracts entered into in furtherance of this Agreement.

13. CONFLICT OF INTEREST. The parties agree that no official, officer, or employee of the City or of the Board shall have any personal or beneficial interest whatsoever in the Work, related services, or property described herein.

14. SUBJECT TO LOCAL LAWS; VENUE. Each and every term, provision, or condition herein is subject to and shall be construed in accordance with the provisions of Colorado law, the Charter of the City and County of Denver, and the applicable ordinances, regulations, executive orders, or fiscal rules, enacted or promulgated pursuant thereto. The Charter and Revised Municipal Code of the City and County of Denver, as the same may be amended from time to time, are hereby expressly incorporated into this Agreement as if fully set out herein by this reference. Venue for any legal action relating to this Agreement shall lie in the District Court in and for the City and County of Denver, Colorado.

15. GOVERNMENTAL IMMUNITY ACT. The parties understand and agree that the parties are relying upon and have not waived the monetary limitations and all other rights, immunities and protections provided by the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as it may be amended from time to time.

16. ENTIRE AGREEMENT. This Agreement constitutes the entire agreement between the Board and the City as to the subject matter hereof, and it replaces all prior written or oral agreements and understandings. It may be altered, amended, or repealed only by a duly executed written instrument. However, the parties acknowledge there are aspects of the Work not within the scope of this Agreement (e.g., utility relocations) that will require submittal, review, approval, and licensing by the Board; such activities shall be governed by the Board's Operating Rules and Engineering Standards.

17. NO THIRD-PARTY BENEFICIARIES. Enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement shall be

strictly reserved to the City and the Board; nothing contained in this Agreement shall give or allow any such claim or right of action by any other person or third party.

18. EXECUTION OF AGREEMENT. This Agreement is expressly subject to, and shall not be or become effective or binding on the City and the Board until fully executed by all signatories of the Board and the City and County of Denver.

19. EFFECTIVE DATE AND TERMINATION. As used herein, the term “Effective Date” shall mean and refer to the date set out on the City’s signature page of this Agreement. This Agreement shall expire, unless earlier terminated or otherwise stated herein, upon completion of the Work. Either party may terminate the Agreement on thirty days’ written notice for cause in the event the other party fails to comply with any term or condition contained herein.

20. ELECTRONIC SIGNATURES AND ELECTRONIC RECORDS. The Board consents to the use of electronic signatures by the City. The Agreement, and any other documents requiring a signature hereunder, may be signed electronically by the City in the manner specified by the City. The parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. The parties agree not to object to the admissibility of the Agreement in the form of an electronic record, a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature on the grounds that it is an electronic record, an electronic signature, that it is not in its original form, or is not an original.

[END OF PAGE]

Contract Control Number:

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of

SEAL

CITY AND COUNTY OF DENVER

ATTEST:

By _____

APPROVED AS TO FORM:

REGISTERED AND COUNTERSIGNED:

By _____

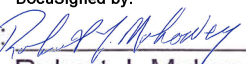
By _____

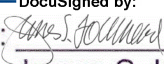
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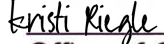
CITY AND COUNTY OF DENVER,
acting by and through its
BOARD OF WATER COMMISSIONERS

APPROVED:

DocuSigned by:
By: 
Robert J. Mahoney
Chief Engineering Officer

DocuSigned by:
By: 
James S. Lochhead
CEO/Manager

APPROVED AS TO FORM:

DocuSigned by:

Kristi Riegle
Office of General Counsel

REGISTERED AND COUNTERSIGNED:
CITY AND COUNTY OF DENVER

DocuSigned by:
By: 
Timothy O'Brien, CPA
Auditor

DS




Exhibit A

STATE OF COLORADO



October 10, 2017

Denver Water
1600 W. 12th Ave
Denver, CO 80204-3412
Attn: Paul Peloquin, Interagency Project Manger

Subject: **DENVER WATER - UTILITY CLEARANCE LETTER**
PROJECT NO.: NHPP 2873-172
LOCATION: Federal Blvd: W 7th Ave to W Holden Pl

After the review of the design plans for the above referenced project, it was noted that Denver Water facilities shall be relocated and/or modified as follows:

Denver Water forces will provide tapping of the existing mains for 2" and smaller tap locations, after the Contractor has exposed the main. This work is expected to take 1 day at each location. This work will be at no cost to the project.

Denver Water forces will operate (open and close) all valves on conduits. Denver Water forces will provide forces to operate valves within 48 hours of notice from the Contractor. This work will be at no cost to the project.

Denver Water forces will inspect work performed by the Contractor on Denver Water facilities. This work will be at no cost to the project for betterment locations and at project cost for work resulting from project impacts.

Denver Water forces will relocate inside-set meters to an outside location in accordance with Denver Water's current Engineering Standards. This work will take 2 days at each location. This work will be done by Denver Water at no cost to the project.

The Contractor will replace any lead service line it cuts with a copper service line from the water main to the inlet side of the water meter. Denver Water forces will be responsible for flushing the service line at the customer's structure at the approximate time the service line is replaced in accordance with then current best management practices. The Contractor and Denver Water will coordinate on a schedule, so that Denver Water may flush the Customer's service line as close as practicable to the time when the service line is replaced. See Cost Allocation agreement section.

For each lead service line encountered, Denver Water will determine whether replacement of the lead service line from the meter to the structure is necessary. If Denver Water determines that replacement is necessary, Denver Water will be responsible for performing the construction work and costs required to replace the lead service line from the meter to the structure.

Denver Water forces will be responsible for outreach, notices, and providing filters to all affected parties that have lead services. This work will be at no cost to the project.

Denver Water forces will be responsible for performing water quality tests when lead service lines are replaced. This work will be at no cost to the project.

Denver Water will bear the cost of creating and distributing educational materials, water quality tests, and water filters where lead service lines are encountered. This work will be at no cost to the project.

Denver Water forces will provide temporary water services, if required, during periods of service outages. This work will be at no cost to the project.

Although the Contractor shall provide traffic control for utility work expected to be coordinated with construction, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner. The utility owner shall prepare and submit to the Denver Engineer, a Method of Handling Traffic for utility work to be performed outside of typical project work hours. The utility owner shall obtain acceptance of the Method of Handling Traffic from the Denver Engineer prior to beginning the utility work to be performed outside typical project work hours.

The work below will be performed by the Contractor.

All work on Denver Water Department facilities shall be performed by contractors on the current list of Denver Water Department Pre-Qualified Contractors, and shall be done in conformance with standards and specifications of the Denver Water Department after plans and specs have been approved by Denver Water Sales.

When the Contractor encounters a lead service line, the Contractor shall note the location and notify the City and Denver Water of the location. Notification will be a project cost.

The Contractor shall replace any existing service lines that are lead or galvanized steel with appropriate size copper line from the new tap (to be installed by Denver Water) to the outside set meter pit. Denver Water forces shall replace existing service lines that are lead or galvanized steel from the meter pit to the first non-lead fitting within each structure (per Denver Water Operating Rule 9.04). The Contractor shall protect existing service lines when excavating for the removal of the existing main. The Contractor shall cut existing service lines from the existing main prior to its removal. Caution shall be taken to not damage the existing service lines and meter pits during removal of the main, any damage to the existing service lines and meter pits shall be replaced by the Contractor at no cost to the project. The Contractor shall coordinate with Denver Water forces to schedule the replacement of service lines. See Cost Allocation section.

The Contractor shall relocate the outside-set meters to outside locations as shown in the plans in accordance with Denver Water's current Engineering Standards. This will be a project cost.

The Contractor shall replace service lines as shown in the plans that are non-lead from the main to the outside set meter. This will be a project cost.

The Contractor shall coordinate with Denver Water forces where inside-set meters are moved to an outside location. Denver Water forces will relocate inside set meters to outside locations. Relocation of inside set meter will be at the cost of Denver Water.

New taps 2 inch and smaller from the existing mains will be completed by Denver Water forces as shown on the plans. The Contractor shall expose the main for the Denver Water forces to complete the new tap. Exposing the main will be a project cost. The two new taps for irrigation will be a project cost. Changeover fees for betterment taps will be at no cost to the project. Changeover fee for taps resulting from project impacts will be a project cost.

New taps larger than 2 inches will be completed by the Contractor. This will be a project cost.

The Contractor shall construct the new water main from 7th Ave to 8th Ave and 10th Ave to Holden Pl where shown in the plans. The Contractor shall install new service line taps on the new water main as shown in the plans. This is a betterment and will be paid for by Denver Water.

The Contractor shall construct new fire hydrants in locations shown on the plans. The Contractor shall construct new 6" fire service water line, or extend existing 6" fire service water lines to new fire hydrant locations as required and make connections to new hydrants as shown in the plans. The Contractor shall remove existing fire hydrants as locations shown in the plans. This will be a project cost.

The Contractor shall clean and adjust valve boxes to within ¼" to ½" below final grade of the paved surface as shown on the plans. This will be a project cost.

The Contractor shall adjust water meters to within ¼" to ½" below final grade of the paved surface as shown on the plans. The Contractor shall adjust the yoke if necessary to ensure that it is no more than 18" below final grade. This will be a project cost.

The Contractor shall remove abandoned water valves and outside meters in locations shown on the plans. This will be a project cost.

The Contractor shall pothole all existing non-lead service lines where they cross the proposed storm sewer improvements to verify if a conflict exists. This will be a project cost.

The Contractor shall coordinate all required inspections and operation of valves on conduits with Denver Water Department forces. The Contractor shall notify the Denver Water in writing 5 days immediately prior to required inspections, valve operations, or other water line related work performed by the Contractor. Inspections will be at no cost to the project.

The Contractor shall coordinate all work outside the ROW or easement with Denver's Engineer.

Denver Water conduit numbers #1, #3, #12 and #18 exist within the limits of the project. Conduit #12 (48" steel) can only be taken out of service seasonally between October 31st and May 1st. Conduits #1, #3, and #8 can be taken out of service between October 31 and May 1st for short

durations of up to 2 days as agreed to with Denver Water. The Contractor shall plan and phase work on the project taking into consideration the limitation and duration of when conduits can be out of service. The Contractor shall contact Denver Water upon notice to proceed to schedule conduits to be out of service and coordinate water line work. The Contractor shall take care to avoid disturbing these conduits.

The Contractor shall notify the utility owner in writing one week immediately prior to each utility work element expected to be coordinated with construction.

Cost Allocation

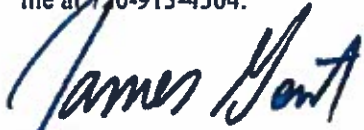
The City of Denver and Denver Water have agreed to the cost allocations shown in Table 1a and 1b.:

Table 1a - Transportation Projects Involving Main or Water Meter Relocation				
	Situation	Work Performed by City	Work performed by DW	Funding
1	Main Relocation	- City performs main relocation work. - City replace lead service line (LSL) from main to inlet side of outside-set meter.	Not applicable.	DW
2	Meter moved + meter outside-set	- City relocates meter. - If LSL, City replaces LSL from main to inlet side of outside-set meter.	- If LSL, DW replace LSL from outlet side of meter to structure as determined necessary by DW.	DW
3	Meter inside-set	- If LSL, City replaces LSL to inlet side of meter after DW meter relocation complete.	- If meter inside-set, DW relocates meter outside in coordination with City. - If LSL, DW replace LSL from outlet side of meter to structure as determined necessary by DW.	DW

Notes:
 a. Denver Water (DW) will be responsible for outreach, notice and providing filters. City will provide notice of LSL's encountered so DW can update inventory.
 b. City will explore opportunities for financial assistance
 c. DW can provide City with estimate of number of lead SLs when City plans a project.
 d. LSL: LSL refers to a lead service line but may also include any service line made of non-copper material.

Page 6
Paul Peloquin
October 10, 2017

Your response by October 16, 2017, is required to meet the project schedule. Should you have any questions, please contact Randal Lapsley, Federal Blvd Utilities Consultant Contact at 303-771-6200, or me at 770-913-4504.

A handwritten signature in blue ink that reads "James Geist". The signature is written in a cursive style with a large, sweeping initial "J".

James Geist, PE
Senior Engineer/Project Manager | Public Works | City and County of Denver
201 W Colfax Ave
Denver, CO 80202

Exhibit B

1/29/2018

Federal Blvd 7th to Holden
Draft Denver Water Cost Breakout

INDEX ITEM NO.	CONTRACT ITEM	UNIT	UNIT PRICE	CITY OF DENVER			OTHER			DENVER WATER			BETTERMENT			PROJECT TOTALS		
				50/50 SPLIT			50/50 SPLIT			COST			PLAN			COST		
				DIRECT	50/50 SPLIT	COST	50/50 SPLIT	COST	COST	PLAN	COST	PLAN	COST	PLAN	COST			
202	REMOVAL OF WATER SERVICE LINE	EA	\$ 886.00	11	\$ 9,856.00	\$ 9,856.00	11	\$ 9,856.00	9	\$ 8,084.00	9	\$ 8,084.00	31	\$ 27,776.00	2.3%			
202	REMOVAL OF WATER METER	EA	\$ 520.00	8	\$ 4,680.00	\$ 4,680.00	9	\$ 4,680.00	10	\$ 5,200.00	10	\$ 5,200.00	28	\$ 14,560.00	1.2%			
202	REMOVAL OF FIRE HYDRANT	EA	\$ 1,370.00	3	\$ 4,110.00	\$ 4,110.00		\$ -		\$ -		\$ -	3	\$ 4,110.00	0.3%			
202	REMOVAL OF PIPE	LF	\$ 32.00	308	\$ 9,856.00	\$ 9,856.00		\$ -		\$ -		\$ -	308	\$ 9,856.00	0.8%			
202	PLUG PIPE	EA	\$ 985.00	2	\$ 1,970.00	\$ 1,970.00		\$ -	5	\$ 4,925.00	5	\$ 4,925.00	7	\$ 6,895.00	0.6%			
202	CLEAN VALVE BOX	EA	\$ 405.00	34	\$ 13,770.00	\$ 13,770.00		\$ -		\$ -		\$ -	34	\$ 13,770.00	1.1%			
202	ABANDON WATER SERVICE	EA	\$ 520.00	8.5	\$ 3,380.00	\$ 3,380.00	8.5	\$ 3,380.00		\$ -		\$ -	13	\$ 6,760.00	0.6%			
210	RESET FIRE HYDRANT	EA	\$ 4,660.00	3	\$ 13,980.00	\$ 13,980.00		\$ -		\$ -		\$ -	3	\$ 13,980.00	1.2%			
210	ADJUST MANHOLE	EA	\$ 790.00	9	\$ 7,110.00	\$ 7,110.00		\$ -		\$ -		\$ -	9	\$ 7,110.00	0.6%			
210	ADJUST VALVE BOX	EA	\$ 530.00	34	\$ 18,020.00	\$ 18,020.00		\$ -		\$ -		\$ -	34	\$ 18,020.00	1.5%			
250	CERTIFIED ASBESTOS BUILDING INSPECTOR	HR	\$ 110.00	1,330	\$ 148,390.00	\$ 148,390.00	19	\$ 2,090.00	40	\$ 4,400.00	40	\$ 4,400.00	1408	\$ 154,880.00	12.8%			
619	WATER METER	EA	\$ 6,480.00	2.0	\$ 93,960.00	\$ 93,960.00	12.5	\$ 81,000.00	12	\$ 77,760.00	12	\$ 77,760.00	39	\$ 252,720.00	20.8%			
619	METER PIT (24 INCH)	EA	\$ 1,040.00	2	\$ 2,080.00	\$ 2,080.00	12	\$ 12,480.00	11	\$ 11,440.00	11	\$ 11,440.00	37	\$ 38,480.00	3.2%			
619	METER VAULT	EA	\$ 2,080.00	0.5	\$ 1,040.00	\$ 1,040.00	0.5	\$ 1,040.00	1	\$ 2,080.00	1	\$ 2,080.00	2	\$ 4,160.00	0.3%			
619	3 INCH DUCTILE IRON PIPE	LF	\$ 128.00	31	\$ 3,968.00	\$ 3,968.00		\$ -		\$ -		\$ -	31	\$ 3,968.00	0.3%			
619	6 INCH DUCTILE IRON PIPE	LF	\$ 115.00	131	\$ 15,065.00	\$ 15,065.00		\$ -		\$ -		\$ -	131	\$ 15,065.00	1.2%			
619	8 INCH DUCTILE IRON PIPE	LF	\$ 268.00	101	\$ 27,068.00	\$ 27,068.00		\$ -		\$ -		\$ -	138	\$ 36,984.00	3.1%			
619	3/4 INCH COPPER PIPE	LF	\$ 91.00	172	\$ 15,652.00	\$ 15,652.00	172	\$ 15,652.00	465	\$ 42,315.00	465	\$ 42,315.00	809	\$ 73,819.00	6.1%			
619	1 INCH COPPER PIPE	LF	\$ 84.00	199	\$ 17,430.00	\$ 17,430.00	8.5	\$ 714.00	75	\$ 6,300.00	75	\$ 6,300.00	281	\$ 24,444.00	2.0%			
619	1-1/2 INCH COPPER PIPE	LF	\$ 77.00	6.5	\$ 500.50	\$ 500.50	6.5	\$ 500.50	25	\$ 1,925.00	25	\$ 1,925.00	38	\$ 2,926.00	0.2%			
619	3/4 INCH COPPER PIPE CONNECTIONS	EA	\$ 185.00	11	\$ 2,035.00	\$ 2,035.00	11	\$ 2,035.00	10	\$ 1,850.00	10	\$ 1,850.00	32	\$ 5,920.00	0.5%			
619	1 INCH COPPER PIPE CONNECTIONS	EA	\$ 205.00	2	\$ 717.50	\$ 717.50	1.5	\$ 307.50	1	\$ 205.00	1	\$ 205.00	6	\$ 1,230.00	0.1%			
619	1-1/2 INCH COPPER PIPE CONNECTIONS	EA	\$ 400.00	0.5	\$ 200.00	\$ 200.00	0.5	\$ 200.00	1	\$ 400.00	1	\$ 400.00	2	\$ 800.00	0.1%			

