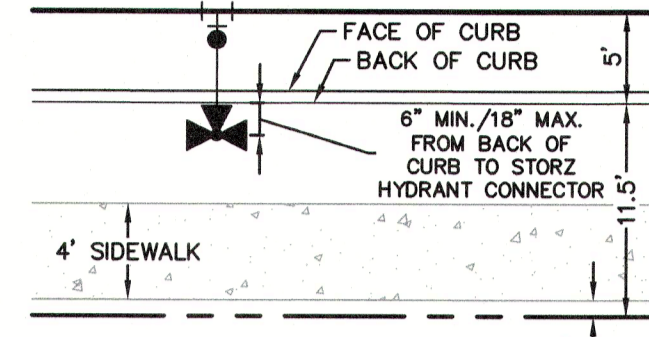


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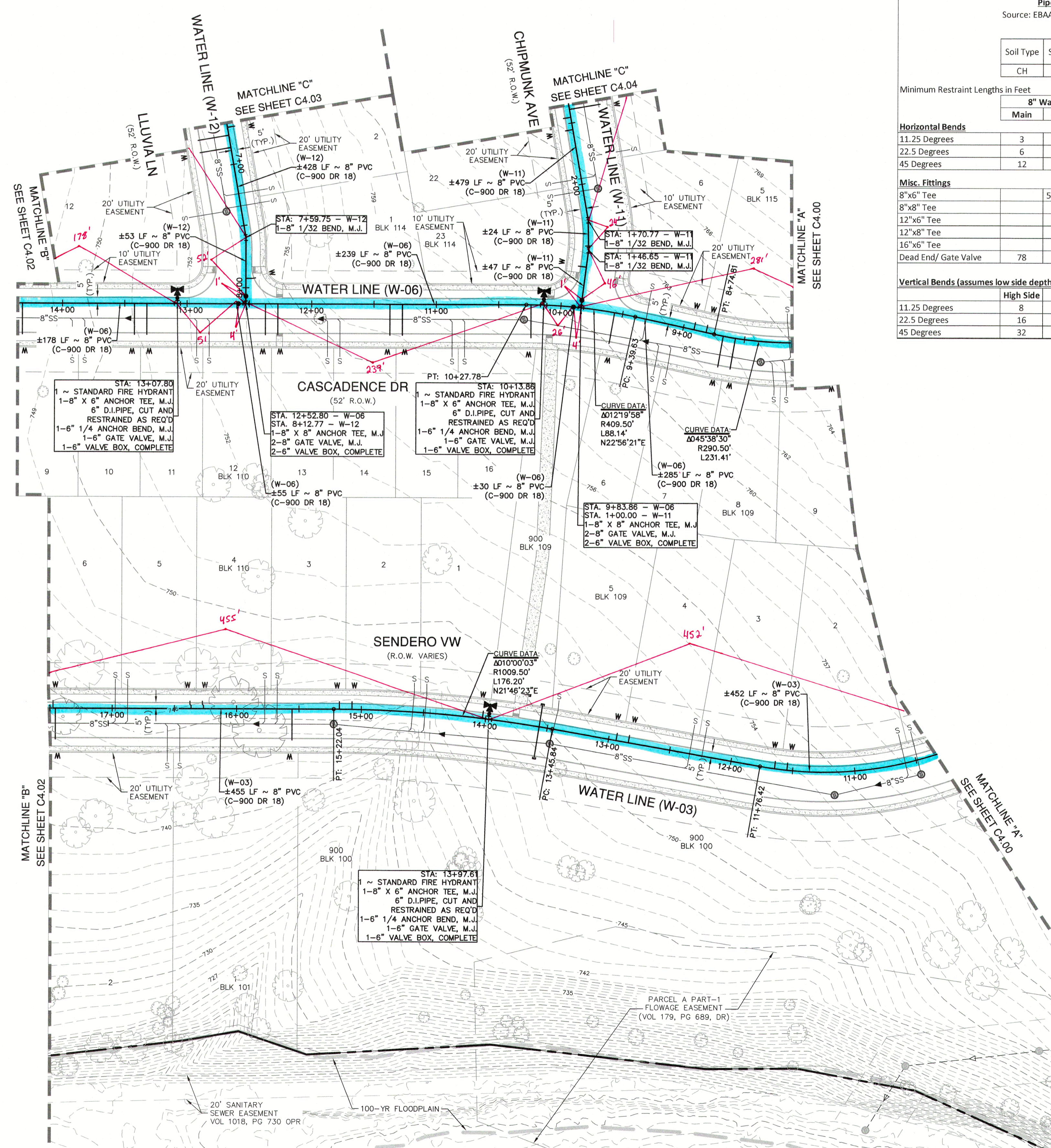
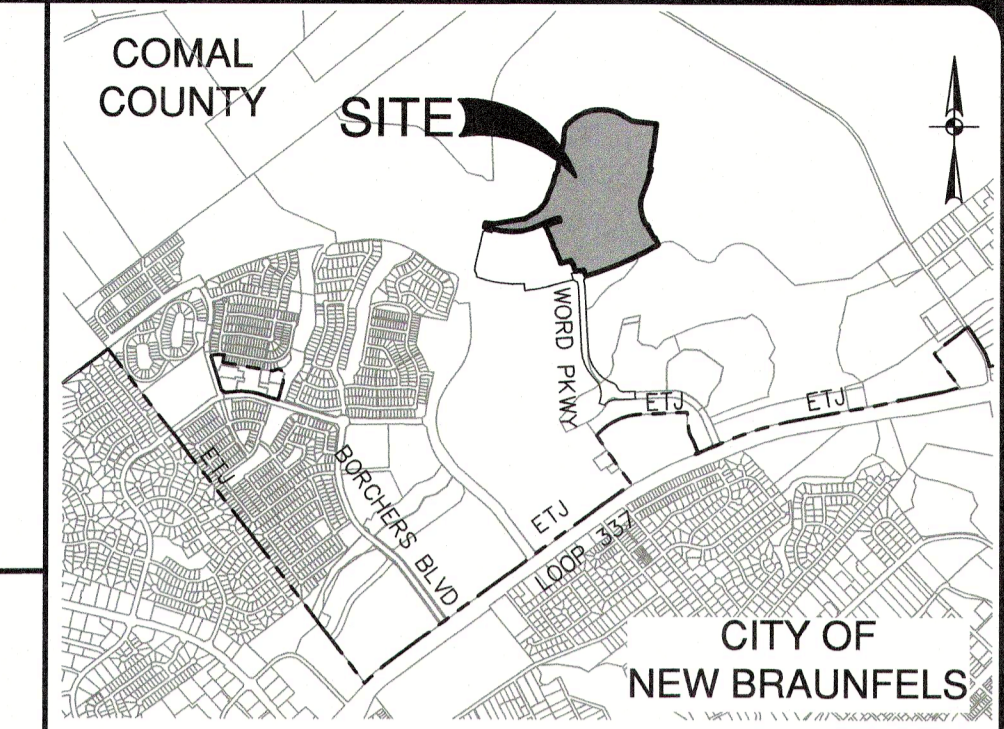
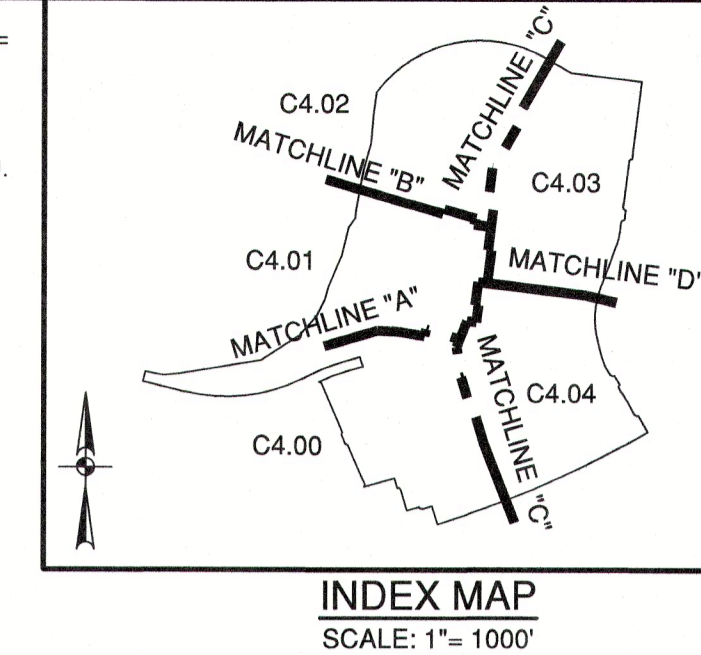
