

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

New Braunfels Utilities 830-629-8400  
Time Warner Cable 830-625-3408  
Centerpoint Gas 830-643-6434  
Robert Sanders 830-643-6903  
Damaged Lines 888-876-5786  
AT&T Telephone 830-503-1333  
Eric White PW 210-283-1706  
Scott McBrearty (Construction) 210-658-4886  
Texas One Call 830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.191, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

RESTRAINED LENGTH NOTES:

- CONTRACTOR TO COORDINATE WITH NEW BRAUNFELS UTILITIES (N.B.U.) FOR WATER, SEWER, AND ELECTRIC SERVICE TO THE SITE.
- ALL IN-LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
- RL=RESTRAINT LENGTH
- CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

| RESTRAINT LENGTH FOR PIPE |              |                  |     |       |        |                |       |        |     |                          |     |
|---------------------------|--------------|------------------|-----|-------|--------|----------------|-------|--------|-----|--------------------------|-----|
| PIPE INSIDE DIAMETER      | MATERIAL     | HORIZONTAL BENDS |     |       |        | VERTICAL BENDS |       |        |     | DEAD END/ INCLINE VALVES |     |
|                           |              | 90°              | 45° | 22.5° | 11.25° | UPPER          | 22.5° | 11.25° | 45° |                          |     |
| 8"                        | PVC          | 29               | 13  | 6     | 3      | 34             | 16    | 8      | 4   | 2                        | 80  |
| 8"                        | DUCTILE IRON | 25               | 10  | 5     | 3      | 22             | 11    | 6      | 4   | 2                        | 52  |
| 12"                       | PVC          | 41               | 17  | 9     | 4      | 47             | 23    | 12     | 6   | 3                        | 114 |

| TEE                         |                                |              |     |
|-----------------------------|--------------------------------|--------------|-----|
| PIPE INSIDE DIAMETER OF RUN | PIPE INSIDE DIAMETER OF BRANCH | MATERIAL     | FT. |
| 8"                          | 8"                             | PVC          | 70  |
| 8"                          | 8"                             | DUCTILE IRON | 45  |
| 12"                         | 8"                             | PVC          | 64  |

NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

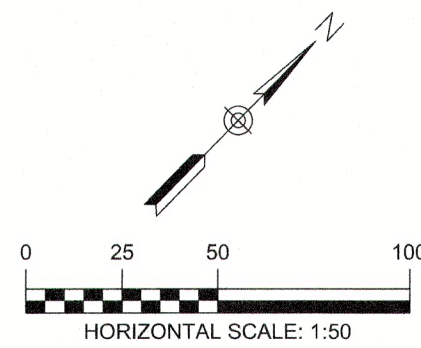
- SAFETY FACTOR = 1.5 TO 1
- TEST PRESSURE = 200psi
- SOIL DESIGNATION = MANUFACTURED SAND
- DEPTH OF COVER = 5 FEET (TYPICAL AND UPPER BEND)
- DEPTH OF COVER = 5 FEET (LOWER BEND)
- LENGTH ALONG RUN = 2 FEET

## UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTIONING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

UTILITY NOTES:

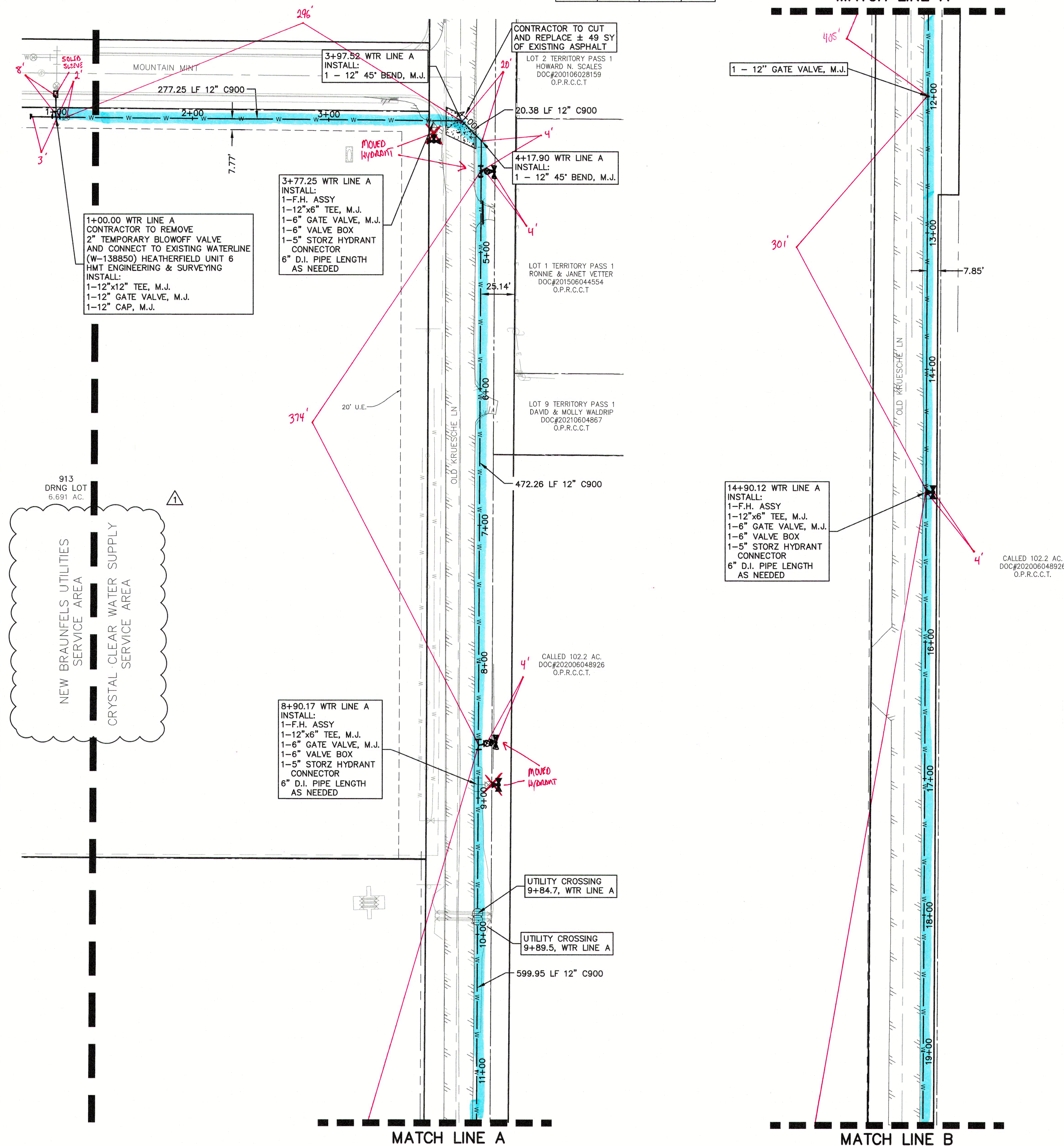
- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
- THIS SITE IS IN THE KOHLBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
- CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
- POINT OF DELIVERY SHALL BE IN ACCORDANCE WITH NBW WATER AND WASTEWATER DESIGN CRITERIA MANUAL, SECTION 2.3.0.
- FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREATER THAN 9 FEET FROM THE BACK OF CURB.
- CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
- ALL WATER METERS WILL REQUIRE PRESSURE REDUCING VALVES.
- NBW METERS ARE ONLY TO BE RELEASED OUTSIDE OF CCSD CON.



