

Addendum No. 3
Juniper Hill Road 19" Main Replacement
PWP Bid No.: WA-2017-013
TMWA Capital Project No.: 10-0001.038
November 30, 2016

The following information, clarifications, changes and modifications are by reference incorporated into the bid documents for the above referenced project. Any work item or contract provision not changed or modified will remain in full force and effect.

CLARIFICATIONS

Clarification No. 1: The Bid Proposal Summary for this project has been revised. The attached documents dated 11/30/16 are current and represent all changes and questions to date. This Bid Proposal Summary shall replace the previous version.

Clarification No. 2: The Improvement Plans for this project have been revised. The attached set of Plans with the Engineer's stamp dated 11/22/16 represents the current design incorporating all changes and questions to date. This set shall replace all previous versions of the Improvement Plans.

QUESTIONS AND RESPONSES

Question No. 1: Please clarify what is required at Sta 0+00 for the tie-in of the new 12" main to the existing 18" main in Mayberry. A tapping sleeve or a weld-on saddle could be used for a hot tap according what the existing pipe material is. The plan note "Ductile Iron MRJ Tee" is not clear to me. If a flanged tee is used with FCA's on the 18" main, it would require shut down and dewatering of the main which doesn't seem practical.

Response to Question No. 1: The connection detail at Mayberry Drive has been revised. See the updated set of Improvement Drawings (attached to this addendum) for further information.

Question No. 2: What is meant by the note at Sta 0+00 "12" Dia MRJ Gate Valve for 75'"? Does this 75' designate footage of 12" pipeline to be restrained? Also reference to Detail 10B-2 doesn't appear to apply to what is called out on the plan. Detail shows two valves and adapter on tee.

Response to Question No. 2: This item has been clarified in the revised Improvement Plans.

Question No. 3: At Sta 0+05.68, reference is to Detail 10L-2 for the 22-1/2 degree elbow. That detail is for a Push-On elbow. Is that correct or should it be an MJ elbow with megalug restraints?

Response to Question No. 3: The specific design takes precedence over standard details. Therefore, the fitting in question shall be restrained. This applies to other fittings with similar callouts as well.

Question No. 4: At Stations 3+42.10 and 11+74.55, no 12" gate valves are shown, but must be required per the quantity of 12" gate valves on the bid schedule and detail on Sheet D2 for Hydrant/Fire Service Reconnect.

Response to Question No. 4: This item has been clarified in the revised Improvement Plans.

Question No. 5: Detail on Sheet D2 for Hydrant/Fire Service Reconnect shows 6" DIP typical at fire hydrants. Notes on Sheets C3 and C5 call for 6" PVC for the hydrant laterals.

Is the correct lateral pipe to be DIP or PVC? The detail also calls for 6" MRJ gate valves on the laterals whereas TMWA standard is for PO x FL Gate Valves with restraint provided by thrust blocks at the tee and hydrant.

Response to Question No. 5: This item has been clarified in the revised Improvement Plans.

Question No. 6: What type of pipe is existing at Stations 9+00 and 9+85.59? MJ sleeves or EBAA 3800 coupling could be used if DIP or C900 exists and if it is AC pipe, it could be connected with Hymax couplings and require thrust blocks for restraint. Please clarify.

Response to Question No. 6: This item has been clarified in the revised Improvement Plans.

Question No. 7: At Station 14+71.43, a 6" tee and two 6" gate valves are called out with 27' of restrained 6" pipe. Is the pipe to be DIP or PVC? The upper note has an arrow to the valve for the tie-in to existing, but 27' would be to the existing fire hydrant above. Please clarify connection requirement.

Response to Question No. 7: This item has been clarified in the revised Improvement Plans.

Question No. 8: There isn't a bid item in the bid schedule for 6" gate valves, but the Bid Clarification Sheets have Item 7 as 6" gate valves. That confuses the item numbers between the Bid Schedule and Clarification Sheet. Also, the ARV is Item 12 on the Bid Schedule and Item 10 of the Clarifications.

Response to Question No. 8: A bid schedule and clarifications reflecting all revisions are attached to this addendum. These documents replace all previous versions.

Question No. 9: The blown up detail on plan sheet C6 is confusing. At Station 17+73.63, a 1" service tap is called for to run 20' of copper from the new 6" main through the orifice bypass to the existing 8" main. However, the detail shows a 6" W for that line with a large circle which would seem to designate a gate valve. At this station on the profile, a 6" MRJ tee is called out. The 6" main would appear to terminate at the flush valve assembly. Please clarify all of this.

Response to Question No. 9: This item has been clarified in the revised Improvement Plans.

Question No. 10: There are bid items for cut and cap of 4", 19" and 24" but no bid item for cut and cap 20" main where the orifice bypass line crosses the 20" main. As for the capping of the 19", 24" and 20" steel lines, what type of cap is to be provided? Is a steel plate to be welded on or what?

Response to Question No. 10: This item has been clarified in the revised Improvement Plans.

Question No. 11: What is to be included in bid item #21 (Cathodic Protection System)? Is it just the materials shown in Detail 10L-9 on Sheet D1 at every 500' or are there other required items such as jumpers at all joints?

Response to Question No. 11: The Improvement Plans and Bid Documents have been revised to include all items required for cathodic protection.

Question No. 12: Are there any addenda for the Juniper Hill Main Replacement?

Response to Question No. 12: Yes. All addenda are available on TMWA's website at www.tmwa.com.

Question No. 13: The bid schedule and the bid schedule clarification don't match up. There is no bid item for the cut in tee at connection point.

Response to Question No. 13: A bid schedule and clarifications reflecting all revisions are attached to this addendum. These documents replace all previous versions.

Question No. 14: Also if the 18" existing is OD steel an MJ tee won't work?

Response to Question No. 14: The connection detail at Mayberry Drive has been revised. See the updated set of Improvement Drawings for further information.

Question No. 15: Your bid schedule description item 7 for a 6" gate valve does not match the bid tabulation. Please add a bid item for 6" gate valves

Response to Question No. 15: A bid schedule and clarifications reflecting all revisions are attached to this addendum. These documents replace all previous versions.

Question No. 16: Please provide a specification for the slurry cement required to be used for the pipe abandonment

Response to Question No. 16: Slurry cement shall conform to the requirements of Section 337.08 of the Standard Specifications for Public Works Construction (Orange Book), specifically Type A in Table 337.08.01.

Question No. 17: Please provide details, scope and specification for the bid item 19, cathodic protection.

Response to Question No. 17: The Improvement Plans and Bid Documents have been revised to include all items required for cathodic protection.

Question No. 18: Please specify the thickness of the permanent asphalt patch in item # 3 and the type of asphalt required.

Response to Question No. 18: This question has been addressed in the revised Improvement Plans.

Question No. 19: I am trying to get clarification on the street cut permits from Washoe County and the City of Reno. It appears that Mayberry Drive is a City of Reno Street and will require their street cut permit and that Juniper Hill Road is a Washoe County Road. However, in talking to the Washoe County Representative Beau Duc he cannot give me a cost of the permit since he does not have a completed set of plans. Also, the detail in the plans for the trench patching is a City of Reno Detail, not a Washoe County detail.

My question is: Is it the intent of the contract to have the TMWA Contractor provide all permanent patching on the project? If so, what additional permit costs will be incurred by the contractor from Washoe County and City of Reno?

Response to Question No. 19: TMWA will procure the Washoe County street cut permit for this project and pay all associated fees. The Contractor will be responsible for any other permits and fees that may be required per the Bid Documents.

Question No. 20: On the Juniper Hill project bidding on 11/22/16-on spec section 3300-2, for injection grout, would TMWA consider lowering the minimum strength from 300 PSI to 50 PSI?

Response to Question No. 20: The required compressive strength for injection grout is 50-200 psi per Table 337.08.01 "Type A" of the Orange Book.

Attachment #1 to Addendum #3

Revised Bid Proposal Forms – 11/30/16

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that I/We _____

as Principal, hereinafter called Contractor, and

a corporation duly organized or authorized to do business under the laws of the State of Nevada, as Surety, hereinafter called the Surety, are held and firmly bound unto Truckee Meadows Water Authority, a joint powers authority created pursuant to NRS Chapter 277, for the sum of
\$ _____ Dollars

(state sum in words)

for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. This bond shall be governed by the laws of the State of Nevada.

WHEREAS, the Principal has submitted a bid, identified as **PWP No: WA-2017-013** and titled "**Juniper Hill Road 19" Main Replacement.**"

NOW, THEREFORE if Truckee Meadows Water Authority shall accept the bid of the Principal and the Principal shall enter into a contract with Truckee Meadows Water Authority in Accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to Truckee Meadows Water Authority the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which Truckee Meadows Water Authority may in good faith contract with another party to perform work covered by said bid or an appropriate liquidated amount as specified in the Invitation for Bids then this obligation shall be null and void, otherwise to remain in full force and effect.

Executed on this _____ day of _____, 20____

(Signature of Principal) **Name:** _____

Title: _____

(Seal)

Firm: _____

Address: _____

City/ State / Zip Code: _____

Written Name of Principal: _____

(Signature of Notary) **ATTEST NAME:** _____

Subscribed and sworn before me this _____ day of _____, 20____

(printed name of notary)

Notary Public for the State of _____

| Claims Under This Bond May Be Addressed To: | |
|---|--|
| Name of Surety | |
| Address | |
| City | |
| State/Zip Code | |
| Name | |
| Title | |
| Phone | |
| Surety's Acknowledgment | |

NOTICE: No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in the State of Nevada. Certified copy of Power of Attorney must be attached.

BID SCHEDULES
(Cont)

REVISED BID SCHEDULES 11/30/16

PWP #: PWP-WA-2017-013
BID TITLE: Juniper Hill Road 19" Main Replacement

NOTICE: No substitution or revision to this Bid Schedule form will be accepted. Truckee Meadows Water Authority will reject any Bid that is received that has changes or alterations to this document. Although the Prevailing Wages are provided in this bid document, the bidder is responsible to verify with the Labor Commissioner if any addendums have been issued. If different, the successful bidder will be required to provide the current Prevailing Wages used in preparation of their bid within 24 hours of bid submission.

PRICES must be valid for 30 calendar days after the bid opening.

A COPY OF THE "CERTIFICATE" of eligibility to receive a preference in bidding on public works issued to him/her by the State Contractors' Board and (if claiming Locals Preference) the Local's Preference Affidavit (provided above) must be submitted with his/her bid to the Contracts Division for the preference to be considered. These Statutes do not apply to projects expected to cost less than \$250,000.

COMPLETION of this project is expected **PURSUANT TO CONTRACT DOCUMENTS**.

BIDDER acknowledges receipt of _____ Addendums.

Item pricing on this schedule is for use in preparing the schedule of values that will be used as a basis for partial payment during construction and for internal TMWA use. Item descriptions are not intended to be all inclusive. Bidders shall include costs for work not specifically mentioned in the most appropriate item.

Refer to Article 7 of the General Conditions for a list of items that may be included in the mobilization bid item. TMWA reserves the right to perform extra work using time and expense or negotiated lump sum procedures.

The Contract Sum will be adjusted (increased or decreased) for actual quantities per unit price items. Lump sum items will not be adjusted.

Compliance with all permit and environmental requirements is incidental to the Work. No separate bid item, or additional payment provisions, shall be made for operational constraints or conditions placed on the Work by permitting agency requirements.

(signature)

SUMMARY

| Description | Scheduled Value | Unit | Unit Price | Total Price |
|--|-----------------|------|------------|-------------|
| 1. Mobilization, Bonds, Insurance, Contracts, Demobilization | 1 | LS | | |
| 2. Traffic Control | 1 | LS | | |

BID SCHEDULES
(Cont)

| Description | Scheduled Value | Unit | Unit Price | Total Price |
|---|-----------------|------|------------|-------------|
| 3. Saw Cut, Remove, Dispose and Replace Pavement | 8160 | SF | | |
| 4. Grind, Remove, Dispose and Construct 2" Overlay | 8640 | SF | | |
| 5. Install 12" Ductile Iron Pipe | 1150 | LF | | |
| 6. Install 12" Hot Tap Nozzle | 1 | EA | | |
| 7. Install 12" Gate Valve | 3 | EA | | |
| 8. Install 6" Ductile Iron Pipe | 590 | LF | | |
| 9. Install 6" Gate Valve | 2 | EA | | |
| 10. Install 6" Normally Closed Valve | 1 | EA | | |
| 11. Reconnection of Existing 6" Fire Hydrant Laterals | 2 | EA | | |
| 12a. Reconnection of Existing 3/4" Services | 1 | EA | | |
| 12b. Reconnection of Existing 1" Services | 5 | EA | | |
| 12c. Reconnection of Existing 1 1/2" Services | 1 | EA | | |
| 12d. Reconnection of Existing 2" Services | 8 | EA | | |
| 13. Install Air Release Valve Assembly | 2 | EA | | |
| 14. Install Flush Valve Assembly | 1 | EA | | |
| 15. Install Orifice Bypass Assembly | 1 | EA | | |

BID SCHEDULES
(Cont)

| Description | Scheduled Value | Unit | Unit Price | Total Price |
|--|-----------------|------|------------|-------------|
| 16. Cut & Cap 24" Main | 1 | EA | | |
| 17. Cut & Cap 20" Main | 2 | EA | | |
| 18. Cut & Cap 19" Main | 1 | EA | | |
| 19. Cut & Cap 4" Main | 3 | EA | | |
| 20. Slurry Fill 24" dia abandoned main | 4900 | LF | | |
| 21. Slurry Fill 20" dia abandoned main | 50 | LF | | |
| 22. Slurry Fill 19" dia abandoned main | 2050 | LF | | |
| 23. Slurry Fill 4" dia abandoned main | 1770 | LF | | |
| 24. Install Cathodic Protection System | 1 | L.S. | | |
| TOTAL BID PRICE | | | | |

Total Bid Price Written in Words: _____

Notes:

1. Bid award will be based on the grand total of all bid items combined; TMWA will not award to multiple contractors.
2. Item pricing on this schedule is for use in preparing the schedule of values that will be used as a basis for partial payments during construction, and for internal TMWA use. Item descriptions are not intended to be all-inclusive. Bidders shall include costs for work not specifically mentioned in the most-appropriate item.
3. TMWA reserves the right to perform extra work using either Bid Item unit costs, time and materials, or negotiated lump sum procedures.
4. The Contract Sum will be adjusted (increased or decreased) for actual quantities per the unit price items. Lump sum items will not be adjusted.

BID SCHEDULES
(Cont)

Juniper Hill Rd 19" Main Replacement 2016
Bid Clarification Sheet
November 30, 2016

Item 1: Mobilization, Bonds, Insurance, Contracts, Demobilization

See Section 7.01 of the General Conditions for details regarding this bid item.

Item 2: Traffic Control

The CONTRACTOR shall provide all traffic controls necessary to provide a safe environment for the workers and traveling public, and guide the traveling public through the work zone during construction. This item shall include all traffic control plans, signage, flaggers, supervision, temporary paving, temporary striping, notifications, or other means to provide the safe environment.

The final pay quantity shall be the bid lump sum price for this bid item. Monthly partial payment requests will be paid based upon the percentage of the total project completed to date.

Item 3: Saw Cut, Remove, Dispose and Replace Pavement

The CONTRACTOR shall remove existing asphalt and construct permanent asphalt patching within the construction area as indicated on the plans. The work comprising the unit price bid for this item shall consist of all labor, equipment and incidentals necessary to saw cut, remove, dispose and permanently replace the existing pavement, including, but not limited to: removal of existing asphalt pavement section, removal of any unsuitable material encountered during excavation, disposal of material at an approved offsite location, regrading, preparation and compaction of subgrade, furnishing, preparation, and compaction of base material, mixing, hauling, tack coats, joint preparation, placement and compaction of asphalt material.

The final pay quantity for this bid item shall be made at the applicable unit bid price per square foot and shall be deemed full compensation to complete the work as specified.

Item 4: Grind, Remove, Dispose and Construct 2" Overlay

The CONTRACTOR shall remove the top 2" of existing asphalt on the trenched half of Juniper Hill Drive Road and construct asphalt overlay as indicated on the plans. The work comprising the unit price bid for this item shall consist of all labor, equipment and incidentals necessary to remove and dispose of existing asphalt, and construct 2" of new asphalt, including, but not limited to: removal of existing top 2" of asphalt pavement on trenched half of roadway, removal of any unsuitable material encountered during excavation, disposal of material at an approved offsite location, mixing, hauling, tack coats, joint preparation, placement and compaction of asphalt material.

The final pay quantity for this bid item shall be made at the applicable unit bid price per square foot and shall be deemed full compensation to complete the work as specified.

Item 5: Install 12" Ductile Iron Pipe

The CONTRACTOR shall install the pipe as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to install 12" ductile iron pipe, including, but not limited to: trenching/excavating along the water

BID SCHEDULES

(Cont)

main alignment to a depth beneath the water bedding limits, placing and compacting of pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom water main, furnishing and installing proposed water main pipe, furnishing and installing joint restraints, thrust blocks, elbows, FLxMJ adapters, cross-laminated polyethylene wrap, and all required appurtenances, placing and compacting of aggregate base backfill, and placing and compacting of granular backfill.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per linear foot and shall be deemed full compensation to complete the work as specified.

Item 6: Install 12" Hot Tap Nozzle

The CONTRACTOR shall install the 12" hot tap nozzle as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to Install the 12" hot tap nozzle, including, but not limited to: trenching/excavating along the water main alignment to a depth beneath the water bedding limits, furnishing and installing reinforcement collar and nozzle, applying epoxy coating to disturbed pipe surface areas, and interior of nozzle, placing and compacting aggregate base backfill placing and compaction of pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom water main and appurtenances, furnishing and installing of proposed water main valves, furnishing and installing thrust blocks, conduits and all required appurtenances, placing and compacting aggregate base backfill, placing and compaction of granular backfill, and placing and finishing of concrete collar.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 7: Install 12" Gate Valve

The CONTRACTOR shall install the valves as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to Install 12" gate valves, including, but not limited to: trenching/excavation along the water main alignment to a depth beneath the water bedding limits, placing and compacting pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom of valve, furnishing and installing proposed water main valve, furnishing and installing thrust blocks, valve box, and all required appurtenances, placing and compaction of aggregate base backfill, placing and compaction of granular backfill, and placing and finishing of concrete collar, if required.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 8: Install 6" Ductile Iron Pipe

BID SCHEDULES

(Cont)

The CONTRACTOR shall install the pipe as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to install 6" ductile iron pipe, including, but not limited to: trenching/excavating along the water main alignment to a depth beneath the water bedding limits, placing and compacting pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom water main, furnishing and installing of proposed water main pipe, furnishing and installing joint restraints, thrust blocks, elbows, FLxMJ adapters, 6" distribution tapping sleeve, cross-laminated polyethylene wrap, and all required appurtenances, placing and compacting aggregate base backfill, and placing and compaction of granular backfill.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per linear foot and shall be deemed full compensation to complete the work as specified.