MAJN
SERVICES
SPLIT 50/50
BETTERMENT
DIRECT - IRRIGATION SERVICES

Federal Blvd 7th to Holden
Draft Denver Water Cost Breakout

INDEX ITEM NO.	CONTRACT ITEM	UNIT	PRICE	CITY OF DENVER			DENVER WATER			PROJECT TOTALS				
				DIRECT	50/50 SPLIT		COST	50/50 SPLIT	BETTERMENT		PLAN	COST	PLAN	COST
619	8 INCH PLASTIC PIPE (C900)	LF	\$ 128.00	16		\$ 2,048.00		\$ -		\$ 124,544.00	989	\$ 126,592.00	10.5%	
619	8 INCH PLASTIC PIPE (C900)	LF	\$ 96.00	173		\$ 16,608.00		\$ -		\$ 65,376.00	855	\$ 81,984.00	6.8%	
619	3 INCH GATE VALVE & VALVE BOX	EA	\$ 1,995.00	2		\$ 3,990.00		\$ -		\$ -	2	\$ 3,190.00	0.3%	
619	8 INCH GATE VALVE & VALVE BOX	EA	\$ 1,842.00	3		\$ 5,526.00		\$ -		\$ 7,388.00	7	\$ 12,894.00	1.1%	
619	8 INCH GATE VALVE & VALVE BOX	EA	\$ 2,401.00	8		\$ 19,208.00		\$ -		\$ 9,604.00	12	\$ 28,812.00	2.4%	
619	6 INCH TAPPING VALVE & VALVE BOX	EA	\$ 2,600.00			\$ -		\$ -		\$ 7,800.00	3	\$ 7,800.00	0.6%	
619	8 INCH TAPPING VALVE & VALVE BOX	EA	\$ 3,120.00			\$ -		\$ -		\$ 3,120.00	1	\$ 3,120.00	0.3%	
619	8 INCH SWIVEL TEE (ALL BRANCH SIZES)	EA	\$ 1,055.00	1		\$ 1,055.00		\$ -		\$ 1,055.00	2	\$ 2,110.00	0.2%	
619	8 INCH SWIVEL TEE (ALL BRANCH SIZES)	EA	\$ 1,098.00	5		\$ 5,490.00		\$ -		\$ 1,098.00	6	\$ 6,588.00	0.5%	
619	6 INCH TEE (ALL BRANCH SIZES)	EA	\$ 520.00	1		\$ 520.00		\$ -		\$ 1,040.00	3	\$ 1,560.00	0.1%	
619	8 INCH TEE (ALL BRANCH SIZES)	EA	\$ 624.00	1		\$ 624.00		\$ -		\$ 1,872.00	4	\$ 2,496.00	0.2%	
619	8 INCH HORIZONTAL BEND (ALL ANGLES)	EA	\$ 728.00	2		\$ 1,456.00		\$ -		\$ -	2	\$ 1,456.00	0.1%	
619	8 INCH HORIZONTAL BEND (ALL ANGLES)	EA	\$ 1,300.00	2		\$ 2,600.00		\$ -		\$ 10,400.00	10	\$ 13,000.00	1.1%	
619	6 INCH VERTICAL BEND (ALL ANGLES)	EA	\$ 1,560.00	18		\$ 28,080.00		\$ -		\$ 15,600.00	28	\$ 43,680.00	3.8%	
619	6 INCH TAPPING SLEEVE (ALL BRANCH SIZES)	EA	\$ 2,600.00			\$ -		\$ -		\$ 5,200.00	2	\$ 5,200.00	0.4%	
619	8 INCH TAPPING SLEEVE (ALL BRANCH SIZES)	EA	\$ 3,640.00			\$ -		\$ -		\$ 3,640.00	1	\$ 3,640.00	0.3%	
619	30 INCH TAPPING SLEEVE (ALL BRANCH SIZES)	EA	\$ 7,280.00			\$ -		\$ -		\$ 7,280.00	1	\$ 7,280.00	0.6%	
619	CURB STOP AND BOX	EA	\$ 1,440.00	2	13	\$ 21,600.00		\$ 16,720.00		\$ 17,280.00	40	\$ 57,600.00	4.8%	
619	FIRE HYDRANT ASSEMBLY	EA	\$ 4,910.00	7		\$ 34,370.00		\$ -		\$ -	7	\$ 34,370.00	2.8%	
619	FIRE HYDRANT ASSEMBLY (EXTRA DEPTH)	EA	\$ 8,030.00	3		\$ 24,090.00		\$ -		\$ -	3	\$ 24,090.00	2.0%	
	WATERLINE CONSTRUCTION SUBTOTAL					\$ 693,785.00		\$ 152,655.00		\$ 461,653.00		\$ 1,207,991.00		

CC 0861-025

MAIN
SERVICES
SPLIT 50/50
BETTERMENT
DIRECT - IRRIGATION SERVICES

Federal Blvd 7th to Holden
Draft Denver Water Cost Breakout

INDEX ITEM NO.	CONTRACT ITEM	UNIT	UNIT PRICE	CITY OF DENVER				DENVER WATER				PROJECT TOTALS		
				5050 SPLIT		COST		5050 SPLIT		COST		PLAN	COST	
				DIRECT	INDIRECT	DIRECT	INDIRECT	DIRECT	INDIRECT					
	OTHER ITEMS													
625	CONSTRUCTION SURVEYING	LS	1.50%			\$ 9,000.00		1	\$ 2,300.00	1	\$ 7,000.00	1	\$ 18,300.00	1.5%
626	MOBILIZATION	LS	7.50%			\$ 44,600.00		1	\$ 11,500.00	1	\$ 34,700.00	1	\$ 90,800.00	7.5%
628	PUBLIC INFORMATION SERVICES	LS	0.20%			\$ 1,200.00		1	\$ 400.00	1	\$ 1,000.00	1	\$ 2,600.00	0.2%
630	TRAFFIC CONTROL	LS	7.00%			\$ 41,600.00		1	\$ 10,700.00	1	\$ 32,400.00	1	\$ 84,700.00	7.0%
700	FIA WATER LINES	F/A	7.00%			\$ 41,600.00		1	\$ 10,700.00	1	\$ 32,400.00	1	\$ 84,700.00	7.0%
	OTHER ITEMS SUBTOTAL					\$ 138,000.00			\$ 35,600.00		\$ 107,500.00		\$ 281,100.00	
	CONSTRUCTION & OTHER SUBTOTAL					\$ 731,783.00			\$ 189,255.00		\$ 569,053.00		\$ 1,489,091.00	
	CONTINGENCY	LS	15.00%			\$ 109,770.00		1	\$ 28,240.00	1	\$ 85,360.00	1	\$ 223,370.00	
	CONSTRUCTION TOTAL					\$ 841,553.00			\$ 219,495.00		\$ 654,413.00		\$ 1,712,461.00	
	DESIGN & ENGINEERING	LS				\$ -					\$ 17,000.00	1	\$ 17,000.00	1.4%
	ENGINEERING & CONSTRUCTION TOTAL					\$ 841,553.00			\$ 219,495.00		\$ 671,413.00		\$ 1,729,461.00	
	Inflation (4% per year) (1.5 years assumed to construction)	LS	6.00%			\$ 50,500.00		1	\$ 12,990.00	1	\$ 40,290.00	1	\$ 103,780.00	
	ENGINEERING + CONSTRUCTION + INFLATION					\$ 892,053.00			\$ 229,485.00		\$ 711,703.00		\$ 1,833,241.00	
	NEW IRRIGATION TAPS (2 NEW TAPS @ \$62.85 EA)					\$ -			\$ (1,251.90)		\$ -		\$ -	
	INSPECTION FEES (\$3.00 PER LF)					\$ -			\$ (6,336.00)		\$ -		\$ -	
	CHANGE OVER TAP FEES	EA	\$ 180.00	2	13	\$ 2,616.00		13	\$ 2,250.00	12	\$ 2,160.00	39	\$ 7,026.00	
	DENVER WATER FUNDING AMOUNTS					\$ -		0.00%	\$ -	11.10%	\$ 713,863.00	TOTAL	\$ 740,333.94	
								11.10%	Local					
								88.90%	Federal					

85357 95

* BETTERMENT TOTAL INCLUDES THE FOLLOWING:
MAIN REPLACEMENT AND ASSOCIATED SERVICES BETWEEN 7TH & 8TH
NEW MAIN AND ASSOCIATED SERVICES BETWEEN 10TH AND W HOLDEN PL. NOT INCLUDING M357792

- NOTE:
1. Denver Water will be responsible for outreach, notices, and providing filters to all affected parties that have lead services.
 2. Denver Water will be responsible for performing water quality tests when lead service lines are replaced.
 3. Denver Water will bear the cost of creating and distributing educational materials, water quality tests, and water filters.

GENERAL NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR:
 - NOTIFYING ALL CUSTOMERS POSSIBLY AFFECTED BY OUTAGE OF WATER DURING CONSTRUCTION. NOTIFICATION SHALL OBTAIN AT HIS EXPENSE, ALL APPLICABLE LICENSES, PERMITS, BONDS, ETC. REQUIRED FOR THE WORK INSTALLATION/STREET MODIFICATION.
 - CONTACTING DENVER WATER'S CONSTRUCTION ENGINEERING FOR PRE-CONSTRUCTION MEETING AND INSPECTION. 303-628-6627, AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
 - IN CASE OF AN EMERGENCY AFTER WORKING HOURS, CALL DENVER WATER'S WESTSIDE DISPATCHER AT 303-628-0390.

NOTE: BE ADVISED THAT OCCASIONALLY VALVES IN OUR SYSTEM MAY BE INOPERABLE. ON SUCH OCCASIONS IT MAY BECOME NECESSARY TO BACK UP AN ADDITIONAL BLOCK FOR THE SHUT OUT. IT WILL THEN BE NECESSARY TO MAKE THE ADDITIONAL NOTIFICATIONS TO GIVE THE AFFECTED CUSTOMERS THE MANDATORY 24 HOURS ADVANCE NOTICE. ALSO BE ADVISED THAT WHEN VALVE MAINTENANCE IS REQUIRED, A DELAY OF SEVERAL DAYS SHOULD BE EXPECTED.

WATER SYSTEM NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE DENVER WATER REGULATIONS AND DRAWINGS. ALL MAINS AND INSTALLATIONS/SYSTEM MODIFICATIONS SHALL BE APPROVED AND INSPECTED BY DENVER WATER.
- ALL WATER MAINS INSTALLED SHALL CONFORM TO DENVER WATER MATERIALS SPECIFICATIONS:

DUCTILE IRON:
 ES 6.03 8" & 20" CLASS 51/WRH POLY WRAP
 MS-1 6" THROUGH 16" CLASS SMOOTH POLY WRAP
 POLYVINYL CHLORIDE (PVC):
 ES 6.03 4" CLASS 200
 MS-2 6" THROUGH 12" CLASS 150

NOTE: ALL FIRE HYDRANT LATERALS AND FIRE LINES SHALL BE DUCTILE IRON PIPE.

- MECHANICAL JOINT RESTRAINT DEVICES SHALL BE:
 - FOR DUCTILE IRON PIPE:
 - MEGALUG 1100 SERIES
 - ROMAL ROW CRP
 - UNI-FLANGE 1400 SERIES
 - STAR CRP 3000 SERIES
 - SOUMA-ONE LOCK
 - FOR PVC PIPE:
 - MEGALUG 1500 PVC SERIES
 - US PIPE FIELD LOK GASKET

- PIPE JOINT RESTRAINT DEVICES SHALL BE:
 - FOR DUCTILE IRON PIPE:
 - MEGALUG 1700 SERIES
 - US PIPE FIELD LOK GASKET
 - FOR PVC PIPE:
 - MEGALUG 1500 PVC SERIES

- TRACER WIRE, GAUGE 12, SHALL BE INSTALLED ON ALL NON-METALLIC WATER MAINS.
- ALL FITTINGS SHALL BE MADE FROM GRAY-IRON OR DUCTILE IRON AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A PRESSURE RATING OF 250 PSI (MS-3) AND SHALL BE WRAPPED WITH AN 8-MIL MINIMUM THICKNESS POLYETHYLENE MATERIAL (MS-14).

- CROSS CONNECTION CONTROL REQUIREMENTS:

PROVIDE THE LOCATIONS OF EXISTING AND PROPOSED DOMESTIC, IRRIGATION, AND FIRELINES WITH A DIMENSION IN RELATIONSHIP TO AN EXISTING VALVE OR FIRE HYDRANT ON THE WATER PLAN.

PROVIDE EXISTING AND PROPOSED BACKFLOW PREVENTION ASSEMBLY (BPPA) INSTALLATIONS OF DOMESTIC, IRRIGATION, AND FIRELINES WITH A DIMENSION IN RELATIONSHIP TO THE METER, BUILDINGS AND/OR SERVICE LINES. INCLUDE BPPA'S SIZES AND TYPES. INCLUDE BPPA INSTALLATION TYPE (I.C.I., INSTALLED ABOVE GROUND, IN AN ENCLOSURE, IN A MANHOLE PIT/VAULT) BELOW GROUND, OR IN A BUILDING) ON THE WATER PLAN.