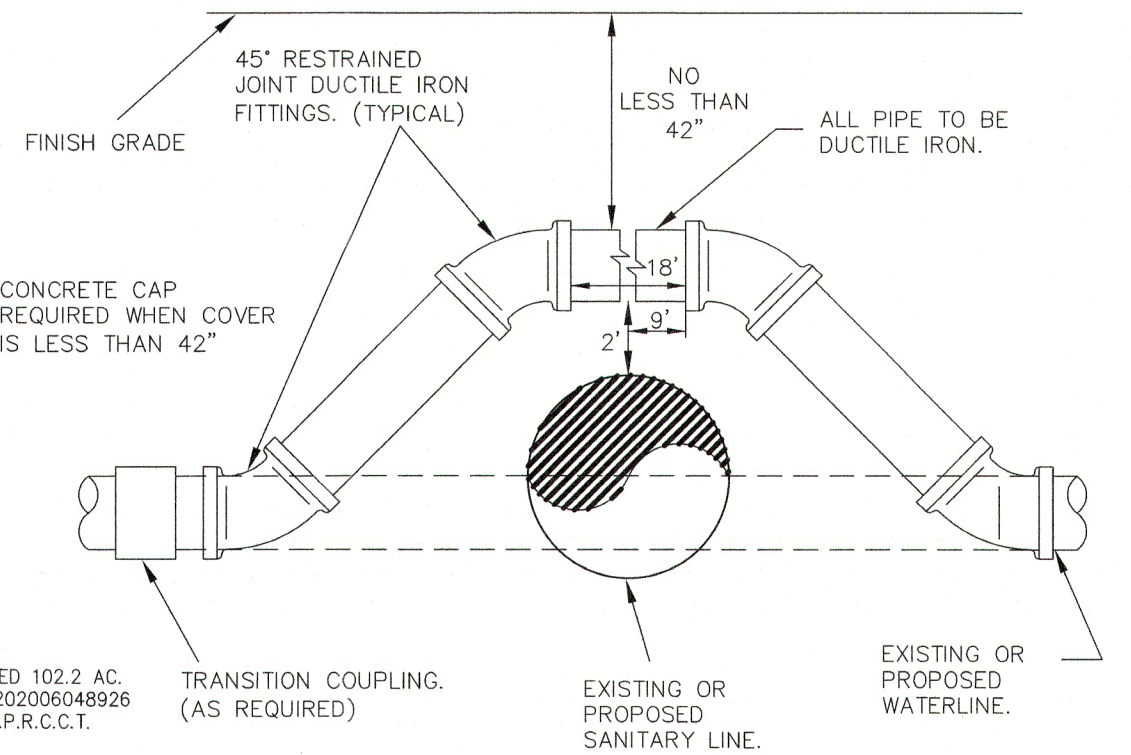
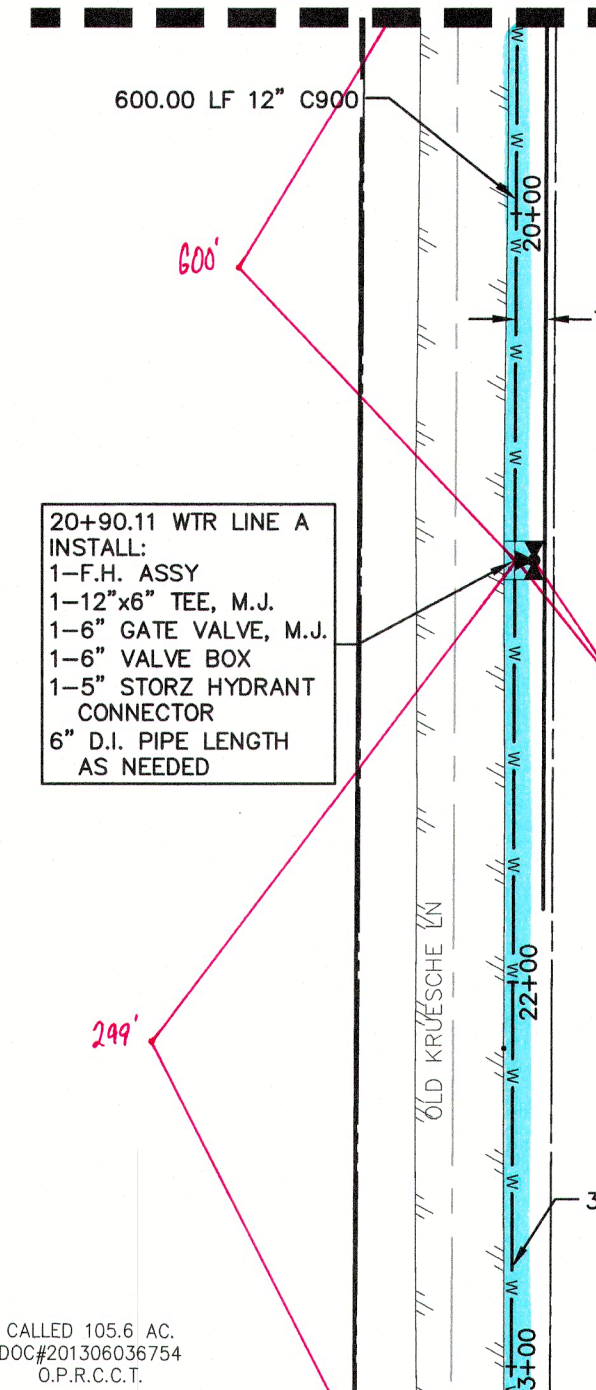
## LEGEND