Item 9: Install 6" Gate Valve

The CONTRACTOR shall install the valves as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to Install 6" gate valves, including, but not limited to: trenching/excavation along the water main alignment to a depth beneath the water bedding limits, placing and compacting pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom of valve, furnishing and installing proposed water main valve, furnishing and installing thrust blocks, valve box, and all required appurtenances, placing and compaction of aggregate base backfill, placing and compaction of granular backfill, and placing and finishing of concrete collar, if required.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 10: Install 6" Normally Closed Valve

The CONTRACTOR shall install the valve as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to install this 6" normally closed valve, including, but not limited to: trenching/excavation along the water main alignment to a depth beneath the water bedding limits, placing and compacting pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom of valve, furnishing and installing proposed water main valve, furnishing and installing thrust blocks, valve box, and all required appurtenances, placing and compaction of aggregate base backfill, placing and compacting granular backfill, and placing and finishing of concrete collar, if required.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 11: Reconnection of Existing 6" Fire Hydrant Laterals to New Main

BID SCHEDULES

(Cont)

The CONTRACTOR shall reconnect the pipe as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to reconnect existing 6" fire hydrant laterals to the new main from existing fire hydrants, including, but not limited to: trenching/excavating to a depth beneath the water bedding limits, placing and compaction of pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom lateral, furnishing and installing lateral pipe, furnishing and installing 6" and 12" gate valves, joint restraints, thrust blocks, elbows and all required appurtenances, placing and compacting aggregate base backfill, and placing and compacting granular backfill.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 12: Reconnection of Existing Services to New Main

The CONTRACTOR shall reconnect the services as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to reconnect existing services to the new main, including, but not limited to: trenching/excavating to a depth beneath the water bedding limits, placing and compacting pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom lateral, furnishing and installing lateral service lines, furnishing and installing tapping saddles and all required appurtenances, placing and compaction of aggregate base backfill, placing and compaction of granular backfill, and any surface restoration necessary to bring the location back to pre-existing conditions.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 13: Install Air Release Valve Assembly

The CONTRACTOR shall install the air release valve assemblies as described in the project Improvement Plans and notes. The assemblies shall follow TMWA requirements and shall be approved by the ENGINEER prior to construction. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to the valves, including, but not limited to: trenching/excavation to a depth beneath the water bedding limits, placing and compacting pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom water lateral, furnishing and installing the air valve assembly, furnishing and installing lateral pipe, tapping saddle and all required appurtenances, placing and compacting aggregate base backfill, and placing and compacting granular backfill.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

BID SCHEDULES (Cont)

Item 14: Install Flush Valve Assembly

The CONTRACTOR shall install the flush valve assembly as described in the project Improvement Plans and notes. The assembly shall follow TMWA requirements and shall be approved by the ENGINEER prior to construction. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to install the assembly, including, but not limited to: trenching/excavating to a depth beneath the water bedding limits, placing and compacting pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom water main, furnishing and installing the flush valve assembly, furnishing and installing joint restraints, thrust blocks, elbows and all required appurtenances, placing and compaction of aggregate base backfill, and placing and compacting granular backfill.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 15: Install Orifice Bypass Assembly

The CONTRACTOR shall install the orifice bypass assembly as described in the project Improvement Plans and notes. The assembly shall follow all applicable TMWA standards and shall be approved by the ENGINEER prior to construction. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to install the assembly, including, but not limited to: trenching/excavation to a depth beneath the water bedding limits, placing and compaction of pipe bedding material a minimum of 6" and maximum of 12" between subgrade and bottom of pipe, furnishing and installing the orifice bypass assembly, furnishing and installing pipe into and out of the vault, tapping saddles, joint restraints, thrust blocks, elbows and all required appurtenances, placing and compacting aggregate base backfill, and placing and compacting granular backfill.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 16: Cut & Cap 24" Main

The CONTRACTOR shall cut and cap the existing 24" main to be abandoned as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals required, including, but not limited to: trenching/excavation to a depth beneath the water bedding limits, furnishing and installing of the appropriate cap or plug to maintain a seal to ensure all grout is contained, placing and compaction of aggregate base backfill, placing and compaction of granular backfill, and restoration of all surface improvements disturbed during the Work.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 17: Cut & Cap 20" Main

BID SCHEDULES

(Cont)

The CONTRACTOR shall cut and cap the existing 20" main to be abandoned as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals required, including, but not limited to: trenching/excavation to a depth beneath the water bedding limits, furnishing and installing of the appropriate cap or plug to maintain a seal to ensure all grout is contained, placing and compaction of aggregate base backfill, placing and compaction of granular backfill, and restoration of all surface improvements disturbed during the Work.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 18: Cut & Cap 19" Main

The CONTRACTOR shall cut and cap the existing 19" main to be abandoned as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals required, including, but not limited to: trenching/excavation to a depth beneath the water bedding limits, furnishing and installing of the appropriate cap or plug to maintain a seal to ensure all grout is contained, placing and compaction of aggregate base backfill, placing and compaction of granular backfill, and restoration of all surface improvements disturbed during the Work.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified..

Item 19: Cut & Cap 4" Main

The CONTRACTOR shall cut and cap the existing 4" main to be abandoned as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals required, including, but not limited to: trenching/excavation to a depth beneath the water bedding limits, furnishing and installing of the appropriate cap or plug to maintain a seal to ensure all grout is contained, placing and compaction of aggregate base backfill, placing and compaction of granular backfill, and restoration of all surface improvements disturbed during the Work.

The material to be used as aggregate base and pipe bedding material shall be approved by the ENGINEER prior to construction. The material excavated during trenching may be used if approved by the ENGINEER.

The final pay quantity for this bid item shall be made at the applicable unit bid price per each and shall be deemed full compensation to complete the work as specified.

Item 20: Slurry Fill 24" dia abandoned main

The CONTRACTOR shall slurry fill and abandon existing 24" main to be abandoned as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to slurry fill the abandoned main, including, but not limited to: trenching/excavation to a depth allowing access to slurry fill the pipe and to seal the abandoned pipe network, furnishing and installing appurtenances to seal and fill, filling the pipe with a verified quantity of grout sufficient to completely displace all remaining air and water in the main, placing and compaction of aggregate

BID SCHEDULES
(Cont)

base backfill, and placing compaction of granular backfill, and restoration of all disturbed surface improvements.

The material to be used as slurry fill shall be approved by the ENGINEER prior to construction.

The final pay quantity for this bid item shall be made at the applicable unit bid price per linear foot and shall be deemed full compensation to complete the work as specified.

Item 21: Slurry Fill 20" dia abandoned main

The CONTRACTOR shall slurry fill and abandon existing 20" main to be abandoned as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to slurry fill the abandoned main, including, but not limited to: trenching/excavation to a depth allowing access to slurry fill the pipe and to seal the abandoned pipe network, furnishing and installing appurtenances to seal and fill, filling the pipe with a verified quantity of grout sufficient to completely displace all remaining air and water in the main, placing and compaction of aggregate base backfill, and placing compaction of granular backfill, and restoration of all disturbed surface improvements.

The material to be used as slurry fill shall be approved by the ENGINEER prior to construction.

The final pay quantity for this bid item shall be made at the applicable unit bid price per linear foot and shall be deemed full compensation to complete the work as specified.

Item 22: Slurry Fill 19" dia abandoned main

The CONTRACTOR shall slurry fill and abandon existing 19" main to be abandoned as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to slurry fill the abandoned main, including, but not limited to: trenching/excavation to a depth allowing access to slurry fill the pipe and to seal the abandoned pipe network, furnishing and installing appurtenances to seal and fill, filling the pipe with a verified quantity of grout sufficient to completely displace all remaining air and water in the main, placing and compaction of aggregate base backfill, and placing compaction of granular backfill, and restoration of all disturbed surface improvements.

The material to be used as slurry fill shall be approved by the ENGINEER prior to construction.

The final pay quantity for this bid item shall be made at the applicable unit bid price per linear foot and shall be deemed full compensation to complete the work as specified.

Item 23: Slurry Fill 4" dia abandoned main

The CONTRACTOR shall slurry fill and abandon existing 4" main to be abandoned as described in the project Improvement Plans and notes. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to slurry fill the abandoned main, including, but not limited to: trenching/excavation to a depth allowing access to slurry fill the pipe and to seal the abandoned pipe network, furnishing and installing appurtenances to seal and fill, filling the pipe with a verified quantity of grout sufficient to completely displace all remaining air and water in the main, placing and compaction of aggregate base backfill, and placing compaction of granular backfill, and restoration of all disturbed surface improvements.

BID SCHEDULES
(Cont)

The material to be used as slurry fill shall be approved by the ENGINEER prior to construction.

The final pay quantity for this bid item shall be made at the applicable unit bid price per linear foot and shall be deemed full compensation to complete the work as specified.

Item 24: Install Cathodic Protection System

The CONTRACTOR shall install a cathodic protection system for the water main. The system shall follow TMWA requirements and shall be approved by TMWA prior to construction. The work comprising the unit price bid for this item shall consist of all labor, equipment, and incidentals necessary to install the system, including, but not limited to: installing all cathodic protection system components, installation of anodes, tracer wire, joint bonds and testing stations. The cathodic protection system shall be installed as described by the manufacturer's standards and specifications.

Payment for this bid item shall be made at the applicable unit price bid per lump sum, which shall be deemed full compensation to complete the work as specified.

BID SCHEDULES
(Cont)

BIDDER INFORMATION:

| |
|---------------------------------------|
| Company Name: |
| Address: |
| City: |
| State / Zip Code: |
| Telephone Number including area code: |
| Fax Number including area code: |
| E-mail: |

LICENSING INFORMATION:

| |
|---|
| Nevada State Contractor's License Number: |
| License Classification(s): |
| Limitation(s) of License: |
| Date Issued: |
| Date of Expiration: |
| Name of Licensee: |
| City, State, Zip Code of Licensee: |
| Telephone Number of Licensee: |

| |
|------------------------------------|
| Business License Number: |
| Date Issued: |
| Date of Expiration: |
| Name of Licensee: |
| City, State, Zip Code of Licensee: |
| Telephone Number of Licensee: |

| |
|---------------------------------|
| Taxpayer Identification Number: |
|---------------------------------|

BID SCHEDULES
(Cont)

DISCLOSURE OF PRINCIPALS:

1. Individual and/or Partnership:

| |
|------------------------|
| Owner 1) Name: |
| Address: |
| City, State, Zip Code: |
| Telephone Number: |
| |
| Owner 2) Name: |
| Address: |
| City, State, Zip Code: |
| Telephone Number: |
| |
| Other 1) Title: |
| Name |
| |
| Other 2) Title: |
| Name: |

2. Corporation:

| |
|---|
| State in which Company is Incorporated: |
| Date Incorporated: |
| Name of Corporation: |
| Address |
| City, State, Zip Code: |
| Telephone Number: |
| President's Name: |
| Vice-President's Name: |
| Other 1) Name: |
| Title: |
| Other 2) Name: |
| Title |

BID SCHEDULES
(Cont)

MANAGEMENT AND SUPERVISORY PERSONNEL:

| Persons and Positions | Years With Firm |
|-----------------------|-----------------|
| Name | |
| Title | |
| Name | |
| Title | |
| Name | |
| Title | |

(If additional space is needed, attach a separate page)

REFERENCES:

1. **Instructions:**

List at least three (3) contracts of a similar nature performed by your firm in the last three (3) years. If **NONE**, use your Company's letterhead (and submit with your bid proposal) a list what your qualifications are for this contract. Truckee Meadows Water Authority reserves the right to contact and verify, with any and all references listed, the quality of and the degree of satisfaction for such performance. See the Supplemental Conditions for the TMWA Project Category required for this project.

2. **Clients:** (if additional space is needed attach a separate page)

| | |
|-----------------------------------|-----------------|
| Owner's Representative : | Telephone # |
| Address (inc. City, State & Zip): | |
| Owner's Representative's E-mail: | |
| Superintendent: | |
| Amount of Contract: | Date Completed: |
| Project Title: | |
| TMWA Project Category: | |
| | |
| Owner's Representative : | Telephone # |
| Address (inc. City, State & Zip): | |
| Owner's Representative's E-mail: | |
| Superintendent: | |
| Amount of Contract: | Date Completed: |
| Project Title: | |
| TMWA Project Category: | |

BID SCHEDULES
(Cont)

| | |
|-----------------------------------|-----------------|
| Owner's Representative : | Telephone # |
| Address (inc. City, State & Zip): | |
| Owner's Representative's E-mail: | |
| Superintendent: | |
| Amount of Contract: | Date Completed: |
| Project Title: | |
| TMWA Project Category: | |
| | |
| Project Name: | |
| Owner's Representative : | Telephone # |
| Address (inc. City, State & Zip): | |
| Owner's Representative's E-mail: | |
| Superintendent: | |
| Amount of Contract: | Date Completed: |
| Project Title: | |
| TMWA Project Category: | |
| | |
| Project Name: | |
| Owner's Representative : | Telephone # |
| Address (inc. City, State & Zip): | |
| Owner's Representative's E-mail: | |
| Superintendent: | |
| Amount of Contract: | Date Completed: |
| Project Title: | |
| TMWA Project Category: | |
| | |

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS PRIMARY COVERED TRANSACTIONS

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal, State or Local department or agency.
 - b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
 - c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or Local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or Local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Signature of Authorized Certifying Official

Title

Printed Name

Date

I am unable to certify to the above statement. My explanation is attached.

Signature

Date

BIDDER'S SAFETY INFORMATION

Bidder's Safety Factors:

| Year | "E-Mod" Factor ¹ | OSHA Incident Rate ² |
|--|-----------------------------|---------------------------------|
| 2013 | | |
| 2014 | | |
| ¹ E-Mod (Experience Modification) Factors are issued by the National Council on Compensation Insurance (NCCI). ² OSHA Incident Rate is the number of OSHA Recordable Accidents multiplied by 200,000 and then dividing that result by the total number of annual man-hours. Please refer to the U.S. Department of Labor Occupational Safety and Health Administration's website for calculating worksheets and current requirements. | | |

BID SCHEDULES
(Cont)

**NRS 338.141 LIST OF SUBCONTRACTORS AND CONTRACTOR SELF PERFORMANCE
EXCEEDING FIVE PERCENT OF BID AMOUNT
(FIVE PERCENT LIST)**

INSTRUCTIONS: List each first tier subcontractor who will be paid an amount **exceeding five percent (5%)** of the Bid amount and Contractor if it will self-perform work exceeding five (5) percent of bid amount. This information must be submitted with your bid proposal. The bidder shall enter “**NONE**” under “**Name of Subcontractor**” if not utilizing subcontractors exceeding this amount. (This form must be complete in all respects. If, additional space is needed, attach a separate page).

| | | | |
|---|-----------------------------|------------------|--|
| Name of Contractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work being self performed by Contractor or statement that Contractor will perform all work other than that being performed by listed subcontractor(s): | | | |
| Name of Subcontractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work: | | | |
| Name of Subcontractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work: | | | |
| Name of Subcontractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work: | | | |
| Name of Subcontractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work: | | | |

BID SCHEDULES

(Cont)

FIRST TIER SUBCONTRACTORS AND CONTRACTOR SELF PERFORMANCE EXCEEDING \$250,000, ONE PERCENT OF BID AMOUNT OR \$50,000 (TWO HOUR LIST)

INSTRUCTIONS: List each first tier subcontractor who will be paid an amount exceeding a) **\$250,000;** and b) **one percent (1%) of the Bid amount, or \$50,000, whichever is greater,** and list Contractor if it will self-perform work exceeding one (1) percent of bid amount. This information must be submitted by the three lowest bidders within two (2) hours after the completion of the opening of the bids. Bidder shall enter “NONE” under “Name of Subcontractor” if not utilizing subcontractors exceeding this amount. (This form must be complete in all respects. If, additional space is needed, attach a separate page). Bidder may elect to submit this Two Hour List with the bid proposal and, in that case, the Bidder will be considered as having timely submitted the Two Hour List.

| | | | |
|---|-----------------------------|------------------|--|
| Name of Contractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work being self performed by Contractor or statement that Contractor will perform all work other than that being performed by listed subcontractor(s): | | | |
| Name of Subcontractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work: | | | |
| Name of Subcontractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work: | | | |
| Name of Subcontractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work: | | | |
| Name of Subcontractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work: | | | |
| Name of Subcontractor | | Address | |
| Phone | Nevada Contractor License # | Limit of License | |
| Description of work: | | | |

Local Preference Affidavit

This preference does not apply to projects expected to cost less than \$250,000.

If the bid submitted is over \$250,000, this completed affidavit must be submitted with your bid response to be considered.

State of _____)
)ss.
 County of _____)

I, _____, on behalf of the Contractor, _____ (“Contractor”), hereby certify and affirm under penalty of perjury, for purposes of qualifying for a preference in bidding under Nevada Revised Statutes Chapter 338 on **PWP No.: WA-2017-013**, Project **Name Juniper Hill Road 19” Main Replacement** (“Project”), that the following requirements will be adhered to, documented and attained for the duration of the Project, collectively, and not on any specific day:

1. At least 50 percent of the workers employed on the Project (including subcontractors) hold a valid driver’s license or identification card issued by the Nevada Department of Motor Vehicles;

2. All vehicles used primarily for the public work will be (a) registered and (where applicable) partially apportioned to Nevada; or (b) registered in Nevada.