CALL UTILITY OF COLORADO
 1-800-922-1987
 FOR A LISTING OF ALL UTILITIES
 AND TO OBTAIN A UTILITY
 LOCATION MAP.



CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 1515 CHERRY STREET
 DENVER, CO 80202
 TEL: (303) 441-3417 FAX: (303) 441-3417

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 GENERAL NOTES & WATER SYSTEM NOTES

ISSUE DATE: REVISION COMMENTS:
 SHEET NO. 202
 FINAL DENVER WATER SUBMITTAL
 OCT. 2, 2017
 2 OF 28

IRRIGATION SERVICE LINES REQUIRE AN APPROVED UNIVERSITY OF SOUTHERN CALIFORNIA (USC) REDUCED PRESSURE PRINCIPLE (RPP) BACKFLOW PREVENTION ASSEMBLY (CONFORMANCE) TO BE INSTALLED 5- FEET DOWNSTREAM FROM THE METER PIT AS AN ABOVE GROUND INSTALLATION BEFORE ANY CONNECTIONS. REFER TO THE ASSEMBLY'S MANUFACTURER INSTALLATION INSTRUCTIONS FOR HEIGHT AND ORIENTATION REQUIREMENTS. FOR ADDITIONAL INFORMATION, PLEASE REFERENCE DENVER WATER'S ENGINEERING STANDARDS 5.05 OR CONTACT CROSS-CONNECTION CONTROL AT 303-628-5940.

IF RECYCLE OR RAW WATER (DITCH WATER, POND, WELL, ETC.) IS USED FOR IRRIGATION ON THE PREMISE, AN APPROVED UNIVERSITY OF SOUTHERN CALIFORNIA (USC) BACKFLOW PREVENTION ASSEMBLY (CONFORMANCE) SHALL BE INSTALLED 5- FEET DOWNSTREAM FROM THE METER PIT ON THE DOMESTIC SERVICE LINE. THE BACKFLOW ASSEMBLY TYPE IS DETERMINED BY THE DEGREE OF HAZARD DOWNSTREAM FROM THE METER (RP- HIGH HAZARD, INSTALLED ABOVE GROUND OR DC-LOW HAZARD, INSTALLED BELOW GROUND IN A MANHOLE/VAULT). FOR ADDITIONAL INFORMATION, PLEASE REFERENCE DENVER WATER'S ENGINEERING STANDARDS 5.05 OR CONTACT CROSS-CONNECTION CONTROL AT 303-628-5940.

NO DOMESTIC TAPS (DRINKING FOUNTAINS, PLAY FEATURES, SWIMMING POOLS, BATHROOMS, SHNKS, ETC.) ARE ALLOWED ON IRRIGATION SERVICE LINES.

BETWEEN THE IRRIGATION TAP AND THE METER
 DOWNSTREAM FROM THE BACKFLOW PREVENTION ASSEMBLY

- FOR ALL PIPE INSTALLATIONS THE DEPTH OF COVER OVER THE PIPE MEASURED FROM OFFICIAL STREET GRADE TO THE TOP OF THE PIPE SHALL BE A MINIMUM OF 4-1/2 FEET AND SHALL BE KNOWN AS THE COVER OVER THE PIPE. IF DIFFICULTIES ARISE WHEN CROSSING INTERFACES AND WHERE SPECIFICALLY APPROVED BY DENVER WATER, DEVIATIONS FROM 4-1/2 FEET OF COVER WILL BE PERMITTED. COVER OVER THE PIPE SHALL BE A MINIMUM OF 3 FEET AND A MAXIMUM OF 10 FEET.

ANY CHANGES IN ALIGNMENT AND GRADE SHALL BE AUTHORIZED BY DENVER WATER AND SHALL BE ACCOMPLISHED BY THE INSTALLATION OF ADDITIONAL FITTINGS. BREAKING OF JOINTS IS PERMITTED ONLY WHEN INSTALLING PIPE ON HORIZONTAL OR VERTICAL CURVES.

FIRE HYDRANTS SHALL CONFORM TO DENVER WATER MS-13 MATERIALS SPECIFICATIONS. FIRE HYDRANT ASSEMBLIES SHALL INCLUDE ALL PIPE, FITTINGS, VALVES AND MATERIALS NECESSARY TO INSTALL THE HYDRANT.

- THE FOLLOWING FIRE HYDRANTS AND VALVE BOXES SHALL BE ACCEPTED FOR CONSTRUCTION BY DENVER WATER.
 - FIRE HYDRANTS:
 - A. AMERICAL AVX MODEL 2700 MODERN
 - B. CLOW F-2545
 - C. KENNEDY K-810
 - D. CANTURLOW 423
 - VALVE BOXES:
 - A. BRINHAM & TAYLOR MODEL C003 SERIES, C015 SERIES AND C016 SERIES
 - B. EJ MODEL 8560 SERIES AND 8600 SERIES DROP LID
 - C. SIGMA CORPORATION MODEL V8630 SERIES
 - D. STAR PIPE PRODUCTS MODEL V8-0006 SERIES

ALL VALVE BOXES AND FIRE HYDRANTS WILL BE ADJUSTED TO THE FINAL FINISHED GRADE BY THE CONTRACTOR.

- ALL BENDS, TEES, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST BY USING CONCRETE THRUST BLOCKS PER DENVER WATER ENGINEERING STANDARDS, DRAWING 26.

17. CHLORINATION AND FLUSHING: ALL WATER MAINS SHALL BE INSTALLED AND CHARACTERIZED PER SECTION 8.24 OF DENVER WATER'S ENGINEERING STANDARDS. THE LINES SHALL BE CHLORINATED IN ACCORDANCE WITH AWWA C-651. DISINFECTION WATER MAINS METHOD IS TO USE SUFFICIENT CHLORINE TABLETS TO PRODUCE A 25 MG/L SOLUTION. THESE TABLETS SHOULD BE ADHERED TO THE TOP OF THE PIPE WITH PERMATEX CLEAR R.T.V. CHLORINATION OF 16 INCH AND LARGER PIPE REQUIRES A CHLORINE SLURRY. THE CHLORINATION OF ANY FINISHED PIPELINE SHALL BE COMPLETED PRIOR TO HYDROSTATIC TESTING.

13. HYDROSTATIC TESTING: ALL WATER MAINS SHALL BE TESTED PER THE REQUIREMENTS OF SECTION 8.25 OF DENVER WATER'S ENGINEERING STANDARDS. ALL PIPE SHALL BE FOR PRESSURE TESTED TO A MINIMUM OF 150 PSI. ALL TESTING SHALL BE DONE IN THE PRESENCE OF A DENVER WATER INSPECTOR. ALLOWABLE LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINE VALVES SHALL NOT EXCEED THE LEAKAGE RATE SET FORTH BELOW.

PIPE SIZE (INSIDE DIAMETER)	ALLOWABLE LEAKAGE PER 1,000 FEET CALLONS PER HOUR	EGC
4-INCH	0.37	0.13
6-INCH	0.54	0.19
8-INCH	0.74	0.26
12-INCH	1.10	0.40
16-INCH	1.47	0.54
20-INCH	1.84	0.68

14. ALL VALVES ARE TO BE LOCATED ON PROPERTY LINE EXTENSIONS EXCEPT FOR TAPPING TEES WHICH MAY BE PLACED ON THE TAPPING TEL. OTHER VALVE LOCATIONS MAY BE REQUIRED AS SHOWN ON THE PLAN.

15. WHEN IT IS NECESSARY TO LOWER OR RAISE WATER LINES AT STORM DRAINS AND OTHER UTILITY CROSSINGS, A MINIMUM CLEARANCE OF ONE (1) FOOT SHALL BE MAINTAINED BETWEEN THE OUTSIDE OF PIPES.

16. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE APPROVED WATER PLANS.

17. COMPACTION OF ALL TRENCHES MUST BE ATTAINED BY THE CONTRACTOR AND THE COMPACTION TEST RESULTS SUBMITTED TO DENVER WATER CONSTRUCTION INSPECTION DIVISION.

18. ONLY ONE POINT OF CONNECTION WILL BE ALLOWED UNTIL ALL TESTING OF NEW INSTALLATIONS IS COMPLETED.

19. PRIOR TO INSTALLATION OF WATER MAINS, ROAD CONSTRUCTION MUST HAVE PROCEEDED TO AT LEAST THE "SUB-GRADE" STATE. SUB-GRADE IS DEFINED AS AN ELEVATION OF NO MORE THAN SEVEN (7) INCHES BELOW THE FINISHED STREET GRADE.

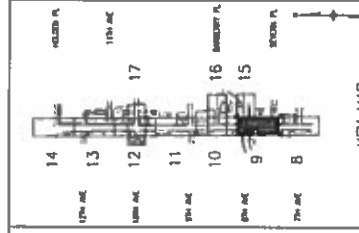
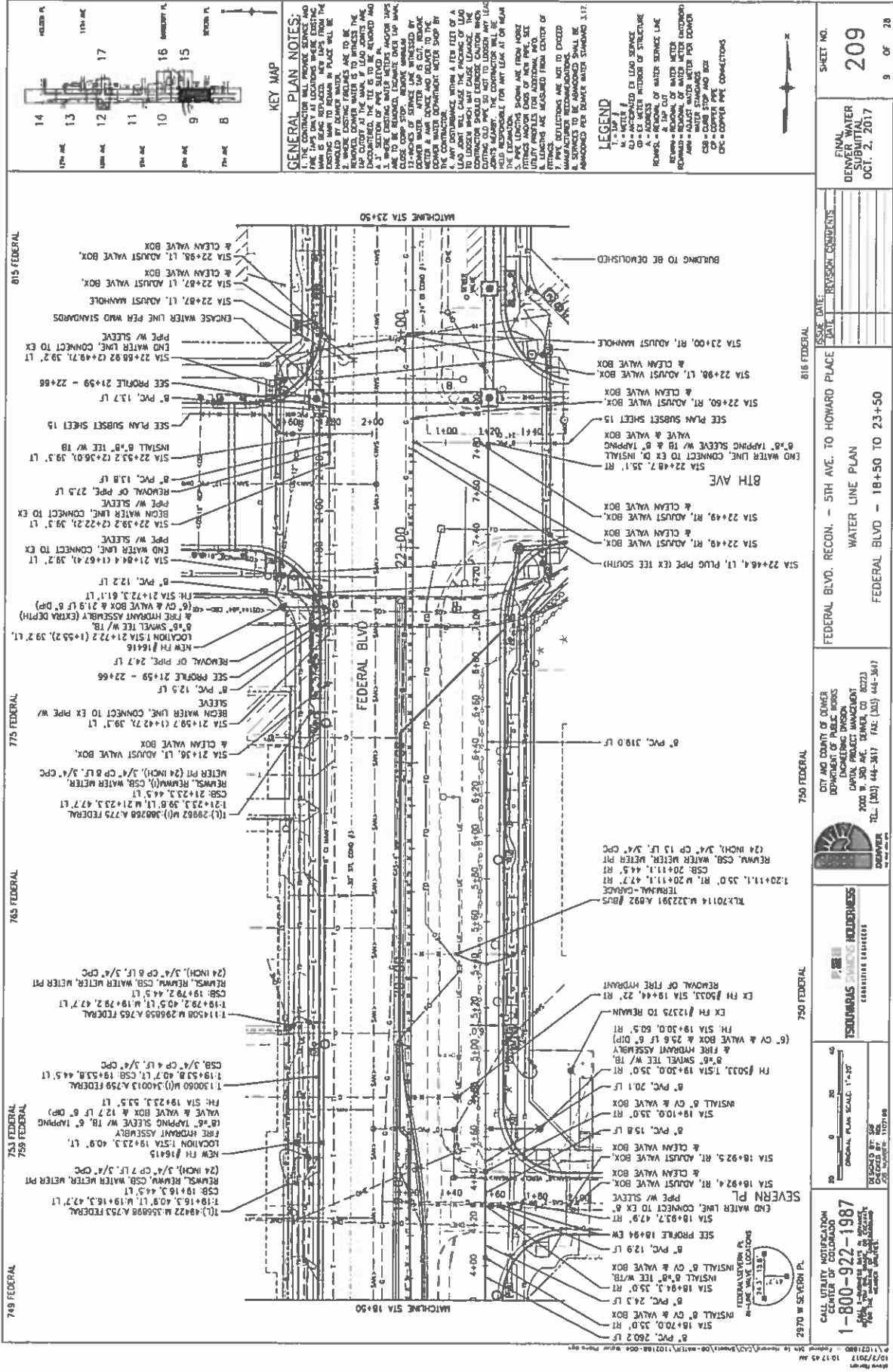
20. BEFORE ANY TAPS ARE MADE FROM MAINS, APPLICATIONS FOR THE TAPS MUST BE RECEIVED AND APPROVED BY THE DISTRIBUTOR AND DENVER WATER.

21. DENVER WATER IS TO MAKE ALL TAPS 2 INCHES AND SMALLER.

22. INDIVIDUAL SERVICE LINE PRVs ARE REQUIRED. USE THIS NOTE ONLY WHEN AREA PRESSURE EXCEEDS 80 PSI.

23. ALL METER AND AIR LOCATIONS SHALL BE APPROVED BY DENVER WATER, EXCEPT IN MASTER METER DISTRICTS. CONTACT METER INSPECTION AT 303-678-6706 BEFORE CONSTRUCTION TO VERIFY ACCEPTABLE METER LOCATIONS.

- AN ON SITE PRE-CONSTRUCTION MEETING WITH METER INSPECTION IS REQUIRED FOR ALL METERS 1-1/2 INCH AND LARGER. CALL METER INSPECTION TO SCHEDULE AN APPOINTMENT.
- SERVICE LINE AND METER SETTINGS MUST MEET ALL APPLICABLE ENGINEERING STANDARDS. THE TIME OF THE METER SET OR INSPECTION, THE LOCATION OF THE METER MAY BE PROPOSED BY THE CONTRACTOR. OTHER OBSTRUCTIONS CONSTRUCTED AFTER THE TAP HAS BEEN INSTALLED.
- ALL METERS FOR INSIDE SERVICE, TOTAL SERVICE, AND READ AND BALL DISTRICTS MUST BE FURNISHED WITH AUTOMATIC METER READING DEVICES AS SPECIFIED BY DENVER WATER. AMR DEVICES WILL BE INSTALLED BY DENVER WATER. THE TAP OF THE METER INSTALLATION OR INSPECTION, THE METER PIT SHALL BE 24-INCH DIAMETER. A 24-INCH DIAMETER BY 3/4-INCH DEEP RECESS WITH A 2-INCH DIAMETER SHALL BE PROVIDED TO ACCOMMODATE THE PIT-MOUNTED AMR DEVICE WHEN RELOCATE AMR DEVICES ARE REQUIRED. A LID WITHOUT ACCESS SHALL BE USED; CONTRACTOR SHALL PROVIDE APPROVED SIGNAL CABLE IN CONDUIT FROM METER LOCATION TO THE AMR DEVICE LOCATION. AND DOUBLE-GANG ELECTRICAL JUNCTION BOX MOUNTED AS DIRECTED FOR AMR DEVICE MOUNTING.