- 700 EXISTING CONTOURS
- 700 PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- W-W EXISTING WATER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- UTILITY CROSSING

| WATER STRUCTURE TOTALS |             |                     |                 |               |            |                       |
|------------------------|-------------|---------------------|-----------------|---------------|------------|-----------------------|
| PIPE SIZE              | PIPE LENGTH | DOMESTIC METER SIZE | DOMESTIC METERS | FIRE HYDRANTS | FIRE LINES | IRRIGATION METER 5/8" |
| 8                      | 5915        | 5/8"                | 173             | 9             | 0          | 2                     |
| 12                     | 4910        | 5/8"                | 32              | 7             | 0          | 0                     |

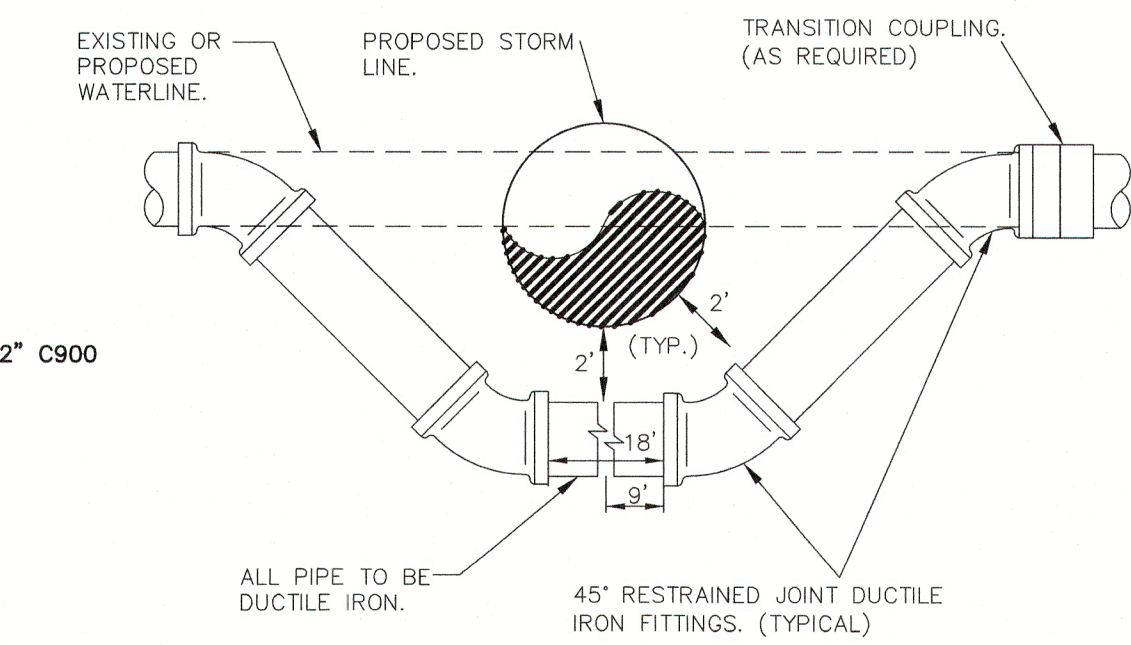


## MATCH LINE B



## A WATERLINE ADJUSTMENT DETAIL

N.T.S.