3. If applying to receive a preference in bidding pursuant to NRS 338.1727, at least 50 percent of the design professionals who work on the Project (including sub-contractors) hold a valid driver’s license or identification card issued by the Nevada Department of Motor Vehicles; and

4. The Contractor and any subcontractor engaged on the public work shall maintain and make available for inspection within Nevada all payroll records related to the Project.

Contractor recognizes and accepts that failure to comply with any requirements herein shall entitle the Truckee Meadows Water Authority (“Authority”) to a penalty in the amount set by statute. In addition, the Contractor recognizes and accepts that failure to comply with any requirements herein may lose its certification for a preference in bidding for 5 years and/or its ability to bid on any contracts for public works for one year pursuant to NRS Chapter 338.

By: _____ Title: _____

Signature: _____ Date: _____

Signed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____ (name of person making statement).

 Notary Signature STAMP AND SEAL

ACKNOWLEDGMENT AND EXECUTION

STATE OF _____)
County of _____) **SS**

(Name of Principal)

Hereby deposes and says under the penalty of perjury:

That he/she is the Contractor, or authorized agent of the Contractor for whom the aforesaid described work is to be performed by; that he/she has read the Plans, Specifications, and related documents including but not limited to, any addendums issued and understands the terms, conditions, and requirements thereof; that if his/her bid is accepted that he/she agrees to furnish and deliver all materials except those specified to be furnished by Truckee Meadows Water Authority (Owner) and to do and perform all work for the **"Juniper Hill Road 19" Main Replacement," PWP No: WA-2017-013**, together with incidental items necessary to complete the work to be constructed in accordance with the Specifications, Plans, and Contract Documents annexed hereto.

TO THE GENERAL MANAGER OF TRUCKEE MEADOWS WATER AUTHORITY, NEVADA:

The undersigned, as bidder, declares that the only persons or parties interested in this proposal, as principals, are those named herein, the bidder is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid: that this proposal is made without collusion with any other person, firm or corporation; that he/she has carefully examined the location of the proposed work; the annexed proposed form of Contract, the Contract Provisions, Plans, Specifications and Contract Documents incorporated therein referred to and made part thereof; that he/she proposes and agrees if this proposal is accepted, that he/she will contract with Truckee Meadows Water Authority in the form of the Contract prescribed, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the Contract and annexed Contract Provisions, Plans and Specifications, in the manner and time prescribed and according to the requirements of the Project Representative as therein set forth, it being understood and agreed that the quantities shown herein are approximate only and are subject to increase or decrease, and that he/she will accept, in full, payment therefore the indicated prices.

Contractor/Bidder:

(Printed Name of Contractor/Bidder)

BY:

Firm:

Address:

L.S.

City:

State / Zip Code:

Telephone Number:

Fax Number:

E-mail Address:

(Signature of Principal)

Signature:

DATED this _____ day of _____, 20__.

State of Nevada)
County of _____) **S.S.**

On this _____ day of _____, in the year 20__, before me,

/Notary Public, personally appeared

Personally known to me (or proved

to me on the basis of satisfactory evidence) to be the person whose name is subscribed to this instrument, and acknowledged that he (she) executed it. WITNESS my hand and official seal.

Notary's Signature:

My commission Expires:

Attachment #2 to Addendum #3

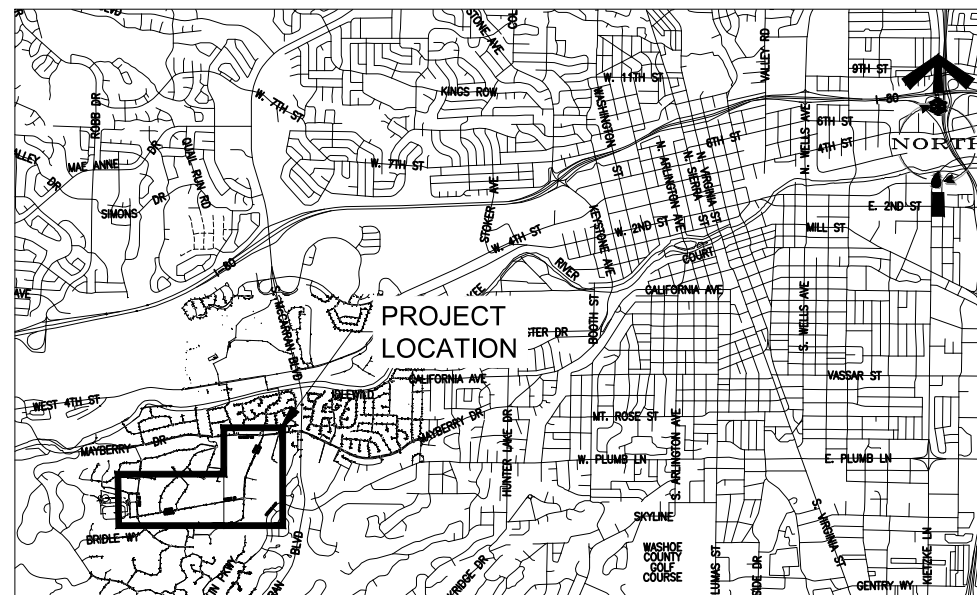
Revised Improvement Plans – 11/22/16

IMPROVEMENT PLANS FOR

JUNIPER HILL ROAD 19" MAIN REPLACEMENT
RENO WASHOE COUNTY NEVADA
TMWA PROJECT NO.: 10.0001-038
PWP NO.: WA-2017-013

INDEX OF SHEETS

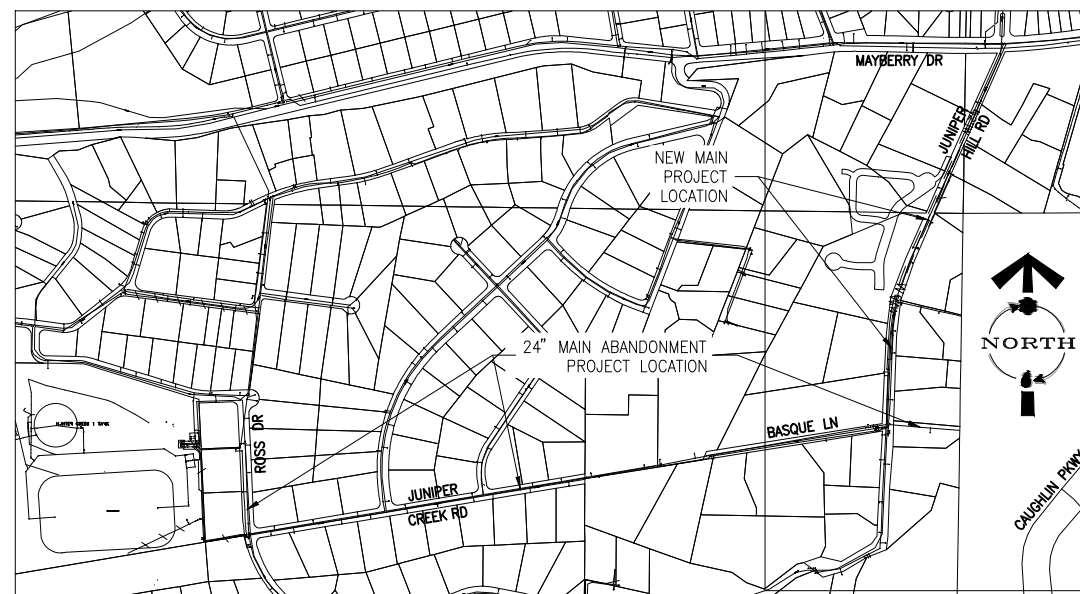
| SHEET NO. | DRAWING NO. | DESCRIPTION |
|-----------|-------------|--|
| 1 | C0 | COVER SHEET |
| 2 | C1 | NOTES |
| 3 | C2 | SITE MAP |
| 4 | C3 | PLAN AND PROFILE STA 0+00 - 4+38.76 |
| 5 | C4 | PLAN AND PROFILE STA 4+38.76 - 9+00.38 |
| 6 | C5 | PLAN AND PROFILE STA 9+00.38 - 14+46.86 |
| 7 | C6 | PLAN AND PROFILE STA 14+46.86 - 17+93.28 |
| 8 | C7 | ABANDONMENT PLAN |
| 9 | C8 | 19" PIPE ABANDONMENT PLAN |
| 10 | C9 | 24" PIPE ABANDONMENT PLAN |
| 11 | D1 | DETAIL SHEET |
| 12 | D2 | DETAIL SHEET |
| 13 | D3 | DETAIL SHEET |



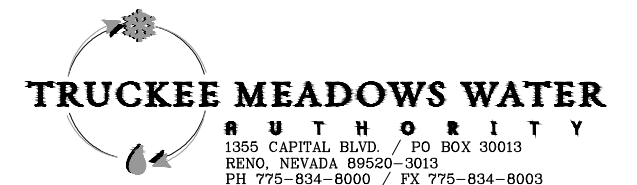
VICINITY MAP
SCALE: 1"=3000'



ENGINEER:



LOCATION MAP
SCALE: 1"=500'



TRUCKEE MEADOWS WATER AUTHORITY

MARK FOREE
GENERAL MANAGER



INSPECTOR
ROY CALLAHAN
Cell Phone: 775-240-5195



Know what's **below**.
Call before you dig.



C0
SHEET 1 OF 13

PROJECT # 10.0001-038

IMPROVEMENT PLANS FOR JUNIPER HILL ROAD 19" MAIN REPLACEMENT AND HUNTER CREEK 24" MAIN RETIREMENT

GENERAL NOTES

TRUCKEE MEADOWS WATER AUTHORITY:

CONTRACTOR TO FURNISH AND/OR INSTALL:

ALL TRENCHING AND EXCAVATION PER TMWA ENGINEERING & CONSTRUCTION STANDARDS SECTIONS 4 AND 5, EXCEPT AS SUPERCEDED IN THESE IMPROVEMENT PLANS.

ALL SURVEY STAKING NECESSARY TO CLARIFY RIGHT-OF-WAY, EASEMENTS, PROPERTY LINES, ELEVATIONS, ETC.

ALL NECESSARY PERMITS, PAVEMENT CUTTING, PAVEMENT REMOVAL, AND PAVEMENT REPLACEMENT.

ALL REQUIRED LINE PRESSURE TESTS AND WELDING/FUSION QUALITY TESTS SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C600, C605 AND TMWA ENGINEERING & CONSTRUCTION STANDARDS. MOST STRINGENT STANDARD SHALL APPLY. ALL PRESSURE TESTS SHALL BE PERFORMED BEFORE THE PIPING IS FLUSHED, DISINFECTED OR SAMPLED FOR AN ANALYSIS OF WATER QUALITY.

WATER MAINS SHALL NOT BE PLACED IN SERVICE UNTIL DISINFECTED PER AWWA STANDARD C651 AND AN ANALYSIS WHICH INDICATES IT MEETS PRIMARY STANDARDS FOR COLIFORM BACTERIA HAS BEEN OBTAINED. FINAL WATER QUALITY TESTS WILL BE FORWARDED TO THE REVIEWING AGENCY UPON COMPLETION OF ANALYSIS.

CONTRACTOR TO COORDINATE WITH TMWA INSPECTOR REGARDING DISCHARGE OF SPENT CHLORINATED WATER.

SEPARATION BETWEEN WATER SERVICES:

DUCTILE IRON PIPE, CAST IRON PIPE, STEEL PIPE – SERVICE TAPS ON THE SAME SIDE OF PIPE SHALL HAVE A MINIMUM 18" SEPARATION. SERVICES STAGGERED SIDE TO SIDE OF PIPE SHALL HAVE A MINIMUM 9" SEPARATION. NO SERVICES ALLOWED WITHIN 24" OF CUT END OR PIPE TO BELL TRANSITION.

APPROX. 34' OF 6" DUCTILE IRON PIPE FOR _____ FIRE HYDRANT LATERAL(S) AND _____ PUBLIC FIRE HYDRANT ASSEMBLY(ES) WITH ALL FITTINGS AND APPURTENANCES. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL FIRE HYDRANT LOCATIONS AND CONSTRUCT FIRE HYDRANTS TO SPECIFICATIONS OUTLINED BY THE LOCAL FIRE JURISDICTION.

APPROX. 1150' OF 12" DUCTILE IRON MAIN PIPE WITH ALL FITTINGS AND APPURTENANCES. (DUCTILE IRON MAIN PIPE SHALL BE PRESSURE CLASS 350 UNLESS OTHERWISE SPECIFIED)

APPROX. 590' OF 6" DUCTILE IRON MAIN PIPE WITH ALL FITTINGS AND APPURTENANCES. (DUCTILE IRON MAIN PIPE SHALL BE PRESSURE CLASS 350 UNLESS OTHERWISE SPECIFIED)

CROSS-LINKED POLYETHYLENE WRAP TO BE USED ON ALL DUCTILE IRON PIPE (DIP) AND FITTINGS PER AWWA STANDARD C105.

ALL RESTRAINED JOINT PIPING SHALL BE DUCTILE IRON PIPE (RJ-DIP). BELL AND SPIGOT PUSH-ON JOINTS SHALL BE RESTRAINED USING RUBBER GASKETS WITH STAINLESS STEEL LOCKING SEGMENTS VULCANIZED INTO THE RUBBER GASKET. RESTRAINED JOINT FITTINGS SHALL BE MECHANICAL JOINT (MJ) DUCTILE IRON RESTRAINED WITH MECHANICAL JOINT WEDGE ACTION RESTRAINT GLANDS.

ALL CONCRETE FOR THRUST BLOCKS PER TMWA ENGINEERING & CONSTRUCTION STANDARDS AND DRAWING NUMBER 10L-2.

APPROX. 165' OF 2" CTS HDPE TUBING WITH ALL FITTINGS AND APPURTENANCES. (INCLUDING ALL HOT TAPS 2" AND UNDER). DOMESTIC

APPROX. 15' OF 1.5" CTS HDPE TUBING WITH ALL FITTINGS AND APPURTENANCES. (INCLUDING ALL HOT TAPS 2" AND UNDER). DOMESTIC

APPROX. 125' OF 1" CTS HDPE TUBING WITH ALL FITTINGS AND APPURTENANCES. (INCLUDING ALL HOT TAPS 2" AND UNDER). DOMESTIC

APPROX. 18' OF 0.75" CTS HDPE TUBING WITH ALL FITTINGS AND APPURTENANCES. (INCLUDING ALL HOT TAPS 2" AND UNDER). DOMESTIC

SPECIFICATIONS

ALL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (AND ANY APPURTENANT SUPPLEMENTS), SPONSORED AND DISTRIBUTED BY RENO, SPARKS, AND WASHOE COUNTY, AND THE SPECIAL PROVISIONS, GENERAL CONDITIONS, TECHNICAL SPECIFICATIONS, AND OTHER CONTRACT DOCUMENTS.

ENGINEER'S STATEMENT

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PROCEDURES AND GUIDELINES, AND ARE IN SUBSTANTIAL COMPLIANCE WITH APPLICABLE STATUTES, CITY ORDINANCES, AND CODES. IN THE EVENT OF CONFLICT BETWEEN ANY PORTION OF THESE PLANS AND CITY CODES, THE CITY CODES SHALL PREVAIL.

GENERAL COMMENTS:

CONTRACTOR TO CALL PROJECT INSPECTOR AT (775) 240- 5195 48-HOURS PRIOR TO START OF CONSTRUCTION TO SCHEDULE ON-SITE INSPECTION. (INCLUDE WORK ORDER NUMBER 10-0001.038)

TO NOTIFY TMWA OF ANY DESIGN AND/OR ADDRESS CHANGES.

ALL MATERIALS, INCLUDING BACKFILL, SHALL BE AT THE JOB SITE PRIOR TO START OF CONSTRUCTION AND SHALL COMPLY WITH TMWA ENGINEERING & CONSTRUCTION STANDARDS.

MAINTAIN POTABLE WATER AND SS/SD/NON-POTABLE HORIZONTAL AND VERTICAL CLEARANCES AS SPECIFIED IN NEVADA ADMINISTRATIVE CODE (NAC) SECTION 445A AND TMWA ENGINEERING & CONSTRUCTION STANDARDS SECTION 8.

ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS FOR THIS PROJECT, AND THE SPECIFICATIONS SET FORTH IN THE TMWA ENGINEERING & CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SECURE COPIES OF THE AFOREMENTIONED CONSTRUCTION SPECIFICATIONS ON HIS/HER OWN BEHALF. THE ENGINEERING & CONSTRUCTION STANDARDS MAY BE DOWNLOADED FROM: www.tmwa.com/standards

SYMBOLS ARE NOT TO SCALE AND DO NOT NECESSARILY REPRESENT ACTUAL LOCATIONS OF FACILITIES.

THIS MAP ILLUSTRATES DATA COLLECTED FROM VARIOUS SOURCES AND MAY NOT REPRESENT A SURVEY OF THE PREMISES. NO RESPONSIBILITY IS ASSUMED AS TO THE SUFFICIENCY OR ACCURACY OF THE DATA DISPLAYED HEREON.

CAUTION: CONTRACTOR IS RESPONSIBLE FOR LOCATING AND COORDINATING WORK AROUND ALL EXISTING UTILITIES. PRIOR TO EXCAVATION, CHECK TO ENSURE ADDITIONAL DEPTH IS NOT REQUIRED TO ACCOMMODATE INSTALLATION OF GAS FACILITIES.

SOILS RETENTION MAY BE REQUIRED AROUND WATER METER BOXES, FIRE HYDRANTS, AND OTHER FACILITIES IF SLOPES EXCEED 15%.

UNUSED SERVICE LATERALS SHALL BE RETIRED BACK TO TMWA'S WATER MAIN.

DURING CONSTRUCTION ALL OPEN ENDS OF PIPES OR FITTINGS SHALL BE SEALED AT THE END OF EACH WORKING DAY TO PREVENT THE ENTRY OF FOREIGN OBJECTS.

ALL PIPE AND APPURTENANCES SHALL BE NSF 61 CERTIFIED.