GENERAL PLAN NOTES:
 1. THE CONTRACTOR SHALL PROVIDE SERVICE AND
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE
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 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE
 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE
 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE

LEGEND
 M = MANHOLE
 C = CLEAN VALVE BOX
 W = WATER
 S = SEWER
 T = TAPPING SLEEVE
 H = HYDRANT ASSEMBLY
 R = REMOVAL
 A = ASSEMBLY
 P = PIPE
 L = LOCATION
 D = DEPTH
 S = SIZE
 M = MATERIAL

FINAL
 DENVER WATER
 SUBMITTAL
 OCT. 2, 2017

SHEET NO.
209
 9 OF 28

815 FEDERAL
 775 FEDERAL
 765 FEDERAL
 753 FEDERAL
 750 FEDERAL
 750 FEDERAL
 750 FEDERAL
 750 FEDERAL

816 FEDERAL
 FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE PLAN
 FEDERAL BLVD - 18+50 TO 23+50

ISSUE DATE: REVISED CONDITIONS

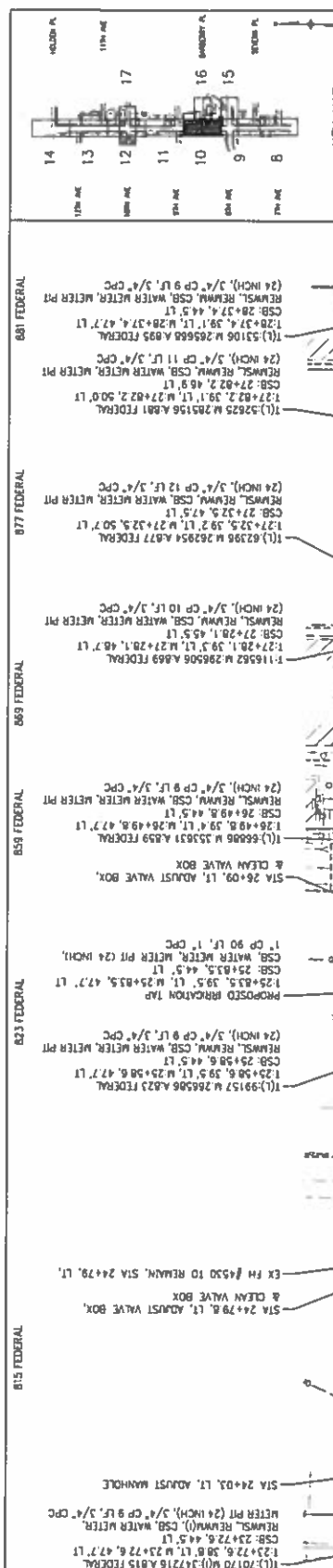
CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 CAPITAL PROJECT MANAGEMENT
 2000 W. 350 AVE., DENVER, CO 80203
 TEL: (303) 444-3617 FAX: (303) 444-3617

TSO/MAINTENANCE HOLDERS
 CONSULTATIVE ENGINEERS

CALL UTILITY NOTIFICATION
 CENTER OF COLORADO
1-800-922-1987
 800-922-1987
 800-922-1987
 800-922-1987

ORIGINAL PLAN SCALE: 1"=30'

REVISIONS



GENERAL PLAN NOTES:

1. THE CONTRACTOR SHALL PROVIDE SERVICE AND THE TAPS ONLY AT LOCATIONS WHERE EXISTING EXISTING MAIN TO REMAIN IN PLACE SHALL BE REMOVED BY OWNER WATER.

2. REMOVED OWNER WATER IS TO BE REMOVED BY THE MAIN. IF LEAD JOINTS ARE TO BE REMOVED, THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER TO DISCUSS THE MAIN.

3. WHERE EXISTING MAINS ARE TO BE REMOVED, THE CONTRACTOR SHALL REMOVE THE MAIN AND CLOSE DOWN STOP VALVES AND THE MAIN.

4. 3" SECTION OF PIPE SETBACK SHALL BE MAINTAINED FROM EXISTING MAINS.

5. 12" WORKS OF SERVICE LINE INTERFERED BY EXISTING MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.

6. MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.

7. MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.

8. MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.

9. MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.

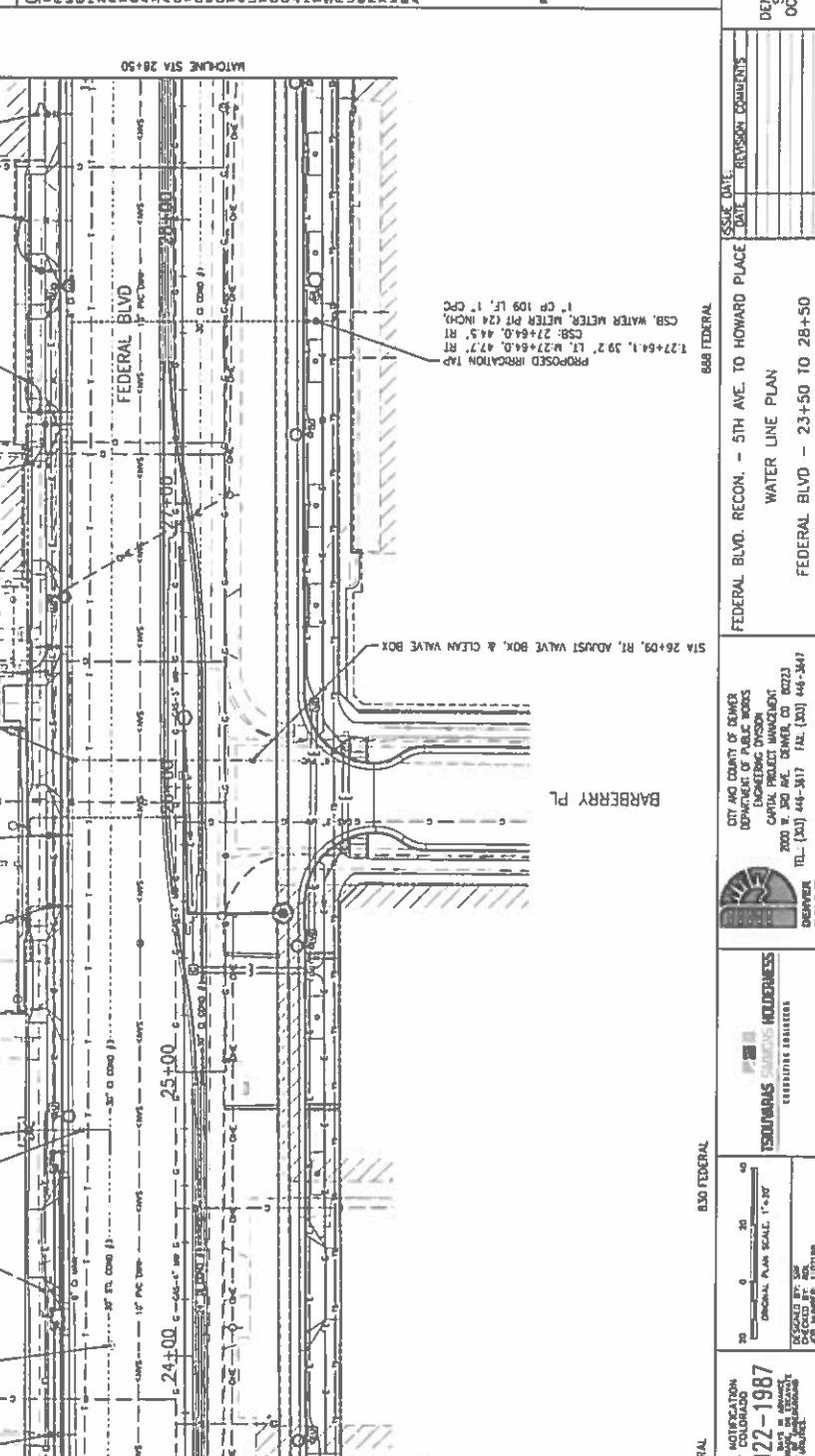
10. MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.

11. MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.

12. MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.

13. MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.

14. MAINS SHALL BE MAINTAINED FROM EXISTING MAINS.



LEGEND

1" CP 12 LF, 1" CFC
 2" CP 12 LF, 1" CFC
 3" CP 12 LF, 1" CFC
 4" CP 12 LF, 1" CFC
 6" CP 12 LF, 1" CFC
 8" CP 12 LF, 1" CFC
 10" CP 12 LF, 1" CFC
 12" CP 12 LF, 1" CFC
 15" CP 12 LF, 1" CFC
 18" CP 12 LF, 1" CFC
 24" CP 12 LF, 1" CFC
 30" CP 12 LF, 1" CFC
 36" CP 12 LF, 1" CFC
 42" CP 12 LF, 1" CFC
 48" CP 12 LF, 1" CFC
 54" CP 12 LF, 1" CFC
 60" CP 12 LF, 1" CFC
 66" CP 12 LF, 1" CFC
 72" CP 12 LF, 1" CFC
 78" CP 12 LF, 1" CFC
 84" CP 12 LF, 1" CFC
 90" CP 12 LF, 1" CFC
 96" CP 12 LF, 1" CFC
 102" CP 12 LF, 1" CFC
 108" CP 12 LF, 1" CFC
 114" CP 12 LF, 1" CFC
 120" CP 12 LF, 1" CFC
 126" CP 12 LF, 1" CFC
 132" CP 12 LF, 1" CFC
 138" CP 12 LF, 1" CFC
 144" CP 12 LF, 1" CFC
 150" CP 12 LF, 1" CFC
 156" CP 12 LF, 1" CFC
 162" CP 12 LF, 1" CFC
 168" CP 12 LF, 1" CFC
 174" CP 12 LF, 1" CFC
 180" CP 12 LF, 1" CFC
 186" CP 12 LF, 1" CFC
 192" CP 12 LF, 1" CFC
 198" CP 12 LF, 1" CFC
 204" CP 12 LF, 1" CFC
 210" CP 12 LF, 1" CFC
 216" CP 12 LF, 1" CFC
 222" CP 12 LF, 1" CFC
 228" CP 12 LF, 1" CFC
 234" CP 12 LF, 1" CFC
 240" CP 12 LF, 1" CFC
 246" CP 12 LF, 1" CFC
 252" CP 12 LF, 1" CFC
 258" CP 12 LF, 1" CFC
 264" CP 12 LF, 1" CFC
 270" CP 12 LF, 1" CFC
 276" CP 12 LF, 1" CFC
 282" CP 12 LF, 1" CFC
 288" CP 12 LF, 1" CFC
 294" CP 12 LF, 1" CFC
 300" CP 12 LF, 1" CFC

815 FEDERAL
823 FEDERAL
859 FEDERAL
869 FEDERAL
877 FEDERAL
881 FEDERAL

815 FEDERAL
 (1) 70170 W(1) 317216 A 815 FEDERAL
 REMOVAL, REMOVAL(1), CSB, WATER METER
 METER PIT (24 INCH), 3/4" CP 9 LF, 3/4" CFC
 CSB: 23472.6, 44.5 LT
 CSB: 23472.6, 44.5 LT
 123+22.6, 30.8 LT, M 23+22.6, 47.7 LT

823 FEDERAL
 (1) 39127 W 266906 A 823 FEDERAL
 REMOVAL, REMOVAL, CSB, WATER METER, METER PIT
 (24 INCH), 3/4" CP 9 LF, 3/4" CFC
 CSB: 2518.5, 44.5 LT
 CSB: 2518.5, 44.5 LT
 125+83.5, 39.5 LT, M 25+83.5, 47.7 LT
 PROPOSED IRRIGATION TAP
 1" CP 90 LF, 1" CFC
 CSB, WATER METER, METER PIT (24 INCH)
 CSB: 2518.5, 44.5 LT

859 FEDERAL
 (1) 66006 W 355831 A 859 FEDERAL
 & CLEAN VALVE BOX
 STA 26+09, LT, ADJUST VALVE BOX,
 CSB: 2649.8, 44.5 LT
 CSB: 2649.8, 44.5 LT
 126+49.8, 39.4 LT, M 26+49.8, 47.7 LT

869 FEDERAL
 (1) 16582 M 298506 A 869 FEDERAL
 & CLEAN VALVE BOX
 STA 26+09, LT, ADJUST VALVE BOX,
 CSB: 27+28.1, 45.5 LT
 CSB: 27+28.1, 45.5 LT
 127+28.1, 39.3 LT, M 27+28.1, 48.7 LT

877 FEDERAL
 (1) 62398 M 282954 A 877 FEDERAL
 REMOVAL, REMOVAL, CSB, WATER METER, METER PIT
 (24 INCH), 3/4" CP 12 LF, 3/4" CFC
 CSB: 27323.5, 47.5 LT
 CSB: 27323.5, 47.5 LT
 127+32.5, 39.2 LT, M 27+32.5, 50.7 LT

881 FEDERAL
 (1) 52825 M 295156 A 881 FEDERAL
 REMOVAL, REMOVAL, CSB, WATER METER, METER PIT
 (24 INCH), 3/4" CP 11 LF, 3/4" CFC
 CSB: 27+82.2, 46.9 LT
 CSB: 27+82.2, 46.9 LT
 127+82.2, 39.1 LT, M 27+82.2, 50.0 LT

(1) 53106 M 286688 A 885 FEDERAL
 REMOVAL, REMOVAL, CSB, WATER METER, METER PIT
 (24 INCH), 3/4" CP 9 LF, 3/4" CFC
 CSB: 28+37.4, 44.5 LT
 CSB: 28+37.4, 44.5 LT
 128+37.4, 39.1 LT, M 28+37.4, 47.7 LT

STATIONING: 23+50, 24+00, 24+50, 25+00, 25+50, 26+00, 26+50, 27+00, 27+50, 28+00, 28+50
 MATCHLINE STA 23+50, MATCHLINE STA 28+50

FEDERAL BLVD
 BARBERRY PL
 PROPOSED IRRIGATION TAP
 CSB, WATER METER, METER PIT (24 INCH)
 CSB: 2249.4, 44.5 LT
 CSB: 2249.4, 44.5 LT
 127+64.1, 39.2 LT, M 27+64.1, 47.7 LT
 1" CP 109 LF, 1" CFC

STIA 26+09, LT, ADJUST VALVE BOX, & CLEAN VALVE BOX

815 FEDERAL
830 FEDERAL

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE PLAN
 FEDERAL BLVD - 23+50 TO 28+50

DISTRICT OF DENVER
 CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 PUBLIC UTILITIES DIVISION
 2000 W. 30TH AVE. DENVER, CO 80231
 TEL: (303) 444-3017 FAX: (303) 444-3847