## B WATERLINE ADJUSTMENT DETAIL

N.T.S.

## DEEP UTILITY TRENCH NOTE

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

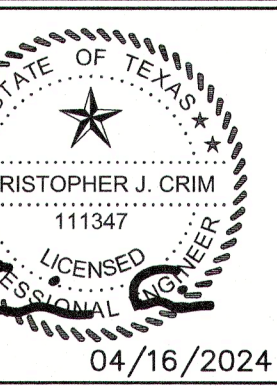
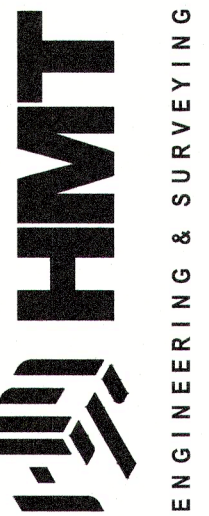
## WATER

- JM EAGLE/DIAMOND: PIPE
- CLOW: VALVES AND HYDRANTS
- STAR/SIP: CAST IRON FITTINGS
- STAR/SIP: RESTRAINTS
- ROBINSON PIPE: STEEL CASING
- FORD: BRASS
- SMITH BLAIR: SADDLES

## SEWER

- JM EAGLE/DIAMOND: PIPE
- SEWER FITTINGS: GPK

290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPBLS FIRM F-10961  
TBPBLS FIRM 1053600



## OVERALL WATER (1 OF 3)

THE LANDING  
NEW BRAUNFELS, TEXAS

| REVISION DATE            |   | REVISION DESCRIPTION                             |  |
|--------------------------|---|--------------------------------------------------|--|
| 05/31/2023               | 1 | NBU COMMENTS                                     |  |
| 08/20/2023               | 2 | NBU & GUADALUPE COUNTY COMMENTS                  |  |
| 07/06/2023               | 3 | NBU COMMENTS                                     |  |
| 08/21/2023               | 4 | WESTMEYER SIDEWALK - 5X3' LANDINGS               |  |
| 11/11/2023               | 5 | WASTEWATER MANHOLE INVERTS REVISION              |  |
| 12/15/2023               | 6 | PAVEMENT SECTION REVISION                        |  |
| 03/06/2024               | 7 | STORM DRAINS AT 842, POND, CHANNEL AND REVISIONS |  |
| 04/16/2024               | 8 | UPDATED WATER CALLOUTS                           |  |
| DATE: APRIL 2024         |   | DRAWN BY: RR                                     |  |
| DESIGNED BY: MA          |   | REVIEWED BY: CC                                  |  |
| HMT PROJECT NO.: 337.051 |   | SHEET C6.0                                       |  |



|                                |              |
|--------------------------------|--------------|
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3. RL=RESTRAINT LENGTH
4. CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

| RESTRAINED LENGTH FOR PIPE |                 |                  |     |       |        |                |       |        |     |       |                             |        |
|----------------------------|-----------------|------------------|-----|-------|--------|----------------|-------|--------|-----|-------|-----------------------------|--------|
| PIPE<br>INSIDE<br>DIAMETER | MATERIAL        | HORIZONTAL BENDS |     |       |        | VERTICAL BENDS |       |        |     |       | DEAD END/<br>INCLINE VALVES |        |
|                            |                 |                  |     |       |        | UPPER          |       | LOWER  |     |       |                             |        |
|                            |                 | 90°              | 45° | 22.5° | 11.25° | 45°            | 22.5° | 11.25° | 45° | 22.5° |                             | 11.25° |
|                            |                 |                  |     |       |        |                |       |        |     |       |                             |        |
| 8"                         | PVC             | 29               | 13  | 6     | 3      | 34             | 16    | 8      | 8   | 4     | 2                           | 80     |
| 8"                         | DUCTILE<br>IRON | 25               | 10  | 5     | 3      | 22             | 11    | 6      | 8   | 4     | 2                           | 52     |
| 12"                        | PVC             | 41               | 17  | 9     | 4      | 47             | 23    | 12     | 13  | 6     | 3                           | 114    |

| TEE                                  |                                            |                 |     |
|--------------------------------------|--------------------------------------------|-----------------|-----|
| PIPE<br>INSIDE<br>DIAMETER<br>OF RUN | PIPE<br>INSIDE<br>DIAMETER<br>OF<br>BRANCH | MATERIAL        | FT. |
| 8"                                   | 8"                                         | PVC             | 70  |
| 8"                                   | 8"                                         | DUCTILE<br>IRON | 45  |
| 12"                                  | 8"                                         | PVC             | 64  |