LEGEND

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| | EX. GROUND PROFILE | | EX. TREE (DIAMETER IN INCHES) |
| | PROP. PIPE PROFILE | | TRANSVERSE PIPE PROFILE |
| | EX. WATER LINE | | PROP. THRUST BLOCK |
| | PROP. WATER LINE | | PROP. PIPE TEE |
| | SAW CUT / LIMITS | | PROP. PIPE ELBOW |
| | EX. MINOR CONTOUR | | PROP. WATER VALVE |
| | EX. MAJOR CONTOUR | | SIGN |
| | EX. FRONT/BACK CURB FACE | | EX. UTILITY VAULT |
| | EX. EDGE OF PAVEMENT | | EX. GAS VALVE |
| | EX. STRIPING | | EX. FIRE HYDRANT |
| | | | EX. WATER VALVE |
| | | | EX. NORMALLY CLOSED TAPPING VALVE |
| | | | AC REMOVE AND REPLACE |

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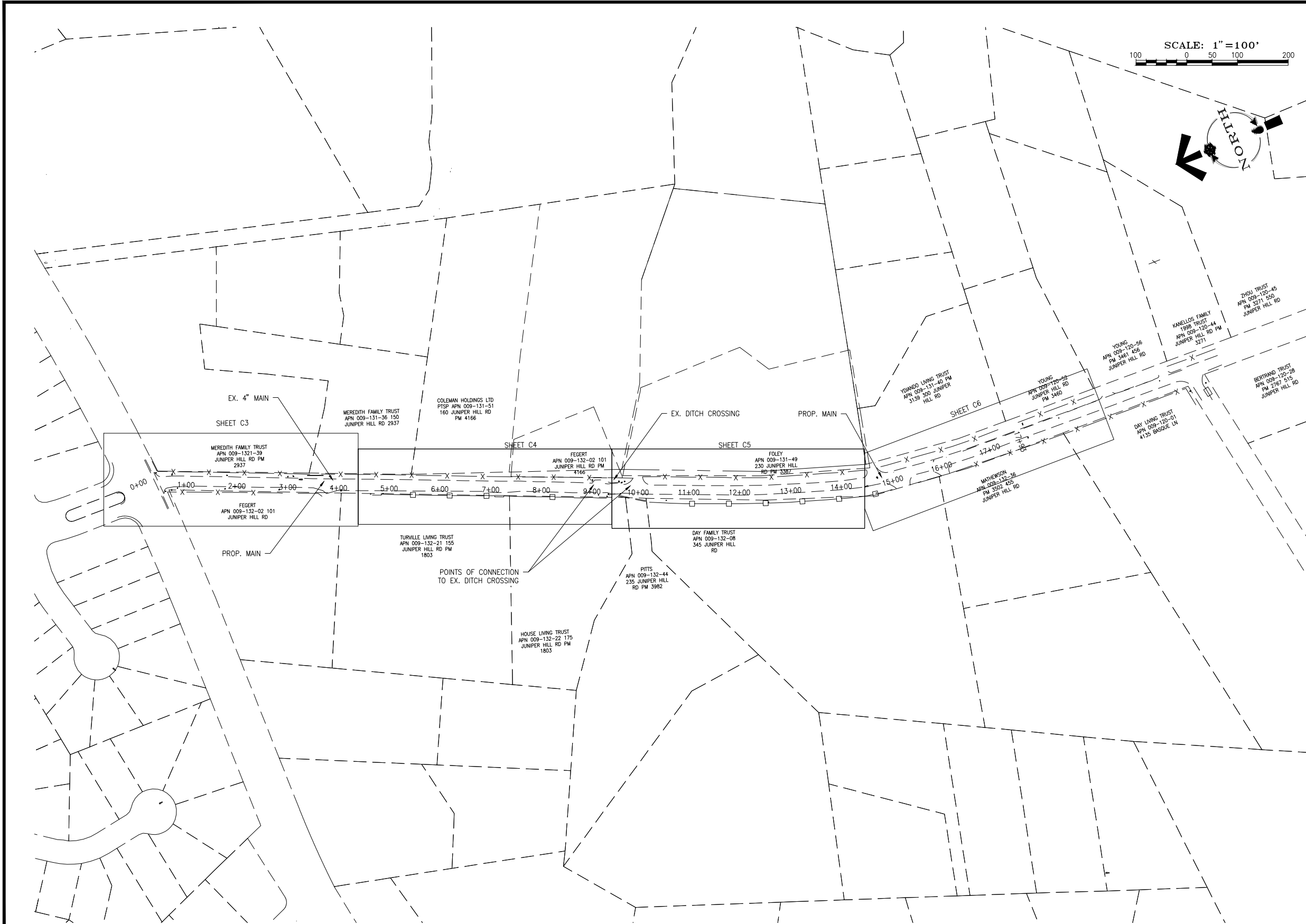
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GENERAL NOTES

- EXISTING GAS FACILITIES (MAINS/SERVICES) LACK DEPTH INFORMATION, AND ARE FEATURED IN THE PROFILES AT AN ASSUMED DEPTH OF 4'. CONTRACTOR SHALL FIELD VERIFY (POTHOLE) DEPTH OF GAS FACILITIES AT ALL PROPOSED WATER CROSSING LOCATIONS. THE CONTRACTOR SHALL MAINTAIN A MINIMUM 12" SEPARATION BETWEEN GAS UTILITIES AND WATER MAIN AT PROPOSED CROSSINGS. CONTRACTOR SHALL IMMEDIATELY NOTIFY TWA INSPECTOR AND/OR TWA ENGINEER OF ANY IMPENDING CONFLICT.
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**BID
SET**

NOTE:
SUMMIT ENGINEERING CORPORATION
IS NOT RESPONSIBLE FOR WATER
ANALYSIS, INCLUDING PIPE SIZING
AND WATER PRESSURES.

SUMMIT
ENGINEERING CORPORATION

3415 MAE ANNE AVE., RENO, NV. 89523
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days

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| REVISION | DESCRIPTION | BY | APP | DATE |
|----------|--|----|-----|----------|
| 1 | ASPHALT PAVING, DETAILS, AND MAIN CROSSING UPDATES | MF | CGT | 11/15/16 |
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| WORK ORDER NO. 10-0001.038 |
| DESIGNED CGT |
| DRAWN MF |
| DATE SEPTEMBER 2016 |
| CHECKED CGT |
| SUBMITTED |
| RECOMMENDED |
| APPROVED |

TRUCKEE MEADOWS WATER AUTHORITY

1355 CAPITAL BLVD. / PO BOX 30013
RENO, NEVADA 89520-3013
PH 775-834-8000 / FX 775-834-8003

NOT REPRODUCIBLE

PROPERTY OF
TRUCKEE MEADOWS WATER
AUTHORITY, RETURN UPON
COMPLETION OF PROJECT
(Per Homeland Security Act)

JUNIPER HILL RD. 19" MAIN REPLACEMENT
RENO, NEVADA

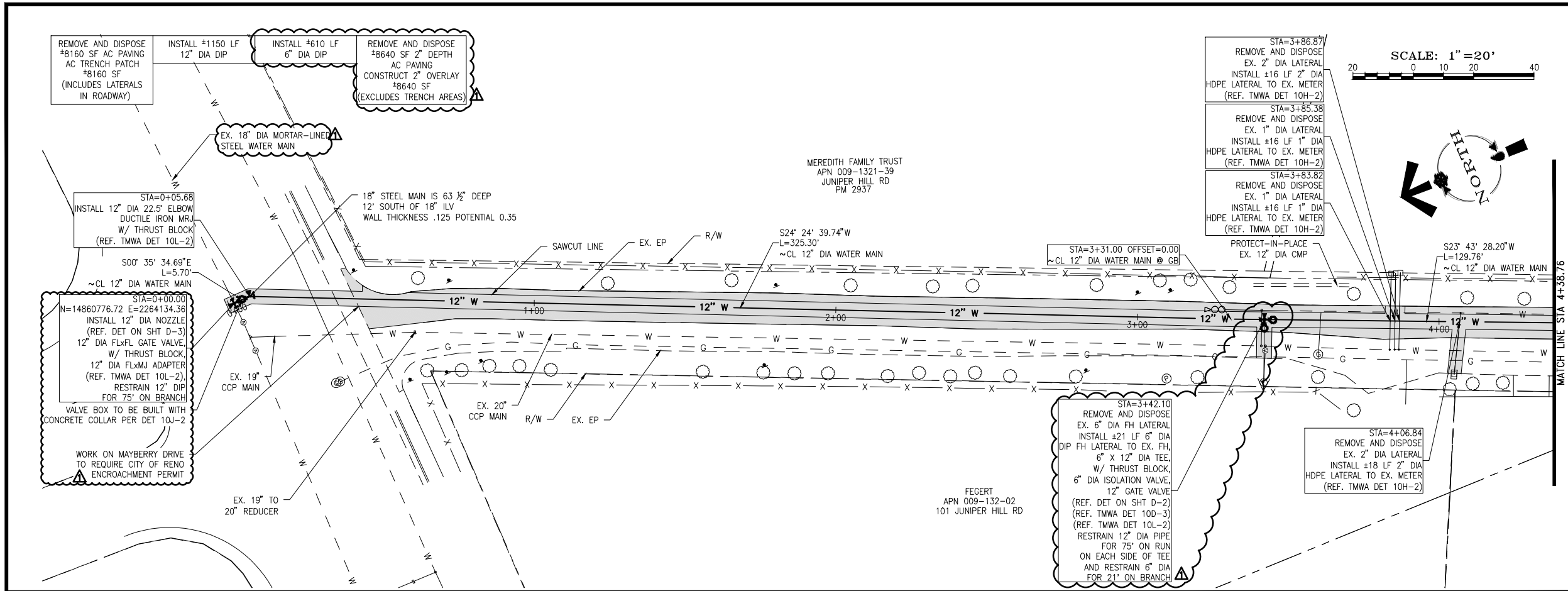
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SHEET NUMBER

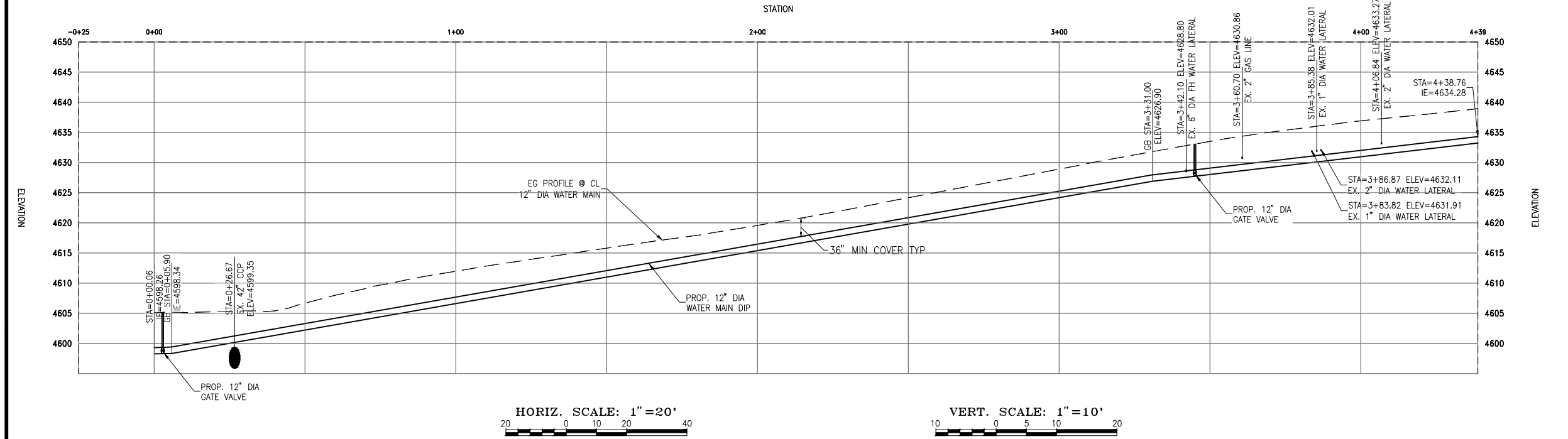
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3 OF 13

11/22/16



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BID SET

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SUMMIT
ENGINEERING CORPORATION

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| REVISION | DESCRIPTION | BY | APP | DATE |
|----------|--|----|-----|----------|
| 1 | ASPHALT PAVING, DETAILS, AND MAIN CROSSING UPDATES | MF | CGT | 11/15/16 |
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| WORK ORDER NO. 10-0001.038 |
| DESIGNED CGT |
| DRAWN MF |
| DATE SEPTEMBER 2016 |
| CHECKED CGT |
| SUBMITTED |
| RECOMMENDED |
| APPROVED |

TRUCKEE MEADOWS WATER AUTHORITY

1355 CAPITAL BLVD. / PO BOX 30013
RENO, NEVADA 89520-3013
PH 775-834-8000 / FX 775-834-8003

NOT REPRODUCIBLE

PROPERTY OF
TRUCKEE MEADOWS WATER
AUTHORITY. RETURN UPON
COMPLETION OF PROJECT
(Per Homeland Security Act)

JUNIPER HILL RD. 19" MAIN REPLACEMENT

RENO, NEVADA

PLAN AND PROFILE

STA 0+00 - 4+38.76

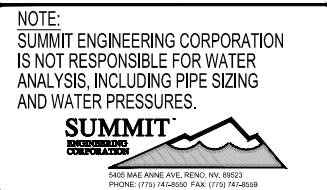
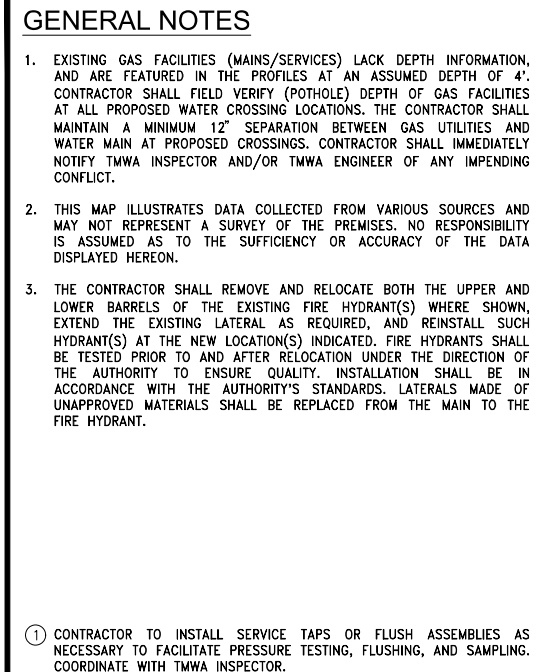
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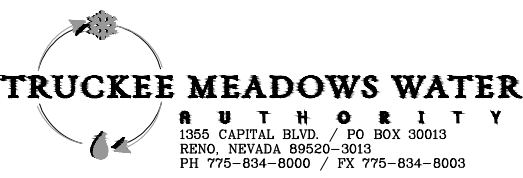
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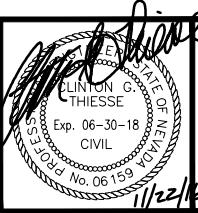
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WORK ORDER NO. 10-0001.038
DESIGNED CGT
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DATE SEPTEMBER 2016
CHECKED CGT
SUBMITTED
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PROPERTY OF
TRUCKEE MEADOWS WATER
AUTHORITY, RETURN UPON
COMPLETION OF PROJECT
(Per Homeland Security Act)