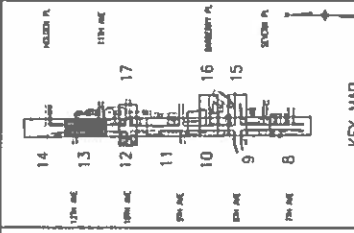
DESIGNED BY: JIM BOYD
 CHECKED BY: JIM BOYD

1-800-922-1987
 CALL UTILITY NOTIFICATION
 CENTER OF COLORADO

TECHNICAL SERVICES HOLDINGS
 ENGINEERING PROFESSIONALS

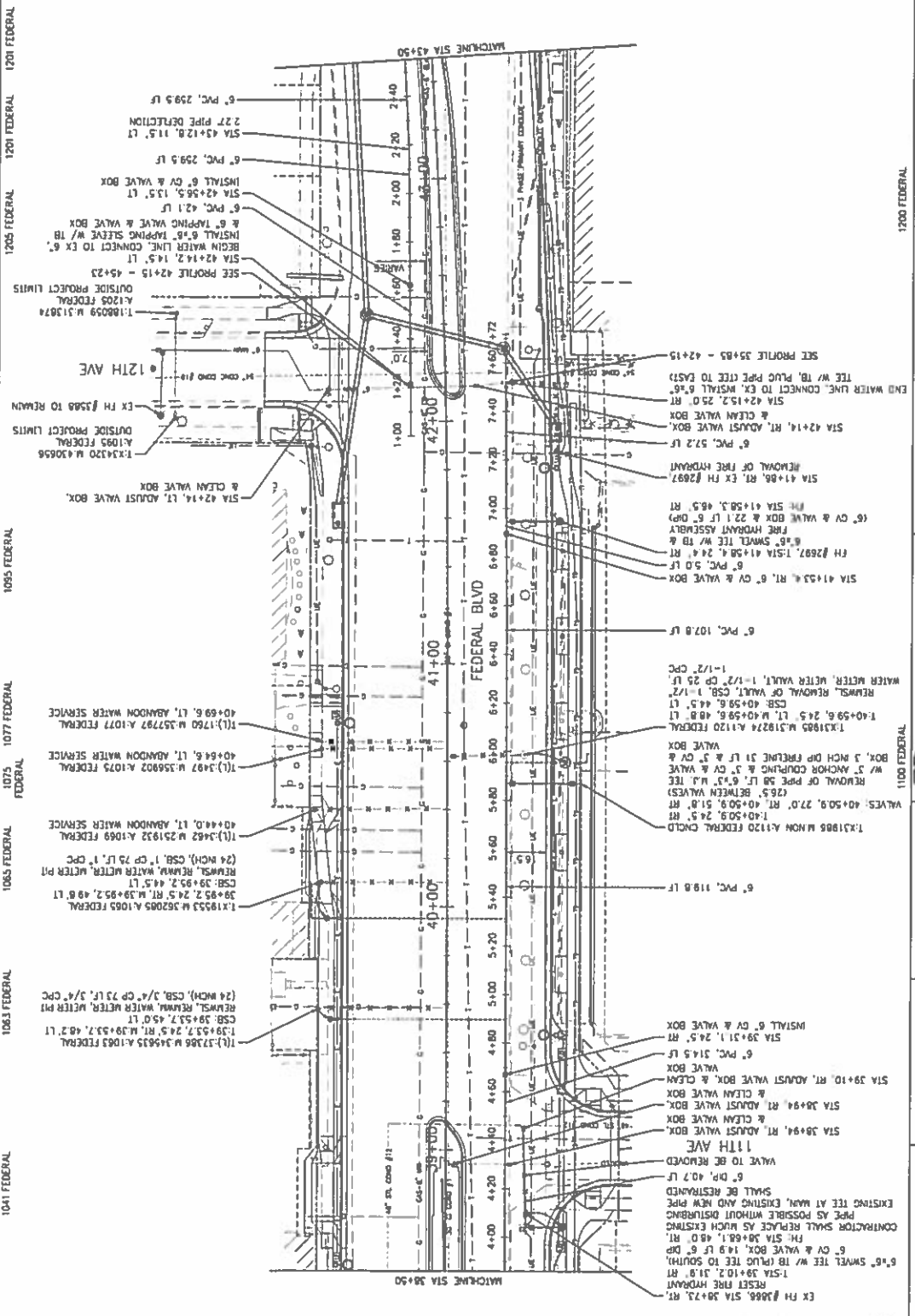
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 C:\Users\JBOYD\Desktop\1071218 CSB Water Plans.dwg

SHEET NO. 210
 FINAL DENVER WATER SUBMITTAL
 OCT. 2, 2017
 10 OF 28



GENERAL PLAN NOTES:
 1. THE CONTRACTOR SHALL PROVIDE SERVICE AND FIRE TAPS ONLY AT LOCATIONS WHERE EXISTING MAINS ARE LOCATED. EXISTING MAINS TO REMAIN IN PLACE SHALL BE MAINTAINED BY DRAINER WATER.
 2. ALL NEW MAINS SHALL BE 12" PVC WITH 12" DUCTILE IRON SERVICE TAPS TO BE INSTALLED AT THE MAIN. SERVICE TAPS SHALL BE INSTALLED AT THE MAIN. SERVICE TAPS SHALL BE INSTALLED AT THE MAIN. SERVICE TAPS SHALL BE INSTALLED AT THE MAIN.
 3. WHERE EXISTING WATER MAINS AND/OR TAPS ARE TO BE REMOVED, THE CONTRACTOR SHALL REMOVE THEM TO THE POINT OF DISCONTINUANCE. EXISTING MAINS TO REMAIN IN PLACE SHALL BE MAINTAINED BY DRAINER WATER.
 4. THE CONTRACTOR SHALL PROVIDE SERVICE AND FIRE TAPS ONLY AT LOCATIONS WHERE EXISTING MAINS ARE LOCATED. EXISTING MAINS TO REMAIN IN PLACE SHALL BE MAINTAINED BY DRAINER WATER.
 5. PIPE LENGTHS SHOWN ARE FROM HORIZ TO THE CENTER OF THE MAIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY LEAK AT OR NEAR THE CONNECTION.
 6. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 7. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 8. SERVICES TO BE PROVIDED SHALL BE AS SHOWN ON THE DRAWINGS FOR EACH WATER SHEDDING AREA.

LEGEND
 1" = 1' VERTICAL SCALE
 1" = 100' HORIZONTAL SCALE
 1" = 1' VERTICAL SCALE
 1" = 100' HORIZONTAL SCALE
 1" = 1' VERTICAL SCALE
 1" = 100' HORIZONTAL SCALE
 1" = 1' VERTICAL SCALE
 1" = 100' HORIZONTAL SCALE



1200 FEDERAL
 FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE PLAN
 FEDERAL BLVD - 38+50 TO 43+50

1000 FEDERAL
 CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 CAPITAL PROJECT MANAGEMENT
 700 W. 3RD AVE. DENVER, CO 80202
 TEL: (303) 441-3811 FAX: (303) 441-3671
 DENVER

1065 FEDERAL
 TSCOURTAS ENGINEERING HOLDINGS
 CONSULTING ENGINEERS

1041 FEDERAL
 CALL UTILITY NOTIFICATION CENTER OF COLORADO
 1-800-922-1987
 BEFORE ANY EXCAVATION OR DRILLING WORK BEGINS
 SECOND BY 48 HOURS BEFORE ANY EXCAVATION OR DRILLING WORK BEGINS
 EXCEPT BY THE CONTRACTOR

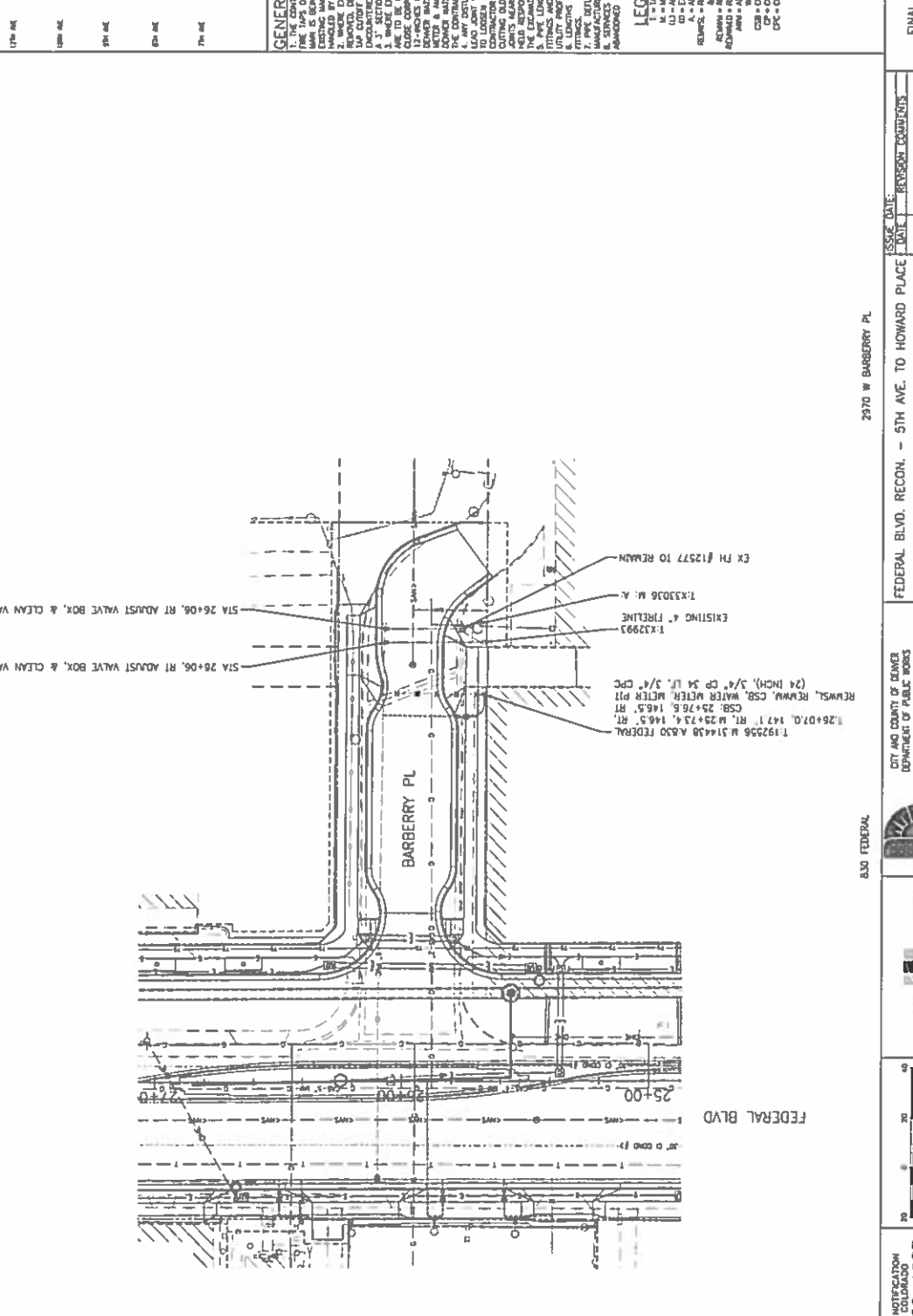
1075 FEDERAL
 ORIGINAL PLAN SCALE: 1"=100'

1065 FEDERAL
 1077 FEDERAL
 1065 FEDERAL
 1041 FEDERAL

17th ME 16th ME 15th ME 14th ME 13th ME 12th ME 11th ME 10th ME 9th ME 8th ME

2800 W 9TH AVE 2970 W BARBERRY PL

800 FEDERAL 830 FEDERAL



GENERAL PLAN NOTES:

1. THE CONTRACTOR SHALL PROVIDE SERVICE AND CLEAN VALVE BOXES AT ALL INTERSECTIONS AND CROSSINGS.
2. ALL EXISTING UTILITY LINES SHALL BE MAINTAINED AND REPAIRED AS NECESSARY. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.
3. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.
4. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.
5. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.

KEY MAP

LEGEND

- 12" - 12" WATER MAIN
- 12" - 12" WATER SERVICE LINE
- 12" - 12" WATER SERVICE LINE
- 12" - 12" WATER SERVICE LINE
- 12" - 12" WATER SERVICE LINE

ISSUE DATE:

DATE	DESCRIPTION

GENERAL PLAN NOTES:

1. THE CONTRACTOR SHALL PROVIDE SERVICE AND CLEAN VALVE BOXES AT ALL INTERSECTIONS AND CROSSINGS.
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3. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.
4. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.
5. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.

LEGEND

- 12" - 12" WATER MAIN
- 12" - 12" WATER SERVICE LINE
- 12" - 12" WATER SERVICE LINE
- 12" - 12" WATER SERVICE LINE
- 12" - 12" WATER SERVICE LINE

GENERAL PLAN NOTES:

1. THE CONTRACTOR SHALL PROVIDE SERVICE AND CLEAN VALVE BOXES AT ALL INTERSECTIONS AND CROSSINGS.
2. ALL EXISTING UTILITY LINES SHALL BE MAINTAINED AND REPAIRED AS NECESSARY. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.
3. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.
4. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.
5. ALL NEW LINES SHALL BE 12" DIA. 20' DEPTH.

LEGEND

- 12" - 12" WATER MAIN
- 12" - 12" WATER SERVICE LINE
- 12" - 12" WATER SERVICE LINE
- 12" - 12" WATER SERVICE LINE
- 12" - 12" WATER SERVICE LINE

CALL UTILITY NOTIFICATION
 1-800-922-1987
 24 HOURS A DAY
 FOR THE SAFETY OF ALL

ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION

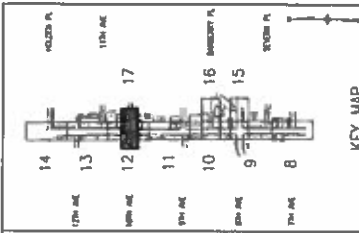
CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 CAPITAL PROJECTS MANAGEMENT
 2000 W. 300 AVE., DENVER, CO 80223
 TEL: (303) 444-3611 FAX: (303) 444-3647

ISSUE DATE:

DATE	DESCRIPTION

SHEET NO.
216
 16 OF 28

FINAL DENVER WATER SUBMITTAL
 OCT. 2, 2017

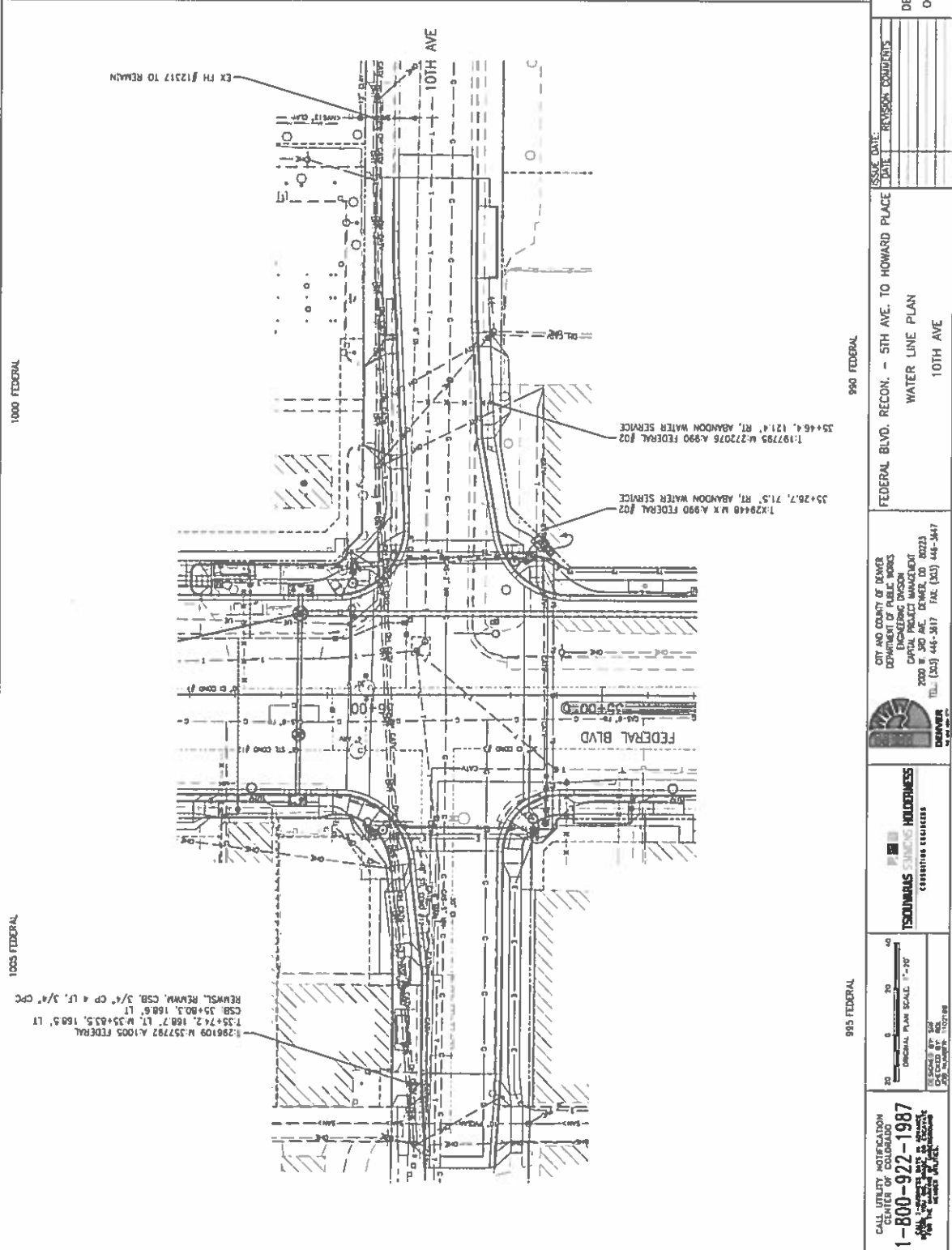


GENERAL PLAN NOTES:

1. THE CONTRACTOR SHALL PROVIDE SERVICE AND FIRE TAPS ONLY AT LOCATIONS WHERE EXISTING EXISTING MAIN TO REMAIN IN PLACE WILL BE MAINTAINED BY DENVER WATER.
2. EXISTING DOWNER WATER MAINS TO BE REMOVED SHALL BE REMOVED AT THE MAIN. LEAD JOINTS ARE TO BE REMOVED AND THE MAIN TO BE REWORKED AND A 3" SECTION OF PIPE SAVED IN.
3. WHERE EXISTING WATER METER MAJOR TAPS ARE TO BE REMOVED, THE CONTRACTOR SHALL PROVIDE A 3" SECTION OF PIPE SAVED IN.
4. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
5. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
6. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
7. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
8. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
9. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
10. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
11. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
12. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
13. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
14. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
15. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
16. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.
17. EXISTING WATER METER MAJOR TAPS TO BE REMOVED SHALL BE REMOVED AND A 3" SECTION OF PIPE SAVED IN.