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

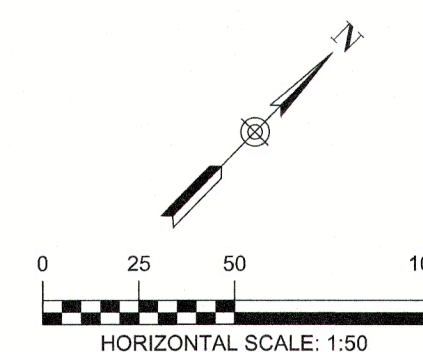
- |                     |   |                                   |
|---------------------|---|-----------------------------------|
| 1) SAFETY FACTOR    | = | 1.5 TO 1                          |
| 2) TEST PRESSURE    | = | 200psi.                           |
| 3) SOIL DESIGNATION | = | MANUFACTURED SAND                 |
| 4) DEPTH OF COVER   | = | 3.5 FEET (TYPICAL AND UPPER BEND) |
| 5) DEPTH OF COVER   | = | 5 FEET (LOWER BEND)               |
| 6) LENGTH ALONG RUN | = | 2 FEET                            |

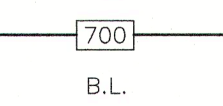
THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12"). COMPACTING OPERATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR COMPACTION OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. THE MAXIMUM MOISTURE OF MATERIAL SHALL BE DETERMINED TO A MINIMUM 95% DENSITY AND TESTED FOR EACH LAYER. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER. A MINIMUM OF TWO (2) TESTS SHALL BE TAKEN BY THE INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL SUBMIT TEST RESULTS TO THE CITY OF BRANFORD. THE CITY OF BRANFORD WILL PROVIDE DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLUS. ADDITIONAL DENSITY TESTS MAY BE REQUIRED BY THE CITY OF BRANFORD.

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. THIS SITE IS IN THE KOHLERBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
4. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LENGTH/ SLOPE OF 2%.
5. POINT OF DELIVERY SHALL BE IN ACCORDANCE WITH NBU WATER AND WASTEWATER DESIGN CRITERIA MANUAL, SECTION 2.3.
6. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREATER THAN 9 FEET FROM THE BACK OF CURB.
7. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
8. ALL WATER METERS WILL REQUIRE PRESSURE REDUCING VALVES.
9. NBU METERS ARE ONLY TO BE RELEASED OUTSIDE OF EASEMENT.

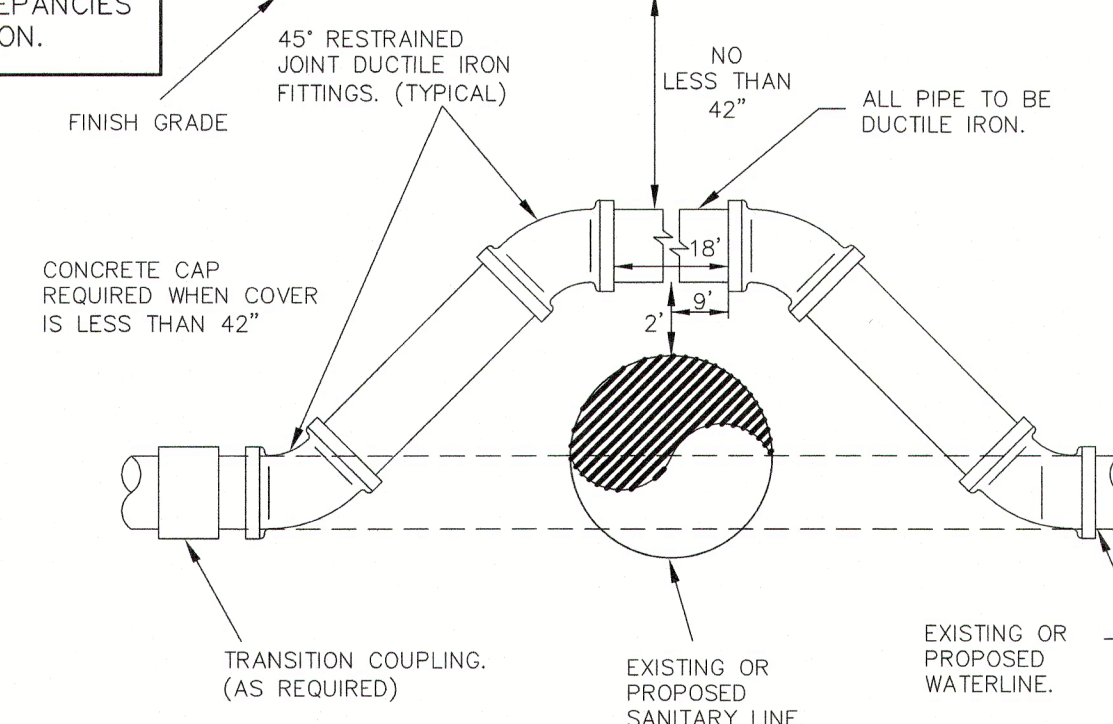
THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MUST BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.