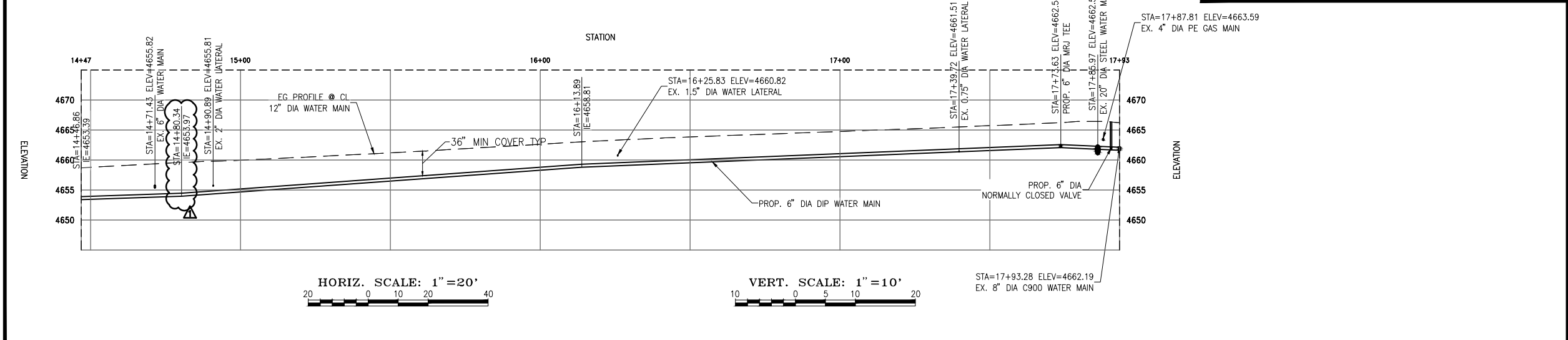
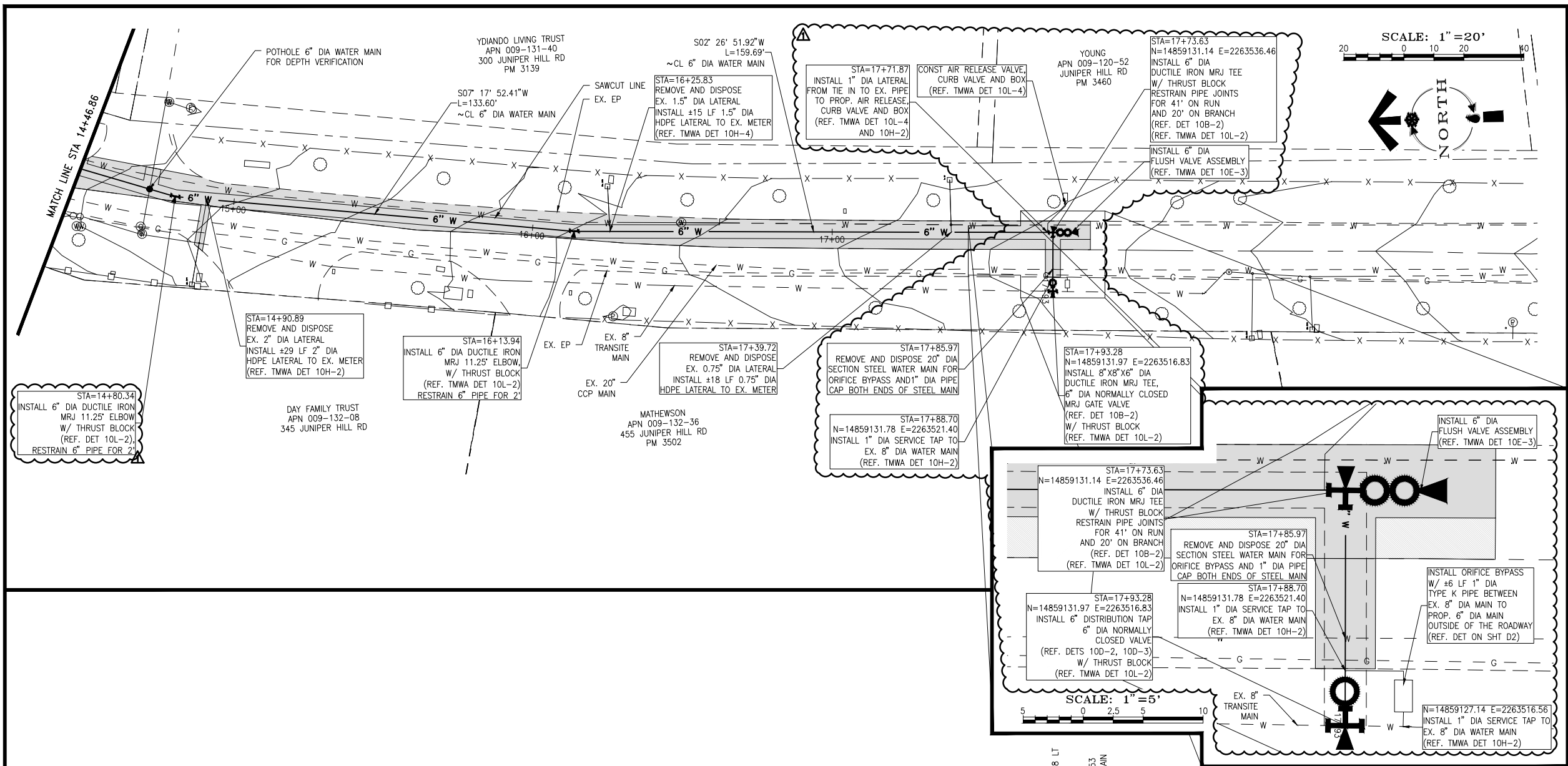
**JUNIPER HILL RD. 19" MAIN REPLACEMENT
RENO, NEVADA
PLAN AND PROFILE
STA 9+00.38 - 14+46.86**



SHEET NUMBER

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6 OF 13



GENERAL NOTES

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BID SET

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| 1 | ASPHALT PAVING, DETAILS, AND MAIN CROSSING UPDATES | MF | CGT | 11/15/16 | DESIGNED CGT DRAWN MF DATE SEPTEMBER 2016 CHECKED CGT SUBMITTED RECOMMENDED APPROVED |
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TRUCKEE MEADOWS WATER AUTHORITY

1355 CAPITAL BLVD. / PO BOX 30013
RENO, NEVADA 89520-3013
PH 775-834-8000 / FX 775-834-8003

NOT REPRODUCIBLE

PROPERTY OF
TRUCKEE MEADOWS WATER
AUTHORITY, RETURN UPON
COMPLETION OF PROJECT
(Per Homeland Security Act)

JUNIPER HILL RD. 19" MAIN REPLACEMENT

RENO, NEVADA

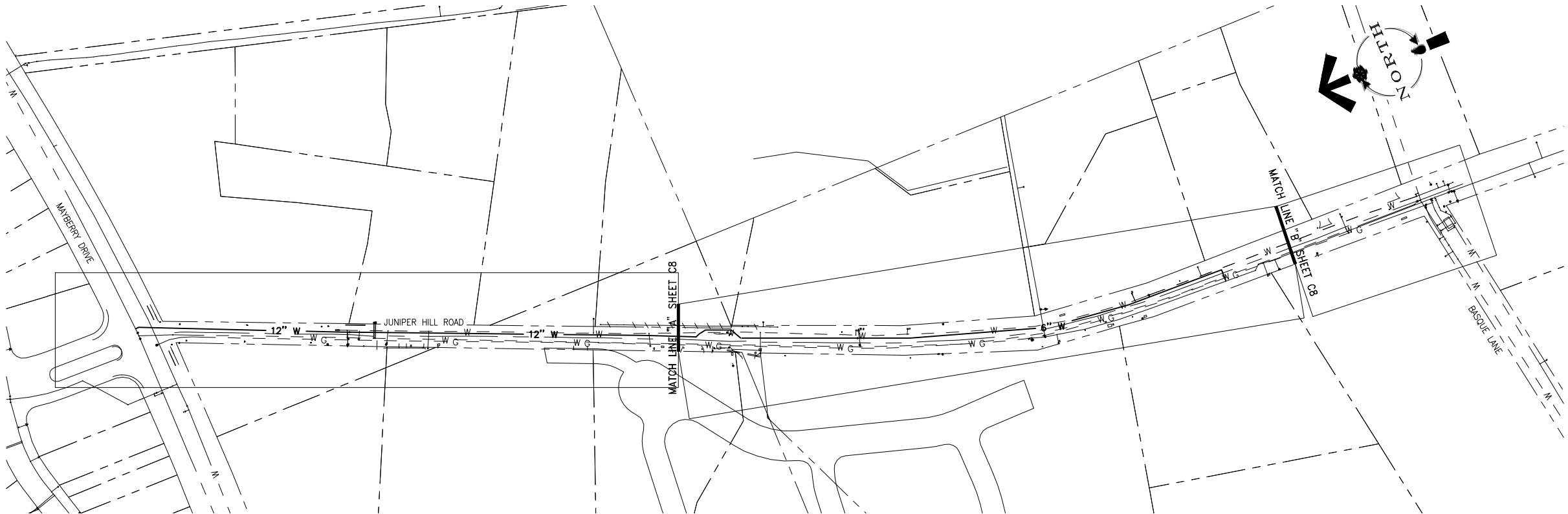
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SCALE: 1"=100'
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THIS PLAN PRESENTS THE WATER MAINS IDENTIFIED TO BE ABANDONED IN-PLACE AND INTERIOR VOIDS FILLED WITH GROUT. ALL WORK SHALL CONFORM TO THE FOLLOWING ITEMS OF WORK:

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- PLUG DOWNSTREAM END OF PIPE, CONNECTING MAINS, ALL SERVICE CONNECTIONS, FIRE HYDRANT LATERALS ETC. WITH CONCRETE OR OTHER SUITABLE MEANS TO CONTAIN GROUT. DEWATER MAIN AND REMOVE ANY DEBRIS PRIOR TO GROUT PLACEMENT. THE DISTANCE BETWEEN GROUT INJECTION AND EXIT POINTS SHALL NOT EXCEED 500-FEET, OR AS REQUIRED TO BE ABLE TO FILL PIPE AND CONFIRM EXIT ON DOWNSTREAM END.
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- INJECT GROUT INTO THE UPSTREAM END UNTIL VISUAL EXIT OF GROUT ON DOWNSTREAM END IS ACHIEVED. OPERATE EQUIPMENT AT PRESSURES THAT WILL NOT DISTORT OR IMPERIL PORTION OF WORK, NEW OR EXISTING UTILITIES. MONITOR GROUT QUANTITIES TO CONFIRM ALL GROUT IS CONTAINED WITHIN PIPE DURING OPERATION. GROUT LEAKAGE AND/OR SHRINKAGE IS NOT SUBJECT TO ADDITIONAL PAYMENT.
- COORDINATE THE DEWATERING AND GROUTING OF THE ABANDONED WATER PIPE WITH TWA INSPECTOR.

**BID
SET**

NOTE:
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ANALYSIS, INCLUDING PIPE SIZING
AND WATER PRESSURES.



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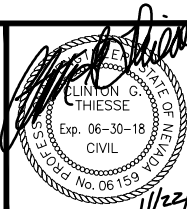
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| 1 | ASPHALT PAVING, DETAILS, AND MAIN CROSSING UPDATES | MF | CGT | 11/15/16 |
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WORK ORDER NO. 10-0001.038
DESIGNED CGT
DRAWN MF
DATE SEPTEMBER 2016
CHECKED CGT
SUBMITTED
RECOMMENDED
APPROVED

**TRUCKEE MEADOWS WATER
AUTHORITY**
1355 CAPITAL BLVD. / PO BOX 30013
RENO, NEVADA 89520-3013
PH 775-834-8000 / FX 775-834-8003

NOT REPRODUCIBLE
PROPERTY OF
TRUCKEE MEADOWS WATER
AUTHORITY, RETURN UPON
COMPLETION OF PROJECT
(Per Homeland Security Act)

**JUNIPER HILL RD. 19" MAIN REPLACEMENT
RENO, NEVADA
PIPE ABANDONMENT PLAN**

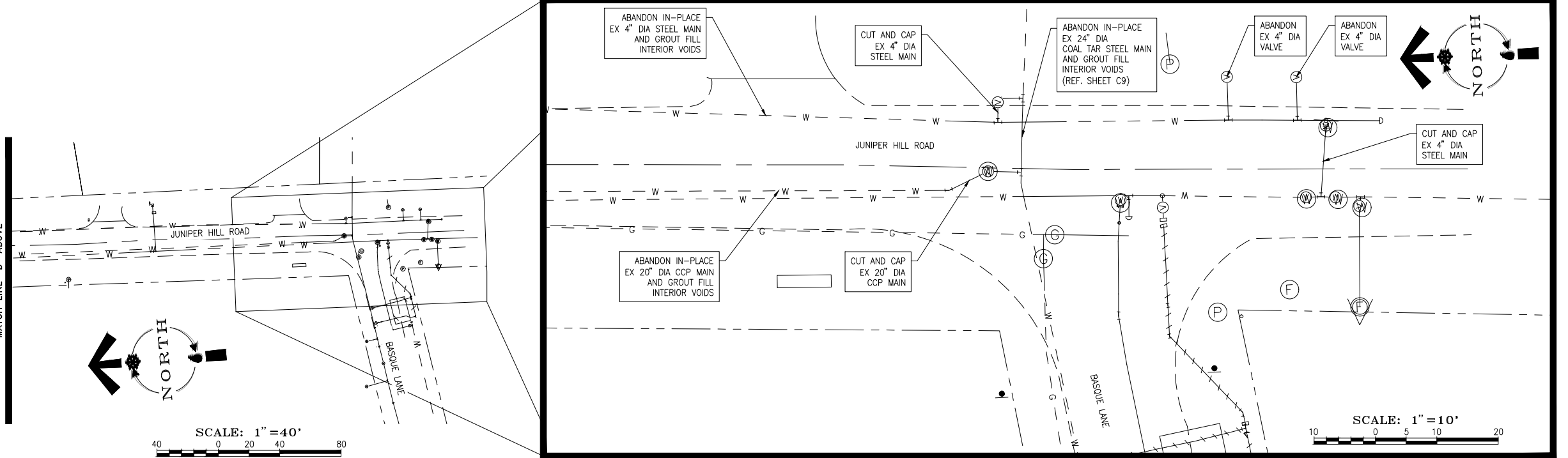
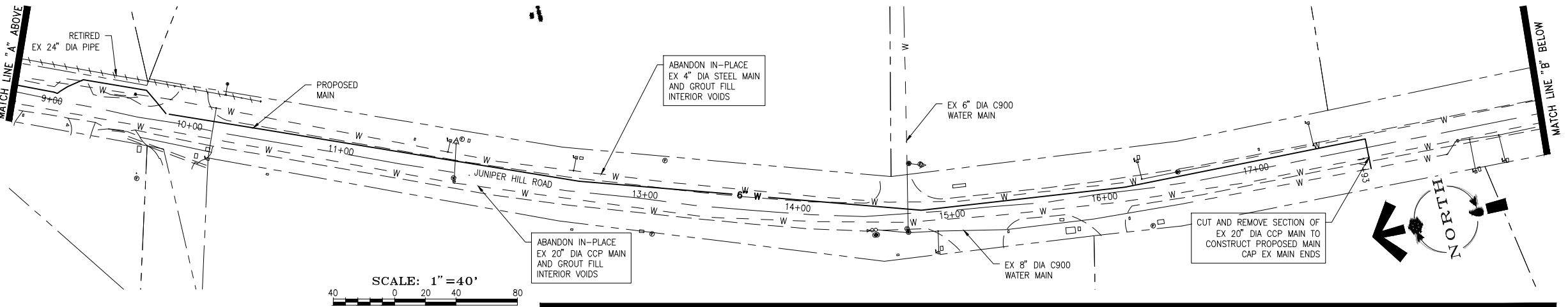
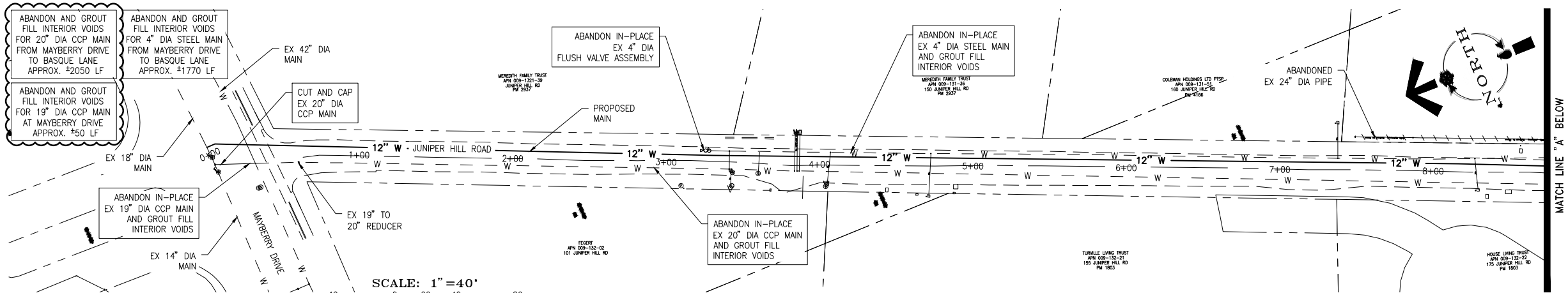


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BID SET

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ANALYSIS, INCLUDING PIPE SIZING
AND WATER PRESSURES.

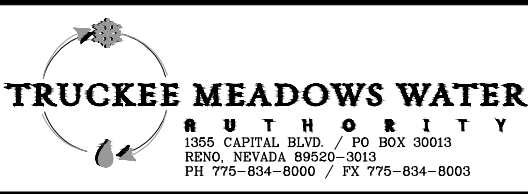


2 working
days
**Call
before you
Dig.**

1-800-227-2600

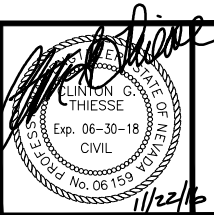
| REVISION | DESCRIPTION | BY | APP | DATE |
|----------|--|----|-----|----------|
| 1 | ASPHALT PAVING, DETAILS, AND MAIN CROSSING UPDATES | MF | CGT | 11/15/16 |
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|----------------------------|
| WORK ORDER NO. 10-0001.038 |
| DESIGNED CGT |
| DRAWN MF |
| DATE SEPTEMBER 2016 |
| CHECKED CGT |
| SUBMITTED |
| RECOMMENDED |
| APPROVED |



NOT REPRODUCIBLE
PROPERTY OF
TRUCKEE MEADOWS WATER
AUTHORITY, RETURN UPON
COMPLETION OF PROJECT
(Per Homeland Security Act)

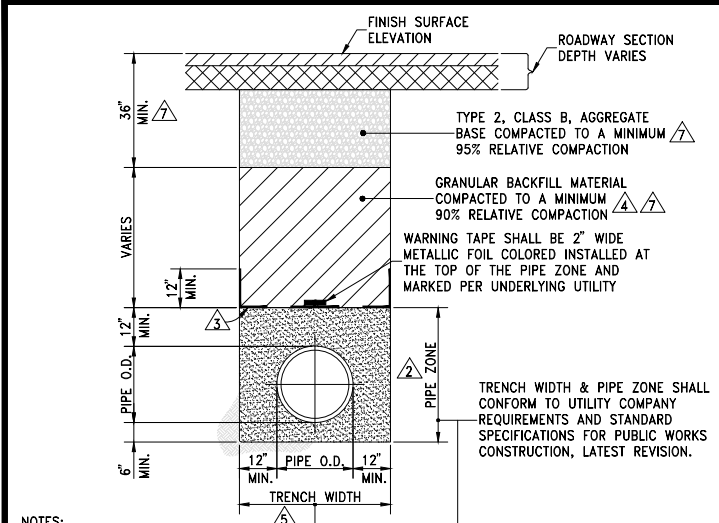
JUNIPER HILL RD. 19" MAIN REPLACEMENT RENO, NEVADA 19" PIPE ABANDONMENT PLAN



SHEET NUMBER

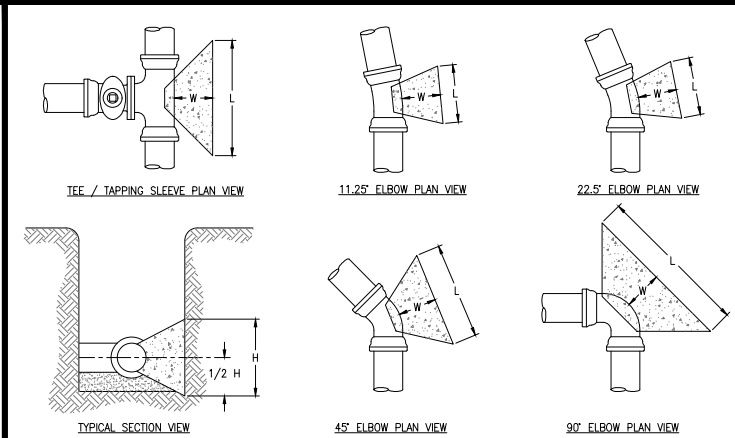
C8

8 OF 13



- NOTES:**
- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), LATEST REVISION.
 - BEDDING MATERIAL SHALL CONFORM TO OWNING-UTILITY COMPANY REQUIREMENTS AS APPROVED BY THE CITY OF RENO. FOR CITY-OWNED UTILITIES, BEDDING MATERIAL SHALL BE CLASS A OR C, COMPACTED TO MINIMUM 90% RELATIVE COMPACTION. MATERIALS SHALL CONFORM TO SSPWC SECTION 200.
 - CLASS C BEDDING REQUIRES INSTALLATION OF GEOTEXTILE FABRIC BETWEEN PIPE ZONE AND BACKFILL MATERIAL. GEOTEXTILE FABRIC SHALL BE MIRAFI 180N OR APPROVED EQUAL.
 - BACKFILL MATERIAL SHALL BE TYPE 2, CLASS B OR CLASS E AND COMPACTED TO MINIMUM 90% RELATIVE COMPACTION. MATERIALS SHALL CONFORM TO SSPWC SECTION 200.
 - ALL EXCAVATIONS SHALL CONFORM TO THE LATEST O.S.H.A. REQUIREMENTS.
 - EXISTING PIPE TO BE ABANDONED SHALL BE GROUT FILLED OR COMPLETELY REMOVED.
 - MINIMUM BACKFILL DEPTH REQUIREMENT IS FOR TRENCHING IN EXISTING PAVED STREETS. TRENCHING FOR NEW DEVELOPMENT WHERE STREETS HAVE NOT YET BEEN CONSTRUCTED, BACKFILL MATERIAL SHALL BE TYPE 2, CLASS B OR CLASS E AND COMPACTED TO MINIMUM 90% RELATIVE COMPACTION. MATERIALS SHALL CONFORM TO SSPWC SECTION 200.

| STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION | DRAWING No. |
|--|--------------|
| TRENCH EXCAVATION/BACKFILL | R-122 |
| APPROVED BY: JF | DATE: 3/2014 |



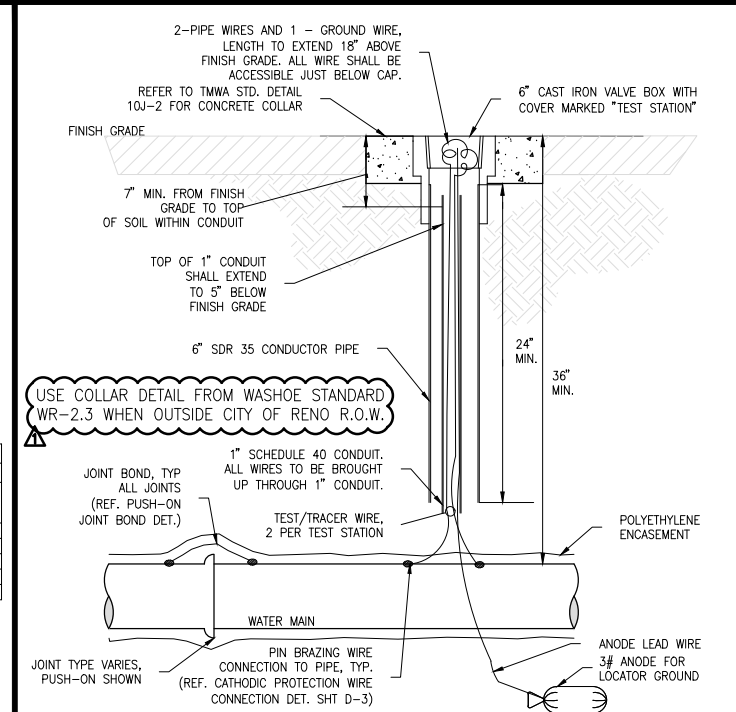
| THRUST BLOCK DIMENSIONS | | | | | | | | | | | | | | | | | | | |
|----------------------------|-------------|-------------|------------------|---------------------------|-------------|-------------|------------------|-------------|-------------|------------------|-------------|-------------|------------------|-------------|-------------|------------------|--|--|--|
| TEE, TAP, OR DEAD END | | | | 11.25° ELBOW | | | | 22.5° ELBOW | | | | 45° ELBOW | | | | 90° ELBOW | | | |
| BRANCH SIZE (INCHES) | L (FEET) | H (FEET) | W MIN. (FEET) | ELBOW SIZE (INCHES) | L (FEET) | H (FEET) | W MIN. (FEET) | L (FEET) | H (FEET) | W MIN. (FEET) | L (FEET) | H (FEET) | W MIN. (FEET) | L (FEET) | H (FEET) | W MIN. (FEET) | | | |
| 4 | 1.5 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1.5 | 1 | 1 | 2 | 1 | 1 | | | |
| 6 | 2 | 2 | 1 | 6 | 1 | 1 | 1 | 1.5 | 1 | 1 | 2 | 1.5 | 1 | 2.5 | 2 | 1 | | | |
| 8 | 3 | 2 | 1 | 8 | 1.5 | 1 | 1 | 1.5 | 1.5 | 1 | 2.5 | 2 | 1 | 4 | 2 | 1 | | | |
| 10 | 3.5 | 2.5 | 1 | 10 | 2 | 1 | 1 | 2 | 2 | 1 | 3 | 2.5 | 1 | 5 | 2.5 | 1 | | | |
| 12 | 4.5 | 3 | 1 | 12 | 2 | 1.5 | 1 | 2.5 | 2 | 1 | 4 | 2.5 | 1 | 6 | 3 | 1 | | | |

THRUST BLOCK DESIGN CRITERIA:

THRUST BLOCK SIZES HAVE BEEN CALCULATED USING THE METHOD AND EQUATIONS PUBLISHED IN *THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE, SIXTH EDITION 2006* BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) UTILIZING THE FOLLOWING DESIGN PARAMETERS: DESIGN PRESSURE = 150 PSI (SEE NOTE #4 BELOW), SOIL BEARING CAPACITY = 2,000 PSF (SEE NOTE #4 BELOW), SAFETY FACTOR = 1.5, AND NOMINAL PIPE DIAMETER

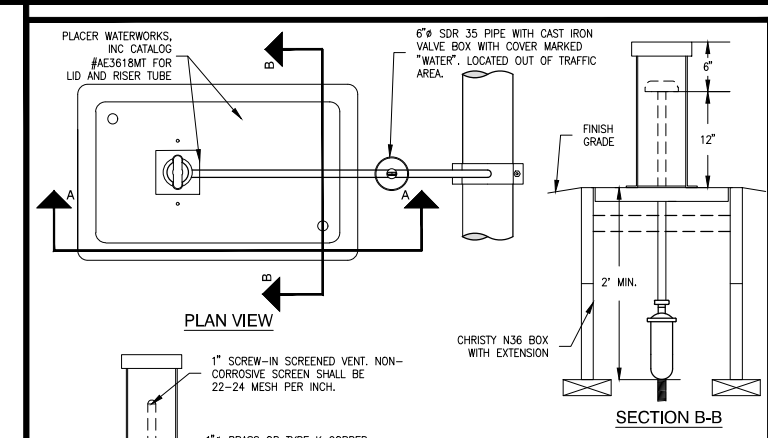
- THRUST BLOCK NOTES:**
- CONCRETE FOR THRUST BLOCKS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI. REFERENCE SECTION 1.1.13 OF THE TRUCKEE MEADOWS WATER AUTHORITY ENGINEERING & CONSTRUCTION STANDARDS FOR ADDITIONAL REQUIREMENTS. BAG CONCRETE MIX IS NOT ACCEPTABLE.
 - ALL FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE WRAP PER AWWA C105. MASTIC (BRUSH-ON) SHALL BE APPLIED TO ALL BOLTS, ETC.
 - THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL. IN CASES WHERE THIS IS NOT PRACTICAL, BACKFILL AREA BEHIND WHERE THRUST BLOCK WILL BE POURED WITH TYPE 2, CLASS B AGGREGATE BASE (PER SECTION 200.01.03 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - ORANGE BOOK) COMPACTED TO 95% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY PROCEDURES SET FORTH IN ASTM D 1557, CUT-BACK COMPACTED AGGREGATE BASE TO EXPOSE A FIRM SURFACE, THEN POUR THRUST BLOCK.
 - FOR SOIL BEARING CAPACITY LESS THAN 2,000 PSF AND/OR DESIGN PRESSURE IN EXCESS OF 150 PSI, INCREASE THRUST BLOCK BEARING AREAS ACCORDINGLY. REVISED THRUST BLOCK SCHEDULE FOR SPECIFIC CONDITIONS SHALL BE SUBMITTED BY THE DESIGN ENGINEER.

| DATE | APPENDIX 10L THRUST BLOCKS | DRAWING NUMBER |
|--------|---|----------------|
| 7/2011 | TEES, TAPPING SLEEVES, DEAD ENDS 11.25, 22.5, 45 AND 90 DEGREE ELBOWS 4" TO 12" | 10L-2 |
| REV | | |



- NOTES:**
- TRACER WIRE SHALL BE #14 COPPER CLAD STAINLESS STEEL CORE WITH 30 MILS BLUE HDPE INSULATION.
 - ALL WIRE SPLICES SHALL BE MADE USING A SPLIT BOLT CONNECTOR WRAPPED WITH AQUASEAL AND ELECTRIC TAPE.
 - CONTRACTOR SHALL INSTALL A 3 POUND ANODE AT EVERY TEST STATION.
 - TEST STATIONS SHALL BE LOCATED ALONG THE MAIN NO MORE THAN 500 FEET APART UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 - PRIOR TO ACCEPTANCE OF WATER MAIN, THE CONTRACTOR SHALL PERFORM A CONTINUITY TEST ON THE INSTALLED TRACER WIRE SYSTEM.
 - WHERE DIRECTED, TRACER WIRE SHALL BE PLACED WITH ALL SERVICE LINES AND SHALL BE EXTENDED INTO THE METER BOX. TRACER WIRE SHALL BE ACCESSIBLE FROM METER BOX AND SHALL EXTEND 12 INCHES ABOVE GROUND. CONNECT TO MAIN TRACER WIRE AS SPECIFIED IN NOTE 2.

| DATE | APPENDIX 10D DISTRIBUTION TAP INSTALLATIONS | DRAWING NUMBER |
|--------|---|----------------|
| 7/2005 | DISTRIBUTION TAP INSTALLATIONS | 10D-2 |
| REV | | |

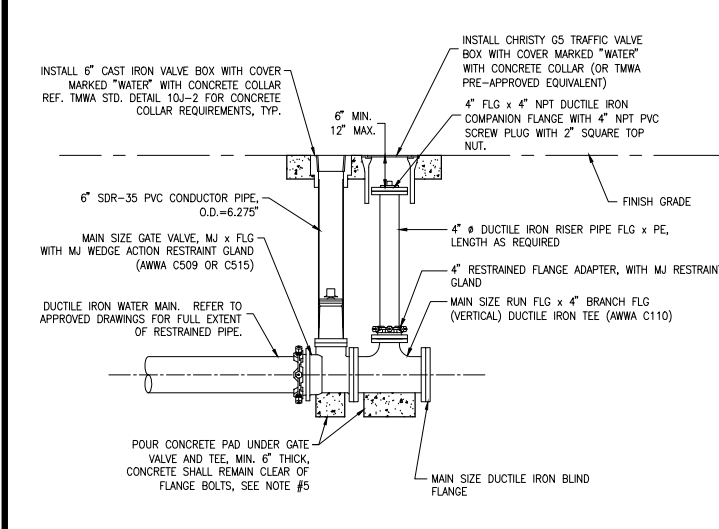


- NOTES:**
- REFER TO APPENDIX 10H FOR SERVICE TAP INSTALLATION.
 - REFER TO 10L-6 FOR TRENCH BEDDING AROUND HOPE PORTION OF THIS DETAIL. BEDDING SAND TO BE USED UNLESS OTHERWISE CALLED FOR.
 - TOP OF ENCLOSURE AND VALVE CAP SHALL BE SET 0.2 FEET ABOVE HIGHEST FINISHED GRADE SURROUNDING ENCLOSURE WITH LANDSCAPE AREAS.
 - PLACE TYPE 2 CLASS B CRUSHED AGGREGATE BASE WITHIN BOX TO EXTEND HALF WAY UP BODY OF THE ARV AND EXTEND UNDER BOX TO A DEPTH OF 6" BELOW THE BRASS NIPPLE/COPPER TUBE. BASE TO EXTEND FROM THE ARV TO THE CURB VALVE AND BEYOND THE EXTENTS OF THE ENCLOSURE FOR 6-INCHES.

| DATE | APPENDIX 10L COMBINATION AIR RELEASE VALVE | DRAWING NUMBER |
|--------|--|----------------|
| 7/2005 | COMBINATION AIR RELEASE VALVE | 10L-4 |
| REV | | |

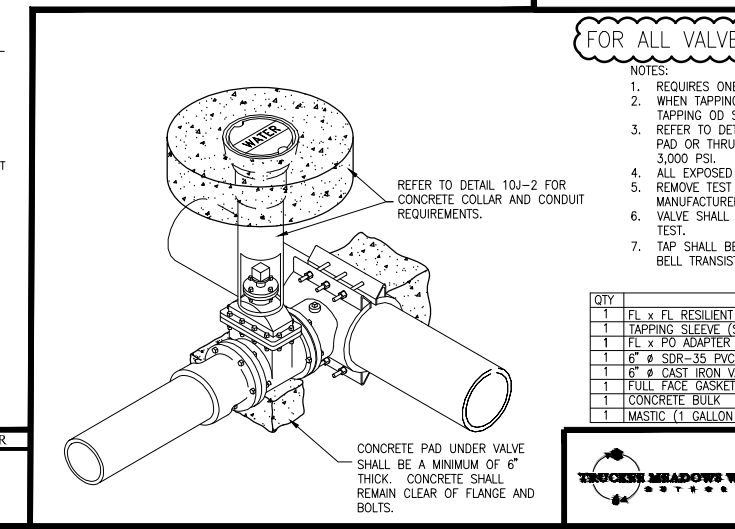
USE COLLAR DETAIL FROM WASHOE STANDARD WR-2.3 WHEN OUTSIDE CITY OF RENO R.O.W.

- NOTES:**
- ALL EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
 - ALL BOLTS AND ASSOCIATED HARDWARE SHALL BE FLUOROPOLYMER COATED.
 - TEE, VALVE, FITTINGS, DUCTILE IRON PIPE, AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.
 - CONCRETE FOR PADS SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 PSI AFTER 28 DAYS. BAG CONCRETE MIX IS NOT ACCEPTABLE.
 - ALL PIPE AND FITTINGS IN CONTACT WITH WATER SHALL BE NSF-61 CERTIFIED.



| DATE | APPENDIX 10E FLUSH ASSEMBLY INSTALLATIONS | DRAWING NUMBER |
|--------|---|----------------|
| 7/2001 | FOR TEMPORARY DEAD-END LOCATIONS | 10E-3 |
| REV | | |

| QTY. | DESCRIPTION |
|------|--|
| 1 | MAIN SIZE RUN FLG x 4" BRANCH FLG DUCTILE IRON TEE (AWWA C110) |
| 1 | MAIN SIZE GATE VALVE, MJ x FLG, (AWWA C509 OR C515) |
| 1 | MAIN SIZE MJ WEDGE ACTION RESTRAINT GLAND |
| 1 | MAIN SIZE DUCTILE IRON BLIND FLANGE |
| 1 | 4" FLG x 4" NPT DUCTILE IRON COMPANION FLANGE |
| 1 | 4" Ø DUCTILE IRON RISER PIPE FLG x PE (LENGTH AS REQUIRED) |
| 1 | 4" RESTRAINED FLANGE ADAPTER, WITH MJ RESTRAINT GLAND |
| 1 | 4" PVC SCREW PLUG, NPT, WITH 2" SQUARE TOP NUT |
| 1 | 6" CAST IRON VALVE BOX WITH COVER MARKED "WATER" |
| 1 | CHRISTY GS TRAFFIC VALVE BOX WITH COVER MARKED "WATER" |
| 1 | 6" SDR-35 PVC CONDUIT PIPE SECTION, O.D.=6.275" |
| - | CONCRETE BULK - PADS, COLLARS |



| DATE | APPENDIX 10D DISTRIBUTION TAP INSTALLATIONS | DRAWING NUMBER |
|--------|---|----------------|
| 7/2001 | DISTRIBUTION TAP INSTALLATIONS | 10D-3 |
| REV | | |

BID SET

NOTE: FOR VALVE COVERS, CAPS AND CANS WITHIN MAYBERRY DRIVE USE CITY OF RENO STANDARD DETAIL 10J-2 ON SHEET D2, OTHERWISE USE WASHOE COUNTY STANDARD DETAIL WR-2.3 ON SHEET D2.

FOR ALL VALVES ON MAYBERRY DRIVE AND CITY OF RENO R.O.W.