LEGEND

- 1. - TOP
- 2. - BOTTOM
- 3. - UNCHANGED EX LEAD SERVICE
- 4. - EX METER WITHIN OF STRUCTURE
- 5. - REMOVAL OF EXISTING SERVICE LINE
- 6. - TOP CUT
- 7. - REMOVAL OF EXISTING WATER METER
- 8. - REMOVAL OF EXISTING WATER METER
- 9. - ADJUST WATER METER FOR DENVER WATER STANDARD
- 10. - CUBIC STOP AND BOX
- 11. - COPPER PIPE
- 12. - COPPER PIPE CONNECTIONS



1005 FEDERAL

1000 FEDERAL

995 FEDERAL

990 FEDERAL

1:296109 M.35792 A.1005 FEDERAL

1:735+74.2, 168.7' LT, W.35+83.5, 168.5' LT

REHNSL. REHNSL. CSB, 3/4" CP 4 LF, 3/4" CPC

CSB, 35+80.3, 168.6' LT

CALL UTILITY NOTIFICATION CENTER OF COLORADO

1-800-922-1987

FOR A LIST OF UTILITIES, VISIT www.colorado.gov/utilities

ENGINEERING DIVISION

2020 W. 320th Ave., Denver, CO 80233

TEL: (303) 444-3817 FAX: (303) 444-3447

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE

WATER LINE PLAN

10TH AVE

ISSUE DATE: 10/2/2017

DESIGNER: BURGESS CRIBB

PROJECT NO.: 17

SHEET NO.: 217

OF 28

CITY AND COUNTY OF DENVER

DEPARTMENT OF PUBLIC WORKS

ENGINEERING DIVISION

2020 W. 320th Ave., Denver, CO 80233

TEL: (303) 444-3817 FAX: (303) 444-3447

TSOUMAS STAMBOULIDIS HOLDINGS

CONSULTING ENGINEERS

1005 FEDERAL

1000 FEDERAL

995 FEDERAL

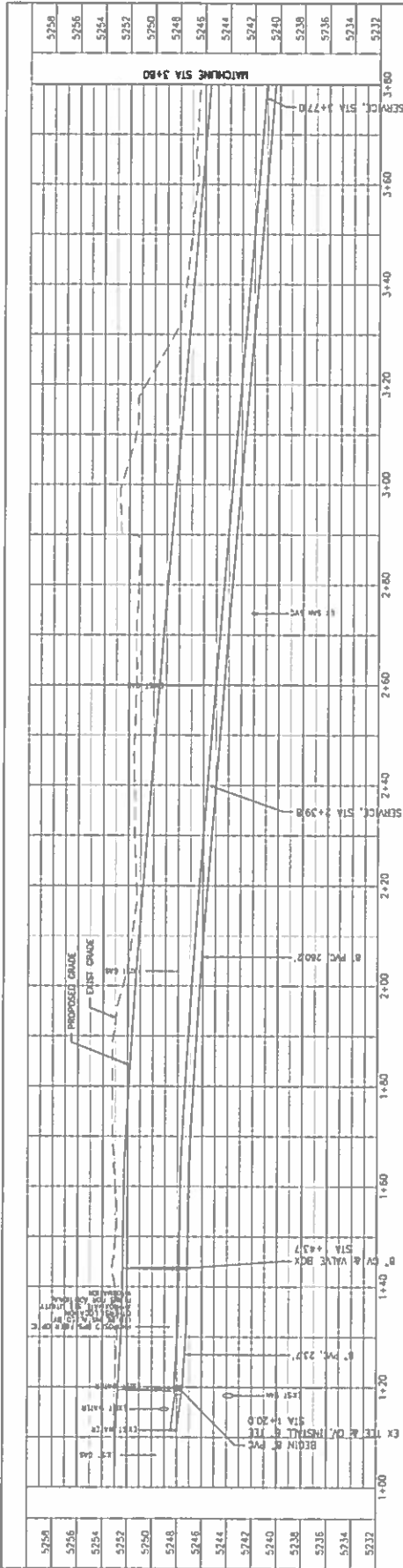
990 FEDERAL

1:296109 M.35792 A.1005 FEDERAL

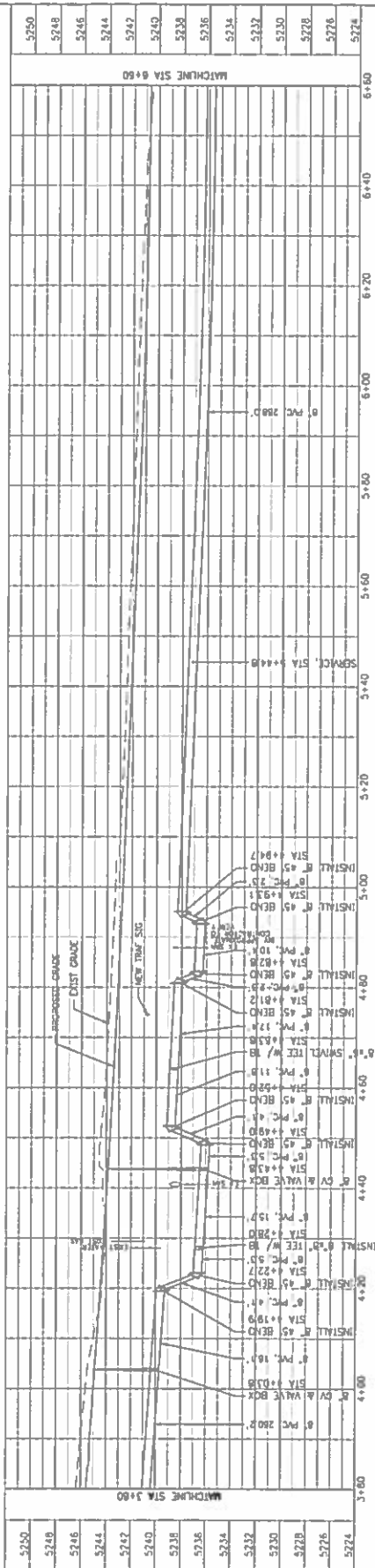
1:735+74.2, 168.7' LT, W.35+83.5, 168.5' LT

REHNSL. REHNSL. CSB, 3/4" CP 4 LF, 3/4" CPC

CSB, 35+80.3, 168.6' LT



PROFILE - 15+85 - 22+50
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'



PROFILE - 15+85 - 22+50
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'

CALL UTILITY NOTIFICATION
 CENTER OF COLORADO
1-800-922-1987
 1075 W. 14TH AVENUE, SUITE 300
 DENVER, CO 80202

DESIGNED BY: SM
 CHECKED BY: HZ/MB
 DATE: 10/17/2017

TSUMURAS ENGINEERS
 1500 S. WASHINGTON ST., SUITE 200
 DENVER, CO 80202
 TEL: (303) 446-8117 FAX: (303) 446-3447

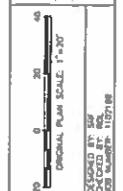
CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 CIVIL PROJECT DIVISION
 2000 W. WASHINGTON AVENUE, SUITE 2000
 DENVER, CO 80202
 TEL: (303) 446-8117 FAX: (303) 446-3447

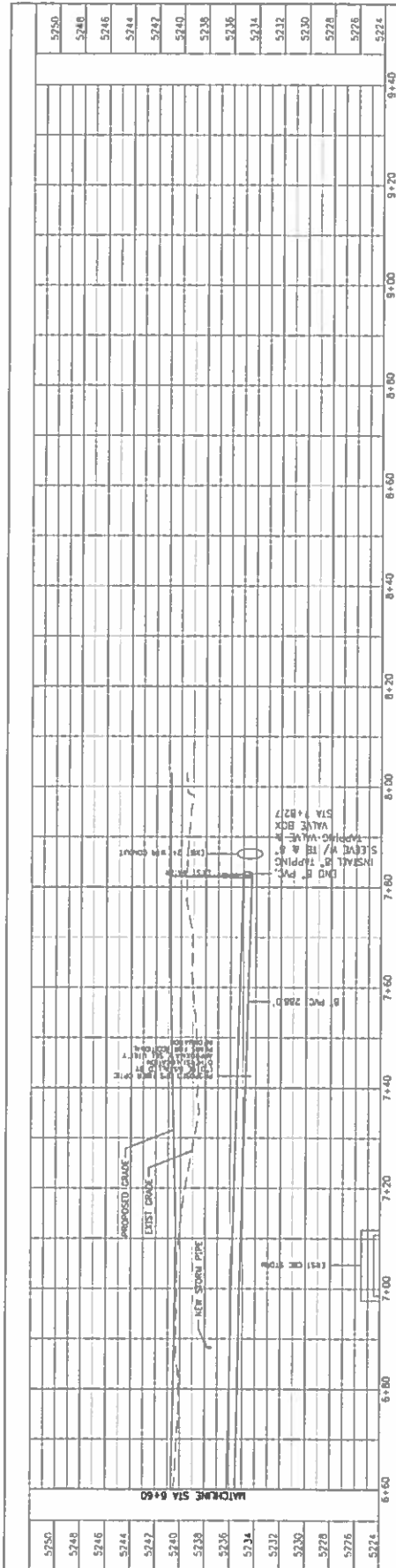
FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE PROFILES

ISSUE DATE: REVISION COMMENTS:

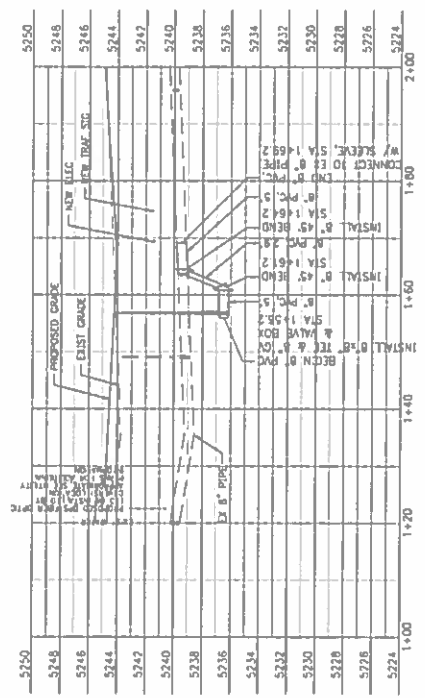
FINAL DENVER WATER SUBMITTAL OCT. 2, 2017

SHEET NO. **218**
 18 OF 28



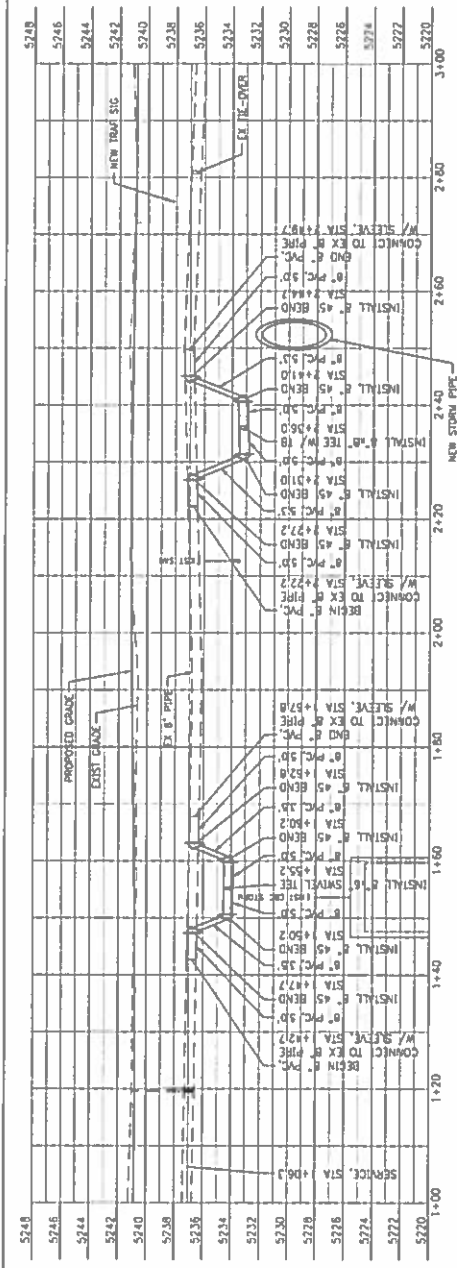


PROFILE - 15+85 - 22+50
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'

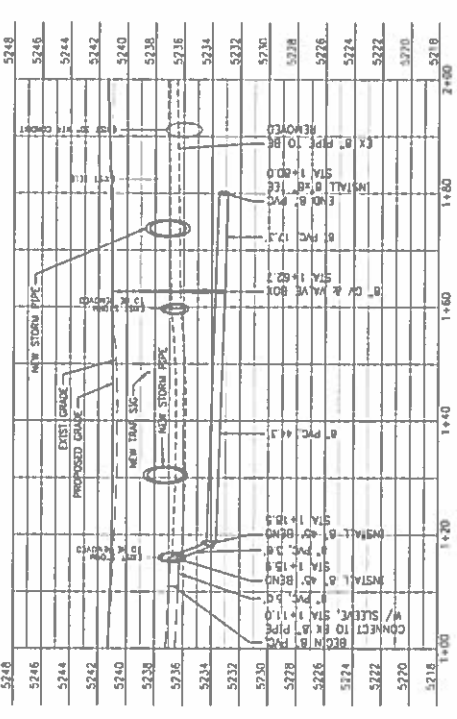


PROFILE - 18+94 EW
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'