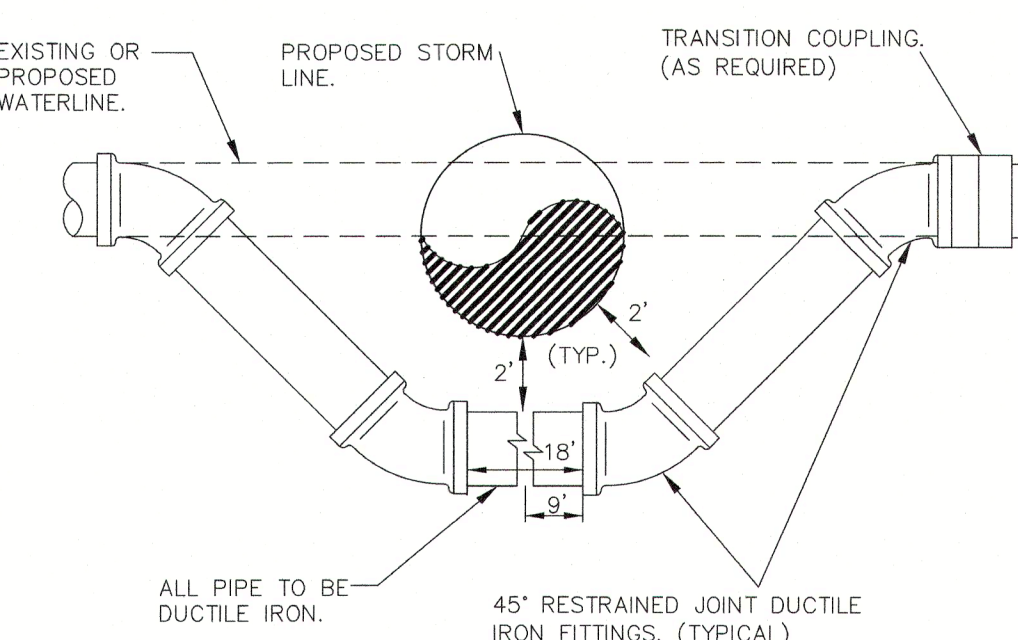


|  |      |                        |
|--|------|------------------------|
|  | 700  | EXISTING CONTOURS      |
|  | 700  | PROPOSED CONTOURS      |
|  | B.L. | BUILDING SETBACK LINE  |
|  | U.E. | UTILITY EASEMENT       |
|  | D.E. | DRAINAGE EASEMENT      |
|  | W    | EXISTING WATER LINE    |
|  | W    | PROPOSED WATER LINE    |
|  | W    | PROPOSED WATER SERVICE |
|  |      | UTILITY CROSSING       |

| WATER STRUCTURE TOTALS |             |                     |                 |               |            |                       |
|------------------------|-------------|---------------------|-----------------|---------------|------------|-----------------------|
| PIPE SIZE              | PIPE LENGTH | DOMESTIC METER SIZE | DOMESTIC METERS | FIRE HYDRANTS | FIRE LINES | IRRIGATION METER 5/8" |
| 8                      | 5915        | 5/8"                | 174             | 9             | 0          | 2                     |
| 12                     | 4910        | 5/8"                | 32              | 7             | 0          | 0                     |



(A) WATERLINE ADJUSTMENT DETAIL



(B) WATERLINE ADJUSTMENT DETAIL

1+00.00 WTR LINE E =  
1+00.00 WTR LINE D  
INSTALL:  
1 - 8" 45° BEND, M.J.

UTILITY CROSSING  
1+09.7, WTR LINE D

25.63 LF 8" C900

1" WATER SERVICE W/  
5' METER TO HOA LOT

20'

20'

1+25.63 WTR LINE D  
INSTALL:  
1 - 8" 45° BEND, M.J.

INSTALL:  
124 LF 1" WATER LATERAL  
5/8" IRRIGATION METER & METER BOX  
(BOX TO BE ADJUSTED  
TO FINISHED GROUND)  
1" R/P BACKFLOW  
PREVENTION ASSEMBLY  
(SEE DETAIL: WATTS SERIES 009  
SHEET C6:14 OR APPROVED EQUIVALENT)

INSTALL:  
124 LF 1" WATER LATERAL  
5/8" IRRIGATION METER & METER BOX  
(BOX TO BE ADJUSTED  
TO FINISHED GROUND)  
1" R/P BACKFLOW  
PREVENTION ASSEMBLY  
(SEE DETAIL: WATTS SERIES 009  
SHEET C6:14 OR APPROVED EQUIVALENT)



**HMT**  
ENGINEERING & SURVEYING

**OVERALL WATER**  
**(2 OF 3)**

THE LANDING  
NEW BRAUNFELS, TEXAS

| NO. | REVISION DESCRIPTION                    | REVISION DATE |
|-----|-----------------------------------------|---------------|
| (6) | REVISION TO HOA PARK 901 WATER SERVICES | 11/18/2024    |
|     |                                         |               |
|     |                                         |               |
|     |                                         |               |
|     |                                         |               |
|     |                                         |               |

|                  |               |
|------------------|---------------|
| DATE:            | NOVEMBER 2024 |
| DRAWN BY:        | RR            |
| DESIGNED BY:     | MP            |
| REVIEWED BY:     | ESP           |
| HMT PROJECT NO.: | 337.051       |

**SHEET**  
**C6.1**



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| WATER STRUCTURE TOTALS |             |                     |                 |               |            |                       |
|------------------------|-------------|---------------------|-----------------|---------------|------------|-----------------------|
| PIPE SIZE              | PIPE LENGTH | DOMESTIC METER SIZE | DOMESTIC METERS | FIRE HYDRANTS | FIRE LINES | IRRIGATION METER 5/8" |
| 8                      | 5915        | 5/8"                | 174             | 9             | 0          | 2                     |
| 12                     | 4910        | 5/8"                | 32              | 7             | 0          | 0                     |

RESTRAINED LENGTH NOTES:

- CONTRACTOR TO COORDINATE WITH NEW BRAUNFELS UTILITIES (N.B.U.) FOR WATER, SEWER, AND ELECTRIC SERVICE TO THE SITE.
- ALL IN-LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
- RL=RESTRAINT LENGTH
- CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

| RESTRAINED LENGTH FOR PIPE |              |                  |     |       |        |                |       |       |       |                          |     |
|----------------------------|--------------|------------------|-----|-------|--------|----------------|-------|-------|-------|--------------------------|-----|
| PIPE INSIDE DIAMETER       | MATERIAL     | HORIZONTAL BENDS |     |       |        | VERTICAL BENDS |       |       |       | DEAD END/ IN-LINE VALVES |     |
|                            |              | 90°              | 45° | 22.5° | 11.25° | UPPER          | LOWER | UPPER | LOWER |                          |     |
| 8"                         | PVC          | 29               | 13  | 6     | 3      | 34             | 16    | 8     | 4     | 2                        | 80  |
| 8"                         | DUCTILE IRON | 25               | 10  | 5     | 3      | 22             | 11    | 6     | 4     | 2                        | 52  |
| 12"                        | PVC          | 41               | 17  | 9     | 4      | 47             | 23    | 12    | 6     | 3                        | 114 |

| TEE                         |                                |              |     |
|-----------------------------|--------------------------------|--------------|-----|
| PIPE INSIDE DIAMETER OF RUN | PIPE INSIDE DIAMETER OF BRANCH | MATERIAL     | FT. |
| 8"                          | 8"                             | PVC          | 70  |
| 8"                          | 8"                             | DUCTILE IRON | 45  |
| 12"                         | 8"                             | PVC          | 64  |

NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

- SAFETY FACTOR = 1.5 TO 1
- TEST PRESSURE = 200psi
- SOIL DESIGNATION = MANUFACTURED SAND
- DEPTH OF COVER = 3.5 FEET (TYPICAL AND UPPER BEND)
- DEPTH OF COVER = 5 FEET (LOWER BEND)
- LENGTH ALONG RUN = 2 FEET

### DEEP UTILITY TRENCH NOTE

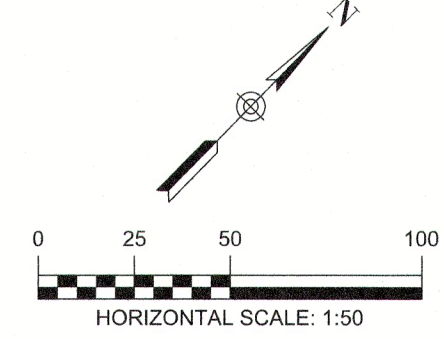
THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

### UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTION OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

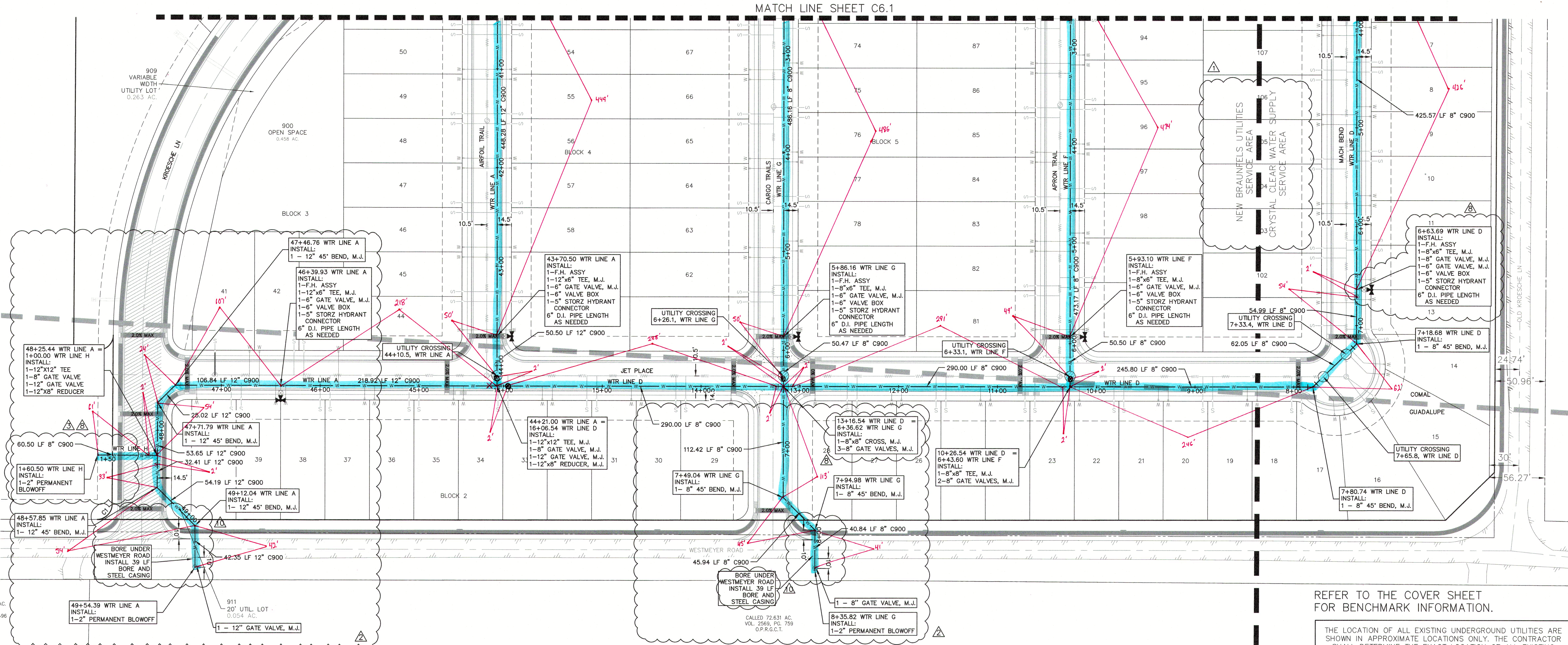
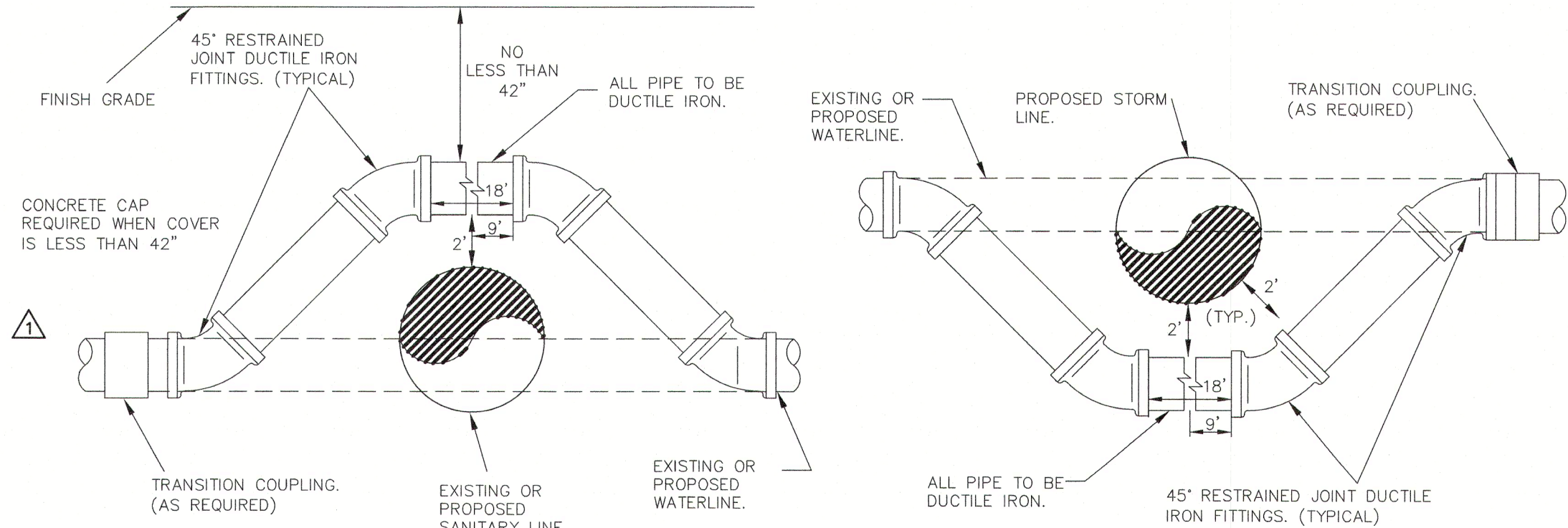
### UTILITY NOTES:

- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
- THIS SITE IS IN THE KOHLBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
- CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
- POINT OF DELIVERY SHALL BE IN ACCORDANCE WITH NBW WATER AND WASTEWATER DESIGN CRITERIA MANUAL, SECTION 2.5.0.
- FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREATER THAN 9 FEET FROM THE BACK OF CURB.
- CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
- ALL WATER METERS WILL REQUIRE PRESSURE REDUCING VALVES.
- NBW METERS ARE ONLY TO BE RELEASED OUTSIDE OF CCSD CON.



### LEGEND

- 700 EXISTING CONTOURS
- 700 PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EXISTING WATER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- UTILITY CROSSING



REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

## OVERALL WATER (3 OF 3)

THE LANDING  
NEW BRAUNFELS, TEXAS

| NO. | REVISION DESCRIPTION                            | REVISION DATE |
|-----|-------------------------------------------------|---------------|
| 1   | NBU COMMENTS                                    | 05/31/2023    |
| 2   | NBU & GUADALUPE COUNTY COMMENTS                 | 06/20/2023    |
| 3   | NBU COMMENTS                                    | 07/05/2023    |
| 4   | WESTMEYER SIDEWALK - 5'X5' LANDINGS             | 08/21/2023    |
| 5   | WASTEWATER MANHOLE INVERTS REVISION             | 11/11/2023    |
| 6   | PAVEMENT SECTION REVISION                       | 12/15/2023    |
| 7   | STORM DRAINS A1&A2, POND, CHANNEL A&B REVISIONS | 03/05/2024    |
| 8   | UPDATED WATER CALCULATIONS                      | 04/16/2024    |
| 9   | CC & NBU BACKFLOW COMMENTS                      | 06/13/2024    |

DATE: June 2024  
DRAWN BY: RR  
DESIGNED BY: MA  
REVIEWED BY: CC  
HMT PROJECT NO.: 337.051

**SHEET**  
**C6.2**

290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPBLS FIRM F-10961  
TBPBLS FIRM 1053600