- NOTES:**
- REQUIRES ONE (1) TAPPING SLEEVE. REFER TO 10D-2.
 - WHEN TAPPING STEEL OR OD STEEL BACKING PLATE MUST BE DESIGNED BY ENGINEER. WHEN TAPPING OD STEEL SIZE ON SIZE, REDUCE TAP ONE SIZE THEN BELL UP AFTER TAP.
 - REFER TO DETAIL 10J-2 FOR THRUST BLOCK SIZING. BAG CONCRETE IS NOT ACCEPTABLE FOR PAD OR THRUST BLOCK. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
 - ALL EXPOSED METAL MUST BE COATED WITH BRUSH ON MASTIC.
 - REMOVE TEST PLUG AND HYDROSTATICALLY PRESSURE TEST TAPPING SLEEVE NOT TO EXCEED MANUFACTURER'S PRESSURE RATING, APPLY PIPE COMPOUND, AND REINSERT PLUG.
 - VALVE SHALL BE BLIND FLANGED AND PRESSURE TESTED AT TIME OF TAPPING SLEEVE PRESSURE TEST.
 - TAP SHALL BE A MINIMUM OF 24" FROM THE CUT OR SPIGOT END OF THE PIPE OR THE PIPE TO BELL TRANSITION.

| QTY. | DESCRIPTION |
|------|---|
| 1 | FL x FL RESILIENT WEDGE GATE VALVE WITH 2" OPERATING NUT (SIZE TO MATCH TAP DIAMETER) |
| 1 | TAPPING SLEEVE (STAINLESS STEEL FLANGE AND TEST PLUG) |
| 1 | FL x PO ADAPTER |
| 1 | 6" SDR-35 PVC CONDUIT PIPE SECTION |
| 1 | 6" Ø CAST IRON VALVE BOX WITH COVER MARKED "WATER" |
| 1 | FULL FACE GASKET |
| 1 | CONCRETE BULK |
| 1 | MASTIC (1 GALLON CAN - BRUSH ON) |

| DATE | APPENDIX 10D DISTRIBUTION TAP INSTALLATIONS | DRAWING NUMBER |
|--------|---|----------------|
| 7/2001 | DISTRIBUTION TAP INSTALLATIONS | 10D-3 |
| REV | | |

| TAP SIZE - FLANGED BRANCH | | | | | | | |
|---------------------------|--------------|---------------------------------------|---------------------------------------|--|--|--|--|
| VENDOR | MAIN TYPE | 4" | 6" | 8" | 10" | 12" | |
| SM ROM | DI/CI PVC | 663-04800400-200 SST-4.90 x 4" FL | | | | | |
| SM ROM | DI/CI PVC | 663-06630400-000 SST-7.00 x 4" FL | 663-06630600-200 SST-7.00 x 6" FL | | | | |
| SM ROM | TR | 663-(00)040-000 SST-(00) x 4" FL | 663-(00)0600-200 SST-(00) x 6" FL | | | | |
| SM ROM | DI/CI PVC | 663-09050400-000 SST-9.06 x 4" FL | 663-09050600-000 SST-9.06 x 6" FL | 663-09050800-200 SST-9.06 x 8" FL | | | |
| SM ROM | TR | 663-(00)0400-000 SST-(00) x 4" FL | 663-(00)0600-000 SST-(00) x 6" FL | 663-(00)0800-200 SST-(00) x 8" FL | | | |
| SM ROM | SCH 40 STEEL | 663-08630400-000 SST-8.63 x 4" FL | 663-08630600-000 SST-8.63 x 6" FL | 663-08630800-200 SST-8.63 x 8" FL | | | |
| SM ROM | DI/CI PVC | 663-11100400-000 SST-11.45 x 4" FL | 663-11100600-000 SST-11.45 x 6" FL | 663-11100800-000 SST-11.45 x 8" FL | 663-11101000-200 SST-11.45 x 10" FL | | |
| SM ROM | TR | 663-(00)0400-000 SST-(00) x 4" FL | 663-(00)0600-000 SST-(00) x 6" FL | 663-(00)0800-000 SST-(00) x 8" FL | 66-(00)1000-200 SST-(00) x 10" FL | | |
| SM ROM | SCH 40 STEEL | 663-10750400-000 SST-11.13 x 4" FL | 663-10750600-000 SST-11.13 x 6" FL | 663-10750800-000 SST-11.13 x 8" FL | 663-10751000-200 SST-11.13 x 10" FL | | |
| SM ROM | DI/CI PVC | 663-10750400-000 SST-13.30 x 4" FL | 663-13200600-000 SST-13.30 x 6" FL | 663-13200800-000 SST-13.30 x 8" FL | 663-13201000-000 SST-13.30 x 10" FL | 663-13201200-200 SST-13.30 x 12" FL | |
| SM ROM | TR | 663-(00)0400-000 SST-(00) x 4" FL | 663-(00)0600-000 SST-(00) x 6" FL | 663-(00)0800-00004 SST-(00) x 8" FL | 663-(00)1000-000 SST-(00) x 10" FL | 663-(00)1200-200 SST-(00) x 12" FL | |
| SM ROM | SCH 40 STEEL | 663-12750400-000 SST-12.85 x 4" FL | 663-12750600-000 SST-12.85 x 6" FL | 663-12750800-000 SST-12.85 x 8" FL | 663-12751000-000 SST-12.85 x 10" FL | 663-12751200-200 SST-12.85 x 12" FL | |

- NOTES:**
- MAXIMUM TEST PRESSURE IS 300 PSI FOR LISTED MANUFACTURERS.
 - FLANGES (FL) SHALL BE STAINLESS STEEL ASTM A 240, TYPE 304.
 - VENDOR (MANUFACTURER): SM = SMITH-BLAIR, ROM = ROMAC INDUSTRIES.
 - (OD) = PIPE OUTSIDE DIAMETER. CHECK WITH MANUFACTURER FOR CATALOG NUMBER FOR OTHER SIZES.
 - FOR TAPS ON TRANSITE MAINS OD MUST BE FIELD MEASURED PRIOR TO ORDERING PARTS.

| DATE | APPENDIX 10D DISTRIBUTION TAP INSTALLATIONS | DRAWING NUMBER |
|--------|---|----------------|
| 7/2011 | WATER TAPPING SLEEVES | 10D-2 |
| REV | | |

| REVISION | DESCRIPTION | BY | APP | DATE |
|----------|--|----|-----|----------|
| 1 | ASPHALT PAVING, DETAILS, AND MAIN CROSSING UPDATES | MF | CGT | 11/15/16 |
| | | | | |
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|----------------------------|
| WORK ORDER NO. 10-0001.038 |
| DESIGNED CGT |
| DRAWN MF |
| DATE SEPTEMBER 2016 |
| CHECKED CGT |
| SUBMITTED |
| RECOMMENDED |
| APPROVED |

TRUCKEE MEADOWS WATER AUTHORITY

1365 CAPITAL BLVD. / PO BOX 30013
RENO, NEVADA 89520-3013
PH 775-834-8000 / FX 775-834-8003

NOT REPRODUCIBLE

PROPERTY OF TRUCKEE MEADOWS WATER AUTHORITY, RETURN UPON COMPLETION OF PROJECT (Per Homeland Security Act)

JUNIPER HILL RD. 19" MAIN REPLACEMENT

RENO, NEVADA

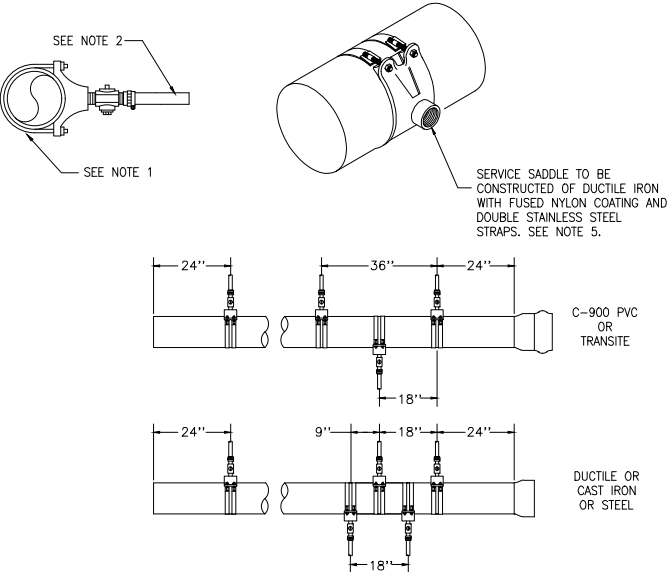
DETAILS

SHEET NUMBER

D1

11/22/16

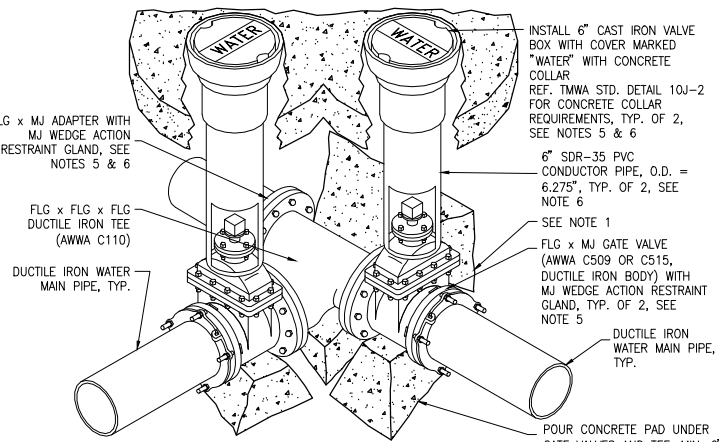
- NOTES:
1. SERVICE CLAMP SIZE IS DEPENDENT UPON THE SIZE AND TYPE OF MAIN.
 2. SDR-9 CTS HDPE TUBING, LENGTH AND DIAMETER TO BE DETERMINED BY ENGINEER. REFER TO APPROVED PLAN.
 3. STOP CORP IP THREAD INLET, COMPRESSION OUTLET, DIAMETER TO MATCH TAP SIZE AS SHOWN ON PLAN.
 4. INSERT RIGID STAINLESS STEEL LINER TO SDR-9 CTS HDPE TUBING.
 5. SERVICE TAPS OFF OF EXISTING PVC MAINS SHALL USE TAPPED FULL CIRCLE REPAIR CLAMP, MINIMUM LENGTH: 15". MANUFACTURER SHALL BE APPROVED BY TMWA.



| DATE | APPENDIX 10H | DRAWING NUMBER |
|--------|---|----------------|
| 7/2001 | SERVICE TAP INSTALLATIONS | 10H-2 |
| REV | FOR 1", 1.25", 1.5" AND 2" SERVICE TAPS | |
| 9/2016 | | |

USE COLLAR DETAIL FROM WASHOE STANDARD WR-2.3 WHEN OUTSIDE CITY OF RENO R.O.W.

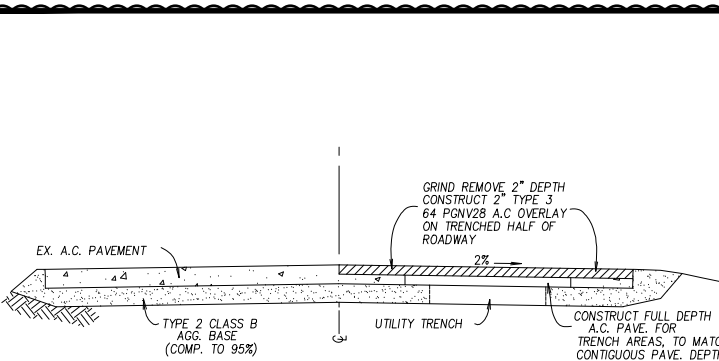
- NOTES:
1. REFERENCE TMWA STANDARD DETAIL 10L-2 FOR THRUST BLOCK SIZING AND REQUIREMENTS.
 2. ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
 3. TEE, VALVES, FITTINGS, DUCTILE IRON PIPE AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.
 4. CONCRETE FOR PADS SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 PSI AFTER 28 DAYS. BAG CONCRETE MIX IS NOT ACCEPTABLE.
 5. POSITION OF FLG x MJ VALVE (RUN) AND FLG x MJ ADAPTER MAY SWITCH, REFERENCE WATER IMPROVEMENT PLANS.
 6. AN ADDITIONAL FLG x MJ VALVE MAY BE REQUIRED IN LIEU OF FLG x MJ ADAPTER, REF. WATER IMPROVEMENT PLANS.



| QTY. | DESCRIPTION |
|------|--|
| 1 | FLG x FLG x FLG DUCTILE IRON TEE (AWWA C110) |
| 2 | FLG x MJ GATE VALVE WITH DUCTILE IRON BODY (AWWA C509 OR C515) |
| 1 | FLG x MJ ADAPTER |
| 3 | MJ WEDGE ACTION RESTRAINT GLAND |
| 2 | 6" SDR-35 PVC CONDUCTOR PIPE SECTION, O.D. = 6.275" |
| 2 | CONCRETE BULK - THRUST BLOCKS, PADS, COLLARS |

| DATE | APPENDIX 10B | DRAWING NUMBER |
|--------|-----------------------------------|----------------|
| 7/2011 | DISTRIBUTION BRANCH INSTALLATIONS | 10B-2 |
| REV | FLANGED TEES | |
| | FLG x MJ GATE VALVES | |
| | - RESTRAINED - | |

- NOTES:
1. CONCRETE COLLAR SHALL BE MINIMUM 6-INCHES THICK OR MATCH PAVEMENT THICKNESS, WHICHEVER IS GREATER, UNLESS OTHERWISE SPECIFIED BY THE JURISDICTIONAL AGENCY RESPONSIBLE FOR THE ROADWAY.
 2. FOR MULTIPLE VALVE/RISE BOXES IN CLOSE PROXIMITY, A MONOLITHIC CONCRETE COLLAR MAY BE POURED.
 3. CONTRACTOR AND/OR DESIGN ENGINEER SHALL CONSULT WITH THE JURISDICTIONAL AGENCY RESPONSIBLE FOR THE ROADWAY FOR REQUIREMENTS THAT MAY VARY FROM THIS STANDARD PRIOR TO CONSTRUCTION.
 4. ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
 5. GATE VALVE, DUCTILE IRON PIPE, AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.
 6. UNLESS OTHERWISE SPECIFIED BY THE JURISDICTIONAL AGENCY RESPONSIBLE FOR THE ROADWAY, PORTLAND CEMENT CONCRETE (P.C.C.) FOR CONCRETE COLLAR SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4,000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS, MINIMUM 6 SACKS CEMENT PER CUBIC YARD WITH A MAXIMUM WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% \pm 1.5%, SLUMP AT 1 TO 4 INCHES. BAG CONCRETE MIX IS NOT ACCEPTABLE.
 7. CONCRETE FOR PAD SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 PSI AFTER 28 DAYS. BAG CONCRETE MIX IS NOT ACCEPTABLE.

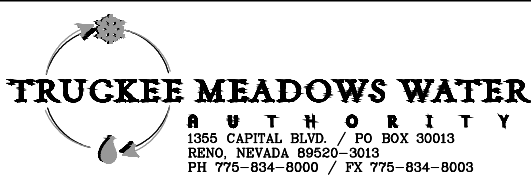


- NOTES:
1. ALL A.C. SURFACES SHALL BE SEALED IN ACCORDANCE WITH WASHOE CO. STANDARDS.
 2. ALL CONSTRUCTION IS TO BE DONE TO CURRENT WASHOE CO. STANDARDS & SPECIFICATIONS.

ROADWAY REPAVING SECTIONS

| REVISION | DESCRIPTION | BY | APP | DATE |
|----------|--|----|-----|----------|
| 1 | ASPHALT PAVING, DETAILS, AND MAIN CROSSING UPDATES | MF | CGT | 11/15/16 |

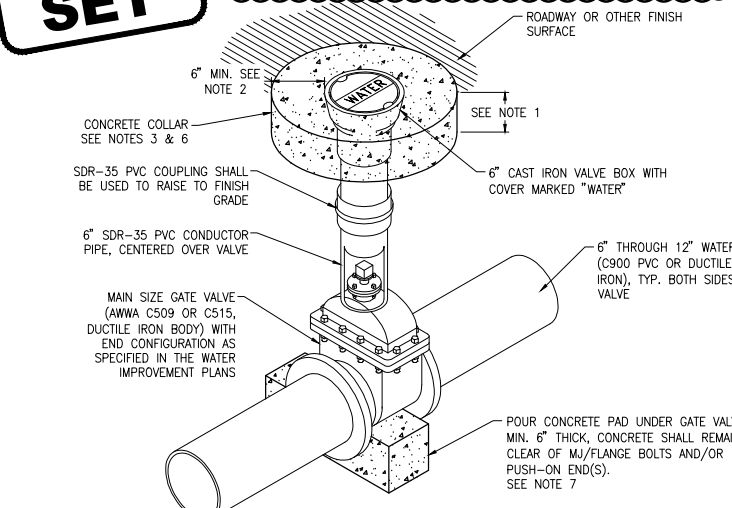
| | |
|----------------------------|---------------------|
| WORK ORDER NO. 10-0001.038 | DESIGNED CGT |
| DRAWN MF | DATE SEPTEMBER 2016 |
| CHECKED CGT | SUBMITTED |
| RECOMMENDED | APPROVED |



NOT REPRODUCIBLE
PROPERTY OF
TRUCKEE MEADOWS WATER
AUTHORITY, RETURN UPON
COMPLETION OF PROJECT
(Per Homeland Security Act)

BID SET

FOR ALL VALVES ON MAYBERRY DRIVE OR CITY OF RENO R.O.W.
(SEE DETAIL WR-2.3 FOR OTHER AREAS)

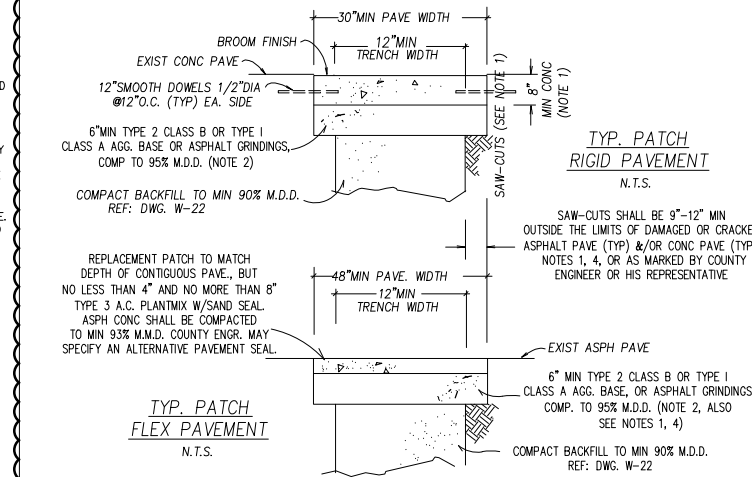


| QTY. | DESCRIPTION |
|------|---|
| 1 | MAIN SIZE GATE VALVE (AWWA C509 OR C515, DUCTILE IRON BODY) WITH END CONFIGURATION AS SPECIFIED IN THE WATER IMPROVEMENT PLANS. |
| 1 | MASTIC (1 GALLON CAN - BRUSH ON) |
| 1 | 6" SDR-35 PVC CONDUCTOR PIPE SECTION |
| 1 | 6" CAST IRON VALVE BOX WITH COVER MARKED "WATER" |
| 1 | FULL FACE GASKET |
| 1 | CONCRETE BULK - PAD AND COLLAR |

| DATE | APPENDIX 10J | DRAWING NUMBER |
|--------|---------------------------------|----------------|
| 1/2002 | DISTRIBUTION VALVE INSTALLATION | 10J-2 |
| REV | IN-LINE GATE VALVE | |
| 7/2011 | WITH CONCRETE COLLAR | |