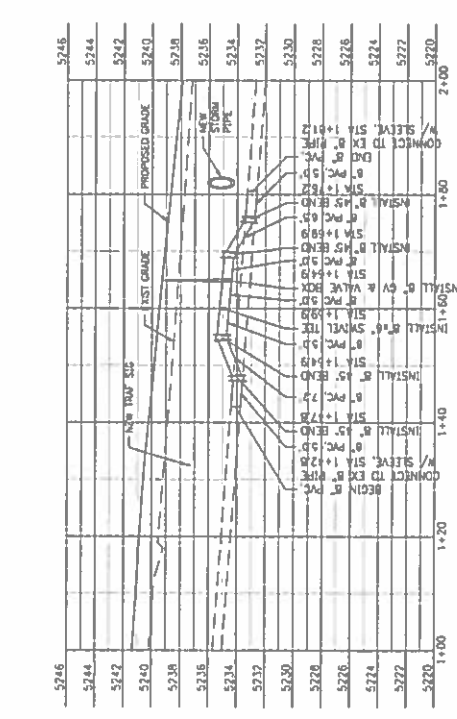
<p>CALL UTILITY NOTIFICATION CENTER OF COLORADO 1-800-922-1987 FOR A LIST OF UTILITIES VISIT www.18009221987.com</p>	<p>DESIGNED BY: SM DATE: 10/27/2017 JOB NO.: 1507188</p>	<p>TECHNICAL SERVICES ENGINEERING SERVICES</p>	<p>CITY AND COUNTY OF DENVER DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION 2000 W. 3RD AVE. DENVER, CO 80202 TEL: (303) 444-3617 FAX: (303) 444-3647</p>	<p>FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE WATER LINE PROFILES</p>	<p>ISSUE DATE: _____ DATE: _____ REVISION: _____ COMMENTS: _____</p>	<p>FINAL DENVER WATER SUBMITTAL OCT. 2, 2017</p>	<p>SHEET NO. 219 19 OF 28</p>
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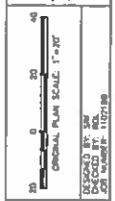
PROFILE - 21+59 - 22+66
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'



PROFILE - 22+53 EW
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'



PROFILE - 22+48 EW
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'



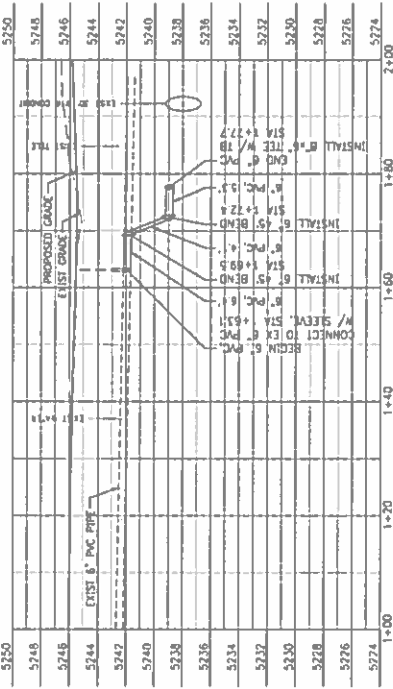
CALL UTILITY NOTIFICATION
 WATER DEPARTMENT
1-800-922-1987
 1500 W. 300 AVE. DENVER, CO 80233
 TEL: (303) 444-3817 FAX: (303) 444-3817



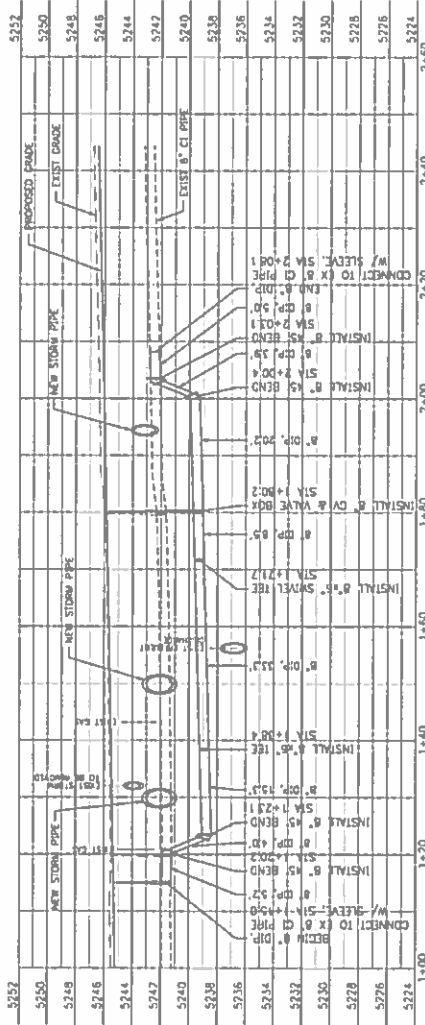
CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 CAPITAL PROJECT MANAGEMENT
 2000 W. 300 AVE. DENVER, CO 80233
 TEL: (303) 444-3817 FAX: (303) 444-3817

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE JUNC.
 WATER LINE PROFILES

FINAL DENVER WATER SUBMITTAL OCT. 2, 2017
 SHEET NO. 220 OF 28



PROFILE - 28+89
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'



PROFILE - 28+66 - 29+58
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'

CALL UTILITY NOTIFICATION
 CENTER OF COLORADO
1-800-922-1987
 1075 14th Street, Suite 300
 Broomfield, CO 80020

TSOUKARIS HOLDINGS
 CONSULTING ENGINEERS
 2000 W. 3RD AVE. DENVER, CO 80223
 TEL: (303) 444-3817 FAX: (303) 444-3847

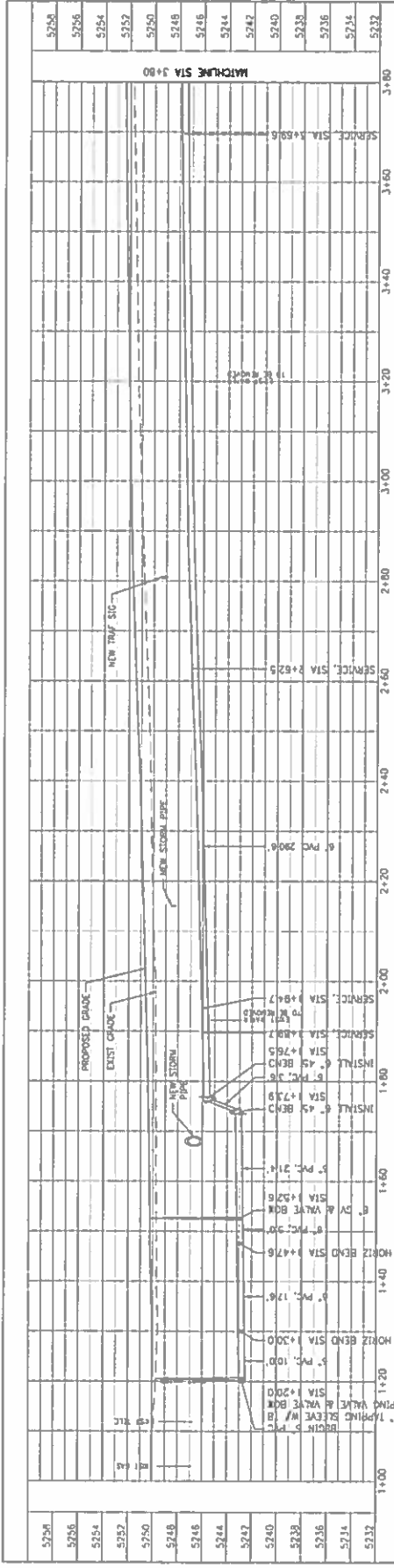


CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 2000 W. 3RD AVE. DENVER, CO 80223
 TEL: (303) 444-3817 FAX: (303) 444-3847

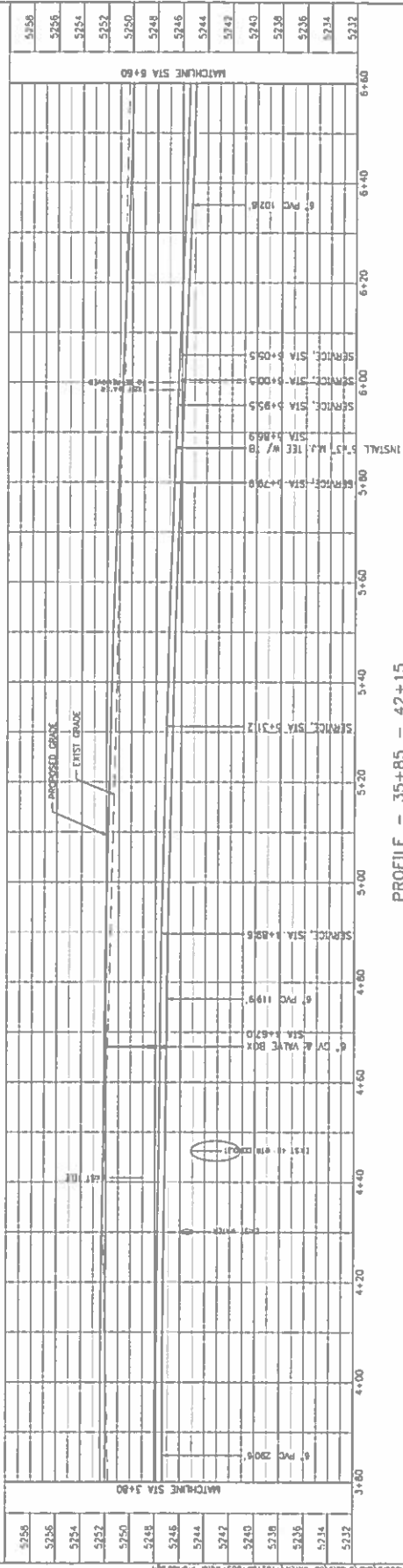
FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE PROFILES

ISSUE DATE	REVISION COMMENTS

FINAL DENVER WATER SUBMITTAL OCT. 2, 2017



PROFILE - 35+85 - 42+15
 ORIG HORIZ SCALE: 1" = 10'
 ORIG VERT SCALE: 1" = 4'



PROFILE - 35+85 - 42+15
 ORIG HORIZ SCALE: 1" = 10'
 ORIG VERT SCALE: 1" = 4'

CALL UTILITY NOTIFICATION
 1-800-922-1987
 BEFORE ANY EXCAVATION
 OR OTHER DISTURBANCE
 TO ANY UTILITIES
 SHOWN ON THIS PLAN

DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 DATE: 10/27/16

TEKONIMAS SURVEY HOLDINGS
 CIVIL ENGINEERS

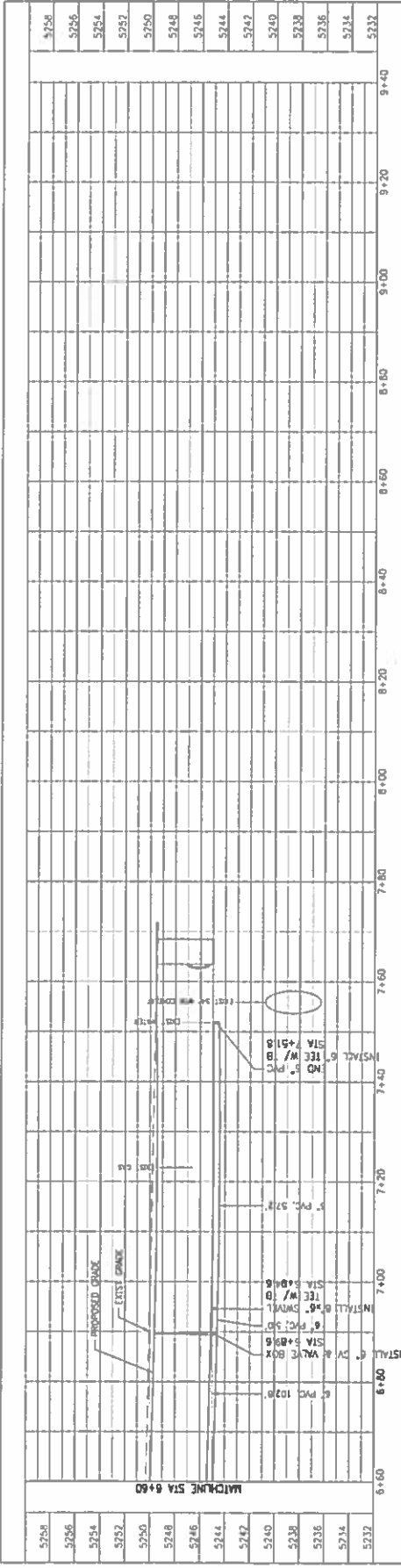
CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 CAPITAL PROJECT MANAGEMENT
 2000 W. 3RD AVE., DENVER, CO 80202
 TEL: (303) 444-3417 FAX: (303) 444-3447

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE PROFILES

ISSUE DATE: REVISIONS

FINAL DENVER WATER SUBMITTAL OCT. 2, 2017

SHEET NO. 222 OF 28



PROFILE - 35+85 - 42+15
 ORIG. HORIZ. SCALE: 1" = 10'
 ORIG. VERT. SCALE: 1" = 4'

10/17/2017 10:17:54 AM
 P:\1021860...
 10/17/2017 10:17:54 AM

CALL UTILITY MODIFICATION
 CENTER OF COLORADO
1-800-922-1987
 4040 S. UNIVERSITY BLVD. SUITE 200
 DENVER, CO 80202

TSOURNAS
 CIVIL ENGINEERING HOLDINGS
 TRANSMISSION ENGINEERS

ISSUE DATE: _____
 DATE: _____
 REVISION COMMENTS: _____

DESIGNED BY: JIM
 CHECKED BY: JIM
 DATE: 10/17/17

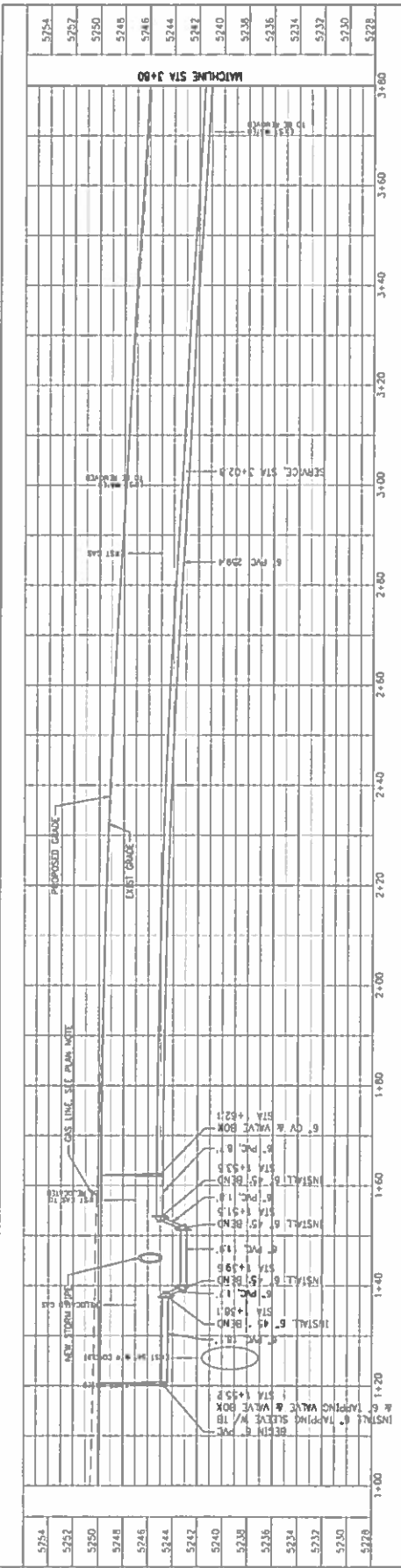
ORIGINAL PLAN SCALE: 1"=40'
 30 0 30 60

DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 CIVIL PROJECT MANAGEMENT
 3000 CALIFORNIA STREET, DENVER, CO 80202
 TEL: (303) 444-3417 FAX: (303) 444-3447

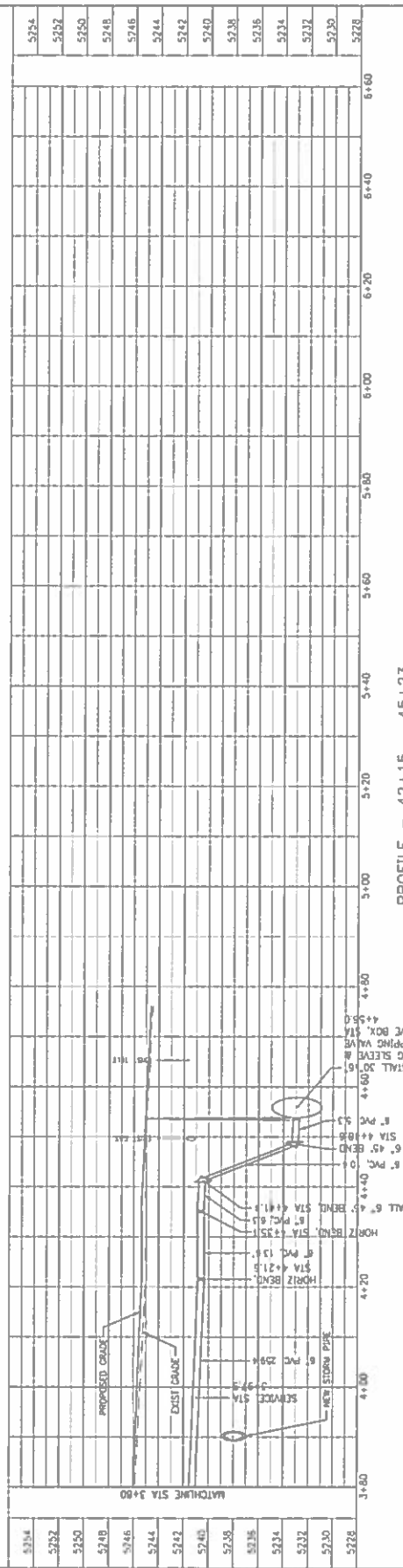
FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE PROFILES

SHEET NO.
223
 23 OF 28

FINAL DENVER WATER
 SUBMITTAL
 OCT. 2, 2017



PROFILE - 42+15 - 45+23
 ORIG HORIZ SCALE: 1" = 10'
 ORIG VERT SCALE: 1" = 4'



PROFILE - 42+15 - 45+23
 ORIG HORIZ SCALE: 1" = 10'
 ORIG VERT SCALE: 1" = 4'

CALL UTILITY NOTIFICATION
 CENTER OF COLORADO
1-800-922-1987
 400 14th Street, Suite 200
 Denver, CO 80202

DESIGNED BY: SAJ
 CHECKED BY: JZ
 DATE: 10/27/16

TSOUKAS ENGINEERING
 ENGINEERS ARCHITECTS
 1500 17th Street, Suite 200
 Denver, CO 80202
 TEL: (303) 444-8417 FAX: (303) 444-8417

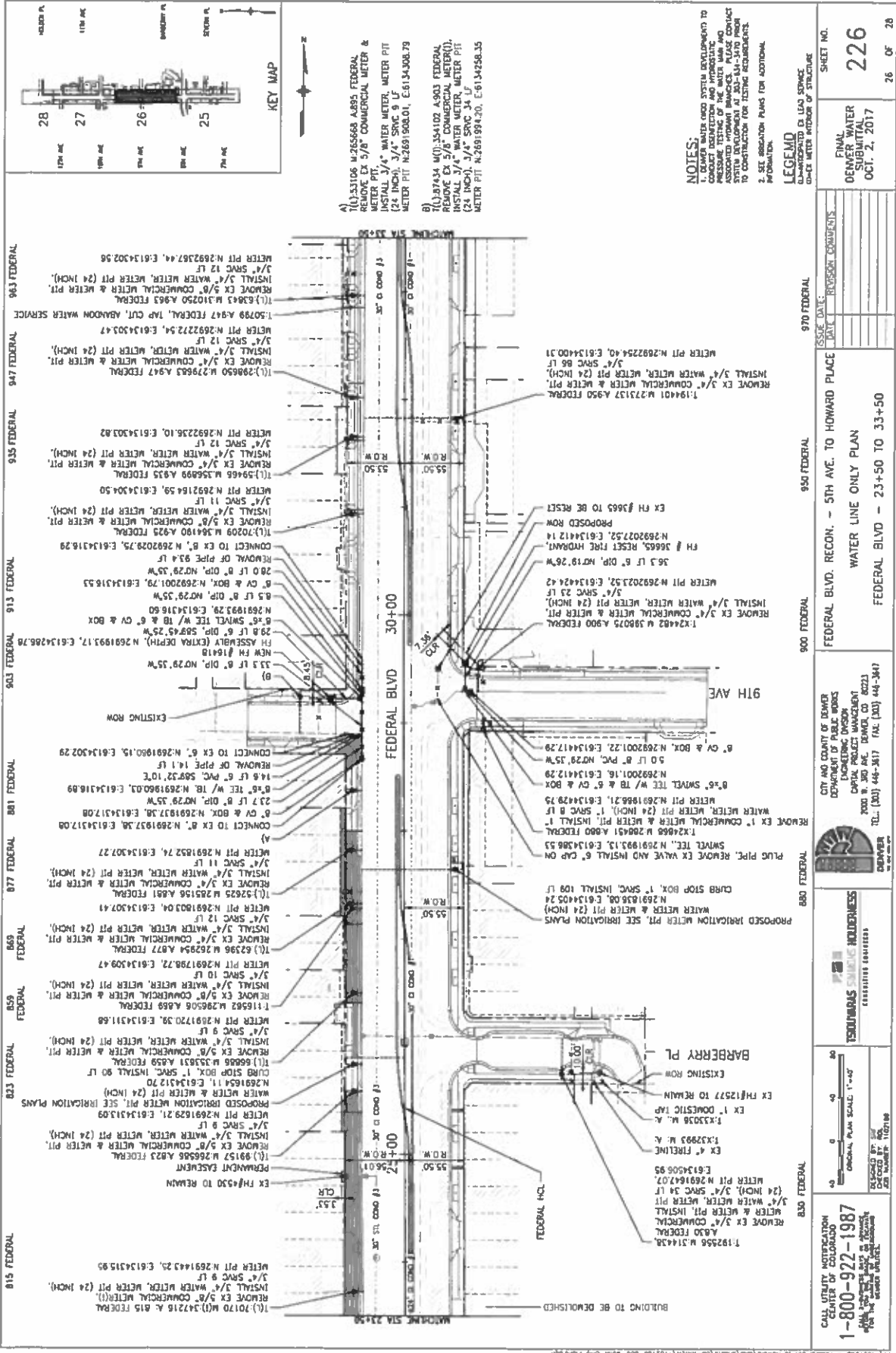
CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 2000 W. 120th Avenue, Suite 4003
 DENVER, CO 80233
 TEL: (303) 444-8417 FAX: (303) 444-8417

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE PROFILES

ISSUE DATE: _____
 REVISION COMMENTS: _____

FINAL DENVER WATER SUBMITTAL OCT. 2, 2017

SHEET NO. **224**
 24 OF 28



NOTES:
 1. DEMON WATER GOOD SYSTEM DEVELOPMENT TO CONDUCT DETERMINATION AND HYDRAULIC ANALYSIS OF THE EXISTING SYSTEM AND ASSOCIATED WATER MAINS. PLEASE CONTACT SYSTEM DEVELOPMENT AT 303-555-3370 PRIOR TO CONSTRUCTION FOR TESTING REQUIREMENTS.
 2. SEE ASSOCIATION PLANS FOR ADDITIONAL INFORMATION.

LEGEND
 01-UNGRAVELLED EX LEAD SPACE
 02-EX METER W/OUT OF STRUCTURE

KEY MAP

7(1) 5/8\"/>

1-800-922-1987
 CALL UTILITY NOTIFICATION CENTER OF COLORADO
 10/27/2017 10:17:56 AM
 10/27/2017 10:17:56 AM
 10/27/2017 10:17:56 AM

DESIGNED BY: [Name]
 CHECKED BY: [Name]
 DATE: 10/27/2017

ISSUE DATE: [Date]
 REVISIONS:

CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF WATER UTILITIES
 1700 W. WYOMING ST., DENVER, CO 80202
 TEL: (303) 441-3811 FAX: (303) 441-3841

TSUBURAYA SUSTAINABLE HOLDINGS
 CONSULTING ENGINEERS

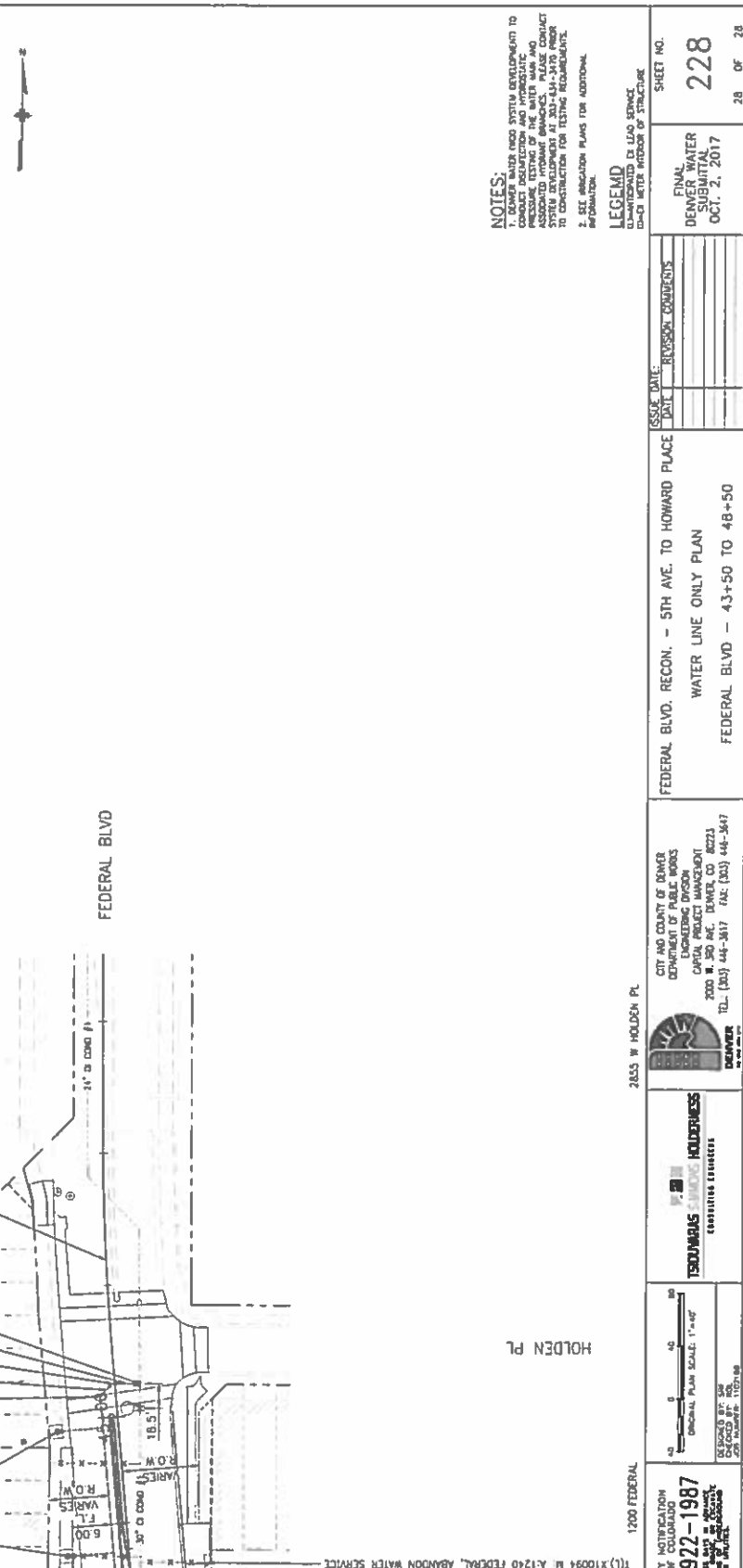
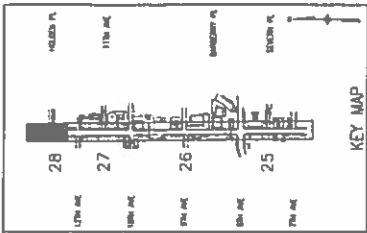
FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE ONLY PLAN
 FEDERAL BLVD - 23+50 TO 33+50

970 FEDERAL
 950 FEDERAL
 900 FEDERAL
 880 FEDERAL
 850 FEDERAL
 823 FEDERAL
 859 FEDERAL
 877 FEDERAL
 881 FEDERAL
 903 FEDERAL
 913 FEDERAL
 935 FEDERAL
 947 FEDERAL
 963 FEDERAL

FINAL
 DENVER WATER
 SUBMITTAL
 OCT. 2, 2017

SHEET NO.
226

26 OF 28



- 1201 FEDERAL 1225 FEDERAL 1251 FEDERAL
- 400 LF (298.5 TOTAL) 6" PVC, N0321'07"
- HORIZONTAL DETECTION, N2693423.00, E:6134322.84
- 161.3 LF (209.5 TOTAL) 6" PVC, N0336'50"W
- 1232650 M 265008 A:1225 FEDERAL
- REMOVE EX 3/4" COMMERCIAL METER & P.T. 3/4"
- INSTALL 3/4" WATER METER, METER P.T. (24 INCH),
- METER P.T. N:2693464.36, E:6134283.85
- (1):100100 M:408136 A:1251 FEDERAL
- REMOVE EX 3/4" COMMERCIAL METER & METER P.T.
- METER P.T. N:2693550.70, E:6134274.74
- 45' BEND W/ TB, N:2693505.62, E:6134306.86
- 13.6 LF 6" PVC, N41'44'03"E
- 45' BEND W/ TB, N:2693595.73, E:6134315.88
- 21.0 LF 6" PVC, N89'46'49"E
- 30"x6" STAINLESS STEEL TAPPING SLEEVE AND 6"
- TAPPING VALVE & BOX, N:2693595.81, E:6134335.84

NOTES:

1. DENVER WATER MISO SYSTEM DEVELOPMENT TO CONDUCT DETECTION AND INVESTIGATE ASSOCIATED HYDRAULIC ANALYSIS. PLEASE CONTACT SYSTEM DEVELOPMENT AT 303-434-3470 PRIOR TO CONSTRUCTION FOR TESTING REQUIREMENTS.
2. SEE REVISION PLANS FOR ADDITIONAL REVISIONS.

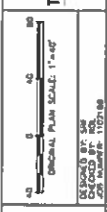
LEGEND

UN-MAINTAINED EX LEAD SERVICE
 DASHED LINE IN FRONT OF STRUCTURE

ISSUE DATE	DATE	REVISION COMMENTS

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
 WATER LINE ONLY PLAN
 FEDERAL BLVD - 43+50 TO 48+50

CITY AND COUNTY OF DENVER
 DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 2020 W. 150th AVE, DENVER, CO 80231
 TEL: (303) 444-3817 FAX: (303) 444-3847



CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
 24 HOURS A DAY
 24 HOURS A DAY
 24 HOURS A DAY