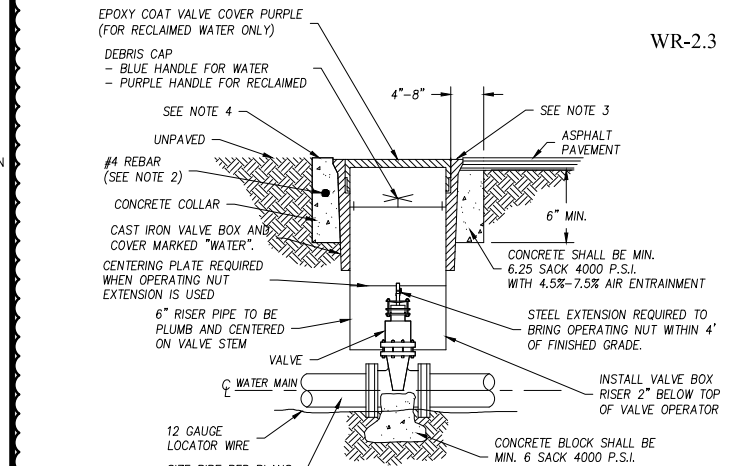
JUNIPER HILL RD. 19" MAIN REPLACEMENT
RENO, NEVADA
DETAILS



- NOTES:
1. ALL CONC REMOVAL & REPLACEMENT SHALL BE TO SAW-CUT LINES & SHALL BE DONE BY EXCAVATION CONTRACTOR OR SUBCONTRACTOR. ALL SAW-CUTS SHALL BE VERT & IN STRAIGHT LINES PARALLEL OR PERPENDICULAR TO TRENCH, OR TO SATISFACTION OF THE CO. ENGINEER. CONC SHALL BE MIN 6.25 SACKS OF TYPE II CEMENT (588 lbs per cubic yards of concrete) 4000psi WITH FIBERMESH W/4.5-7.5% AIR.
 2. RIGID PAVEMENT: IF SAW-CUT IS WITHIN 36" OF EDGE OR JOINT ON PCC PAVE, REMOVE PCC TO EXIST EDGE & REPLACE ENTIRE SECTION. FLEX PAVEMENT: IF SAW-CUT IS WITHIN 36" OF EDGE ON A.C. PAVE, EDGE OF VALLEY GUTTER, LIP OF CURB & GUTTER, OR A PREVIOUS PATCH, REMOVE EXIST PAVE TO THAT EDGE AND REPLACE THE ENTIRE SECTION.
 3. DEPTH OF BASE TO BE 6" MIN., OR MATCH EXIST BASE IF GREATER.
 4. UNPAVED STREET SHALL RECEIVE 6" MIN BASE COURSE IN ACCORDANCE W/LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
 5. ALL ASPH REMOVAL SHALL BE TO SAW-CUT LINES. ALL ASPH CONC SHALL BE TYPE 3 PLANTMIX. ALL SAW-CUTS FOR FLEXIBLE PAVE SHALL BE PERFORMED BY EXCAVATION CONTRACTOR OR SUBCONTRACTOR.
 6. ALL CONST SHALL BE IN ACCORDANCE W/LATEST EDITION OF STD. SPECIFICATIONS FOR PUBLIC WORKS CONST.
 7. USE OF ROCK WHEEL TRENCHING MACHINES OR SIMILAR EQUIP SHALL NOT BE PERMITTED WITHIN PAVED AREAS OR WITHIN 1 FT OF EDGE OF PAVING.
 8. CONC SLURRY W/MIN OF 1 SACK OF CEMENT PER CU.YD. OF SLURRY OR OTHER APPROVED MIX DESIGN MAY BE USED FOR BASE COURSE, BEDDING OR BACKFILL IF APPROVED BY CO. ENGINEER & UTILITY COMPANIES.
 9. PERMANENT RESURFACING SHALL NOT BE PLACED ON TRENCHES BACKFILLED W/CONC SLURRY FOR A MIN OF 7 DAYS AFTER PLACEMENT OF THE CONC SLURRY OR SIMILAR MATERIAL.
 10. ALL TRENCHES SHALL BE PATCHED W/COLD PATCH WITHIN 24 HRS AFTER BACKFILLING IS COMPLETED, OR COVERED W/STEEL PLATES & BARRICADED TO SATISFACTION OF THE COUNTY ENGINEER.

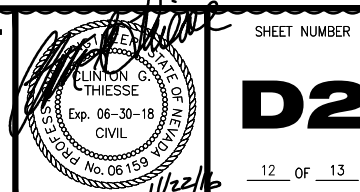
| NO. | REVISED | DATE | STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION | SECTION: |
|-----|-------------|---------|--|----------|
| 1 | Widen dim's | 8/03vp | | WASHOE |
| 2 | notes | 12/05sw | | |
| 3 | Conc Note | 12/11sw | | |
| 4 | Notes | 1/15 me | | |

| | |
|---|-------------------|
| PERMANENT PAVEMENT PATCH TRUCKEE MEADOWS | DRAWING NO: W-2.2 |
| DATE: 4/94 vp | PAGE: 9 |

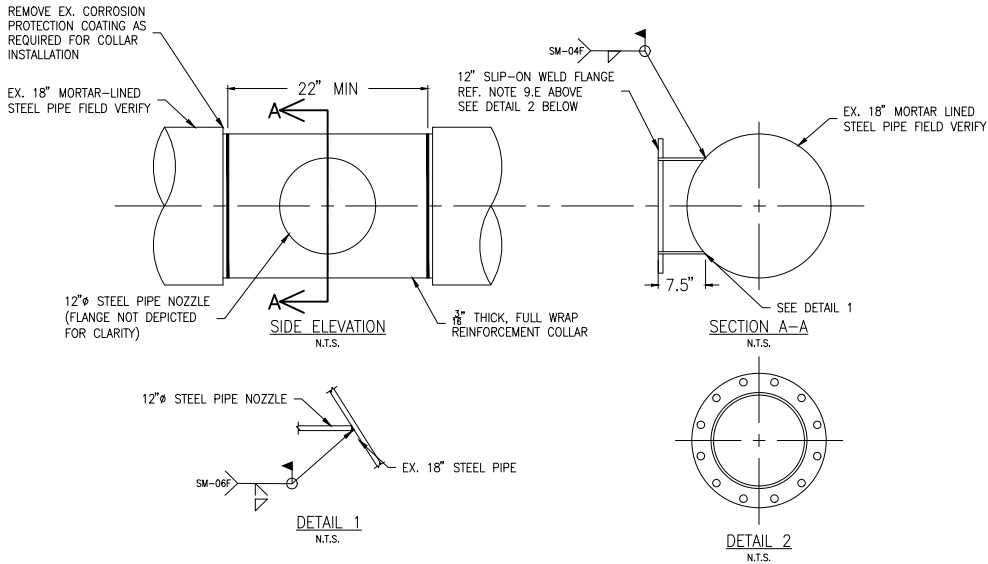


- NOTES:
1. MATERIAL USED FOR SUPPORT BLOCKING SHOULD NOT PREVENT ACCESS TO THE BOLT ASSEMBLY.
 2. CONCRETE SHALL MEET THE REQUIREMENTS OF SEC. 202.01 OF THE STANDARD SPECIFICATIONS. REBAR SHALL ONLY BE USED WHEN THE VALVE BOX IS LOCATED OUTSIDE OF PAVED AREAS.
 3. VALVE BOXES TO BE SET 3/8"-5/8" BELOW FINISHED ROADWAY SURFACE. INSTALL OPERATING EXTENSION WITH OPERATING NUT RESTRAINING BOLT & TOP CENTERING PLATE. ANCHOR BARS & REDWOOD BLOCKS NOT REQUIRED WHEN OPERATING NUT IS AT GREATER DEPTH THAN 4" FROM FINISHED GRADE.
 4. CONCRETE COLLAR TO BE LEFT 2" BELOW FINISH ASPHALT SURFACE, APPLY SS-1 TACK COAT BEFORE PAVING. SEAL A.C. SURFACE WITH SS-1 SAND, CHIP SEAL, FOG SEAL, SAND SEAL, OR SLURRY SEAL AS REQUIRED BY PLANS OR SPECS. EXTEND CONCRETE COLLAR TO GRADE WHEN NOT LOCATED IN ASPHALT PAVING.
 5. CONCRETE COLLARS IN THE CITY OF RENO OR SPARKS ROADS SHALL BE BROUGHT TO GRADE ACCORDING TO THEIR RESPECTIVE REQUIREMENTS.

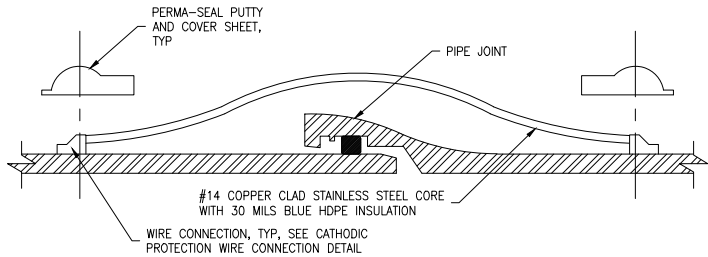
FOR ALL VALVES NOT ON MAYBERRY DRIVE OR CITY OF RENO R.O.W.



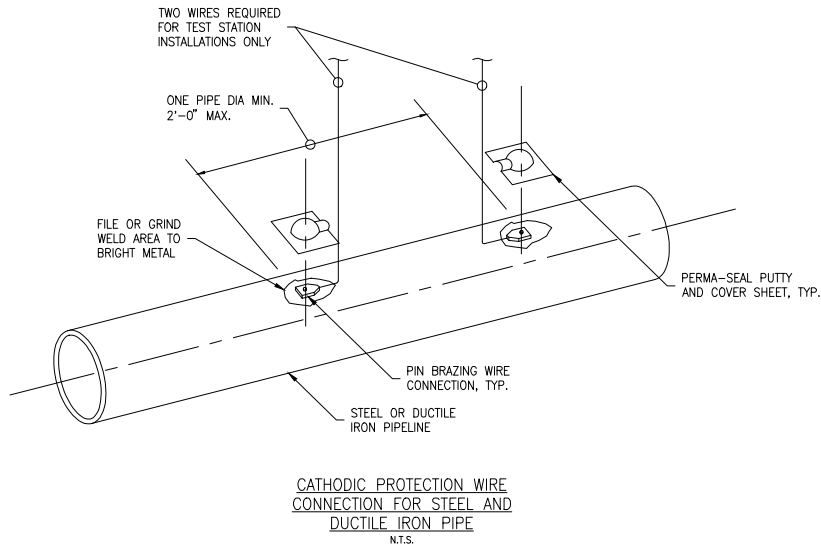
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Rev 22, 2016 - 11:41am



- DESIGN AND CONSTRUCTION NOTES:
- DESIGN PRESSURE = 150 PSI. AWWA M11 DESIGN METHOD USED TO SIZE REINFORCEMENT COLLAR.
 - EXISTING 18-INCH STEEL PIPE: FIELD MEASURED STEEL CYLINDER O.D. = ____". FIELD MEASURED STEEL CYLINDER THICKNESS = ____". CONTRACTOR SHALL FIELD VERIFY STEEL CYLINDER O.D. AND THICKNESS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY TWWA INSPECTOR AND TWWA ENGINEER OF ANY DISCREPANCIES.
 - NEW 12-INCH STEEL PIPE NOZZLE: 12-INCH STANDARD SIZE STEEL, O.D. = 12.75", I.D. = 12.00", WALL THICKNESS = 0.375", ASTM A563, GRADE B, STD WEIGHT, BEVEL END FOR FULL PENETRATION WELD TO EXISTING 18-INCH PIPE, FIELD APPLY (BRUSH-ON) MIN. 16 MILS (2 COATS MIN.) EPOXY COATING TO PIPE INTERIOR PER AWWA C210.
 - EPOXY COATING SHALL BE AN APPROVED NSF/ANSI 61 DRINKING WATER SYSTEM COMPONENTS 2-PART EPOXY. SUBMITTAL OF EPOXY TO BE USED IS REQUIRED PRIOR TO APPLICATION.
 - SLIP-ON WELD FLANGE (SOWF): RING-TYPE, CLASS D. FLANGE SURFACE SHALL BE FACED AND DRILLED IN ACCORDANCE WITH ANSI CLASS 125 818.1. FIELD WELD TO 12-INCH PIPE. FIELD APPLY (BRUSH-ON) MIN. 16 MILS (2 COATS MIN.) EPOXY COATING PER AWWA C210, EXCEPT DO NOT COAT FLANGE FACE.
 - FLANGE BOLTS: ASTM A307, GRADE B
 - NUTS: HEAVY HEX, ASTM A563, GRADE A
 - GASKET: FLANGE INSULATING GASKET KIT (FULL-FACE)
 - STEEL PLATE FOR REINFORCEMENT COLLAR: ASTM A36.
 - WELDING: FIELD WELDING PER TWWA INTERIM "FIELD WELDING METHODS AND PROCEDURES FOR STEEL WATER PIPE" WHICH REQUIRES THAT WELDERS BE QUALIFIED UNDER THE MULTIPLE QUALIFICATION SECTION OF API 1104.
 - WELDING PROCEDURES SHALL BE AS SHOWN IN THE DETAIL.
 - USE E6010 ELECTRODES OR AS APPROVED BY TWWA.
 - CORROSION PROTECTION:
 - FIELD APPLY (BRUSH-ON) MIN. 16 MILS (2 COATS MIN.) EPOXY COATING TO NOZZLE INTERIOR AND EXTERIOR AND REINFORCEMENT COLLAR AFTER WELDING IS COMPLETE. PER AWWA C210 AND MANUFACTURER'S INSTRUCTIONS, ALLOW PROPER CURE TIME AS RECOMMENDED BY THE MANUFACTURER AND TO MEET NSF/ANSI 61 DRINKING WATER SYSTEM COMPONENTS REQUIREMENTS. APPLY 50 MIL TAPE OVER ENTIRE NOZZLE EXTERIOR AND REINFORCEMENT COLLAR PER AWWA C209.
 - REPAIR CORROSION PROTECTION COATING ON 18-INCH STEEL PIPE. APPLY SPRAY-ON MASTIC AND 50 MIL TAPE OVER ENTIRE DISTURBED AREA.
 - WRAP GATE-VALVE, 12-IN NOZZLE PIPE, AND REINFORCEMENT AREA WITH POLYETHYLENE PER AWWA C105.
 - CONSTRUCTION SEQUENCE:
 - FABRICATE 12-INCH PIPE NOZZLE AND TWO-PIECE REINFORCEMENT COLLAR.
 - REMOVE CORROSION PROTECTION COATING FROM STEEL PIPE AS NECESSARY TO ATTACH PIPE AND REINFORCEMENT COLLAR.
 - WELD 12-INCH PIPE NOZZLE TO STEEL PIPE.
 - INSTALL TWO-PIECE REINFORCEMENT COLLAR AND WELD COLLAR TO 12-INCH AND 18-INCH PIPES.
 - FIELD WELD SLIP-ON WELD FLANGE TO 12-INCH PIPE NOZZLE. ENSURE TOP TWO FLANGE BOLT HOLES ARE LEVEL (TWO-HOLED) AND FLANGE IS PROPERLY CLOCKED IN THE "STRAIGHT-UP" VERTICAL POSITION PRIOR TO WELDING.
 - FIELD APPLY (BRUSH-ON) MIN. 16 MILS (2 COATS MIN.) EPOXY COAT TO PIPE NOZZLE INTERIOR AND EXTERIOR AND REINFORCEMENT COLLAR. ALLOW PROPER CURE TIME AS RECOMMENDED BY THE MANUFACTURER.
 - INSTALL 12-INCH GATE VALVE, FLG x FLG.
 - INSTALL 12-INCH TYP TAPPED BLIND FLANGE WITH RISER PIPE FOR TESTING OF HOT-TAP NOZZLE AND GATE VALVE.
 - APPLY EXTERIOR CORROSION PROTECTION TO PIPE NOZZLE, REINFORCEMENT COLLAR, AND 18-INCH STEEL PIPE.
 - HOT-TAP EXISTING PIPE.



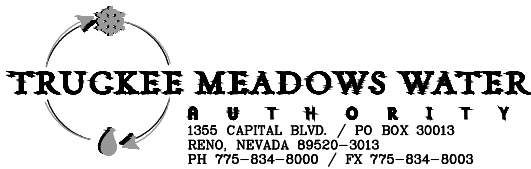
PUSH-ON JOINT BOND
N.T.S.



JOINT BONDING AT VALVE
N.T.S.

| REVISION | DESCRIPTION | BY | APP | DATE |
|----------|--|----|-----|----------|
| 1 | ASPHALT PAVING, DETAILS, AND MAIN CROSSING UPDATES | MF | CGT | 11/15/16 |
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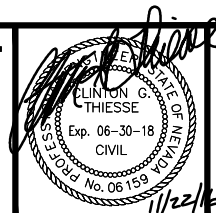
WORK ORDER NO. 10-0001.038
DESIGNED CGT
DRAWN MF
DATE SEPTEMBER 2016
CHECKED CGT
SUBMITTED
RECOMMENDED
APPROVED



NOT REPRODUCIBLE
PROPERTY OF
TRUCKEE MEADOWS WATER
AUTHORITY, RETURN UPON
COMPLETION OF PROJECT
(Per Homeland Security Act)

**JUNIPER HILL RD. 19" MAIN REPLACEMENT
RENO, NEVADA**

DETAILS



SHEET NUMBER

D3

13 OF 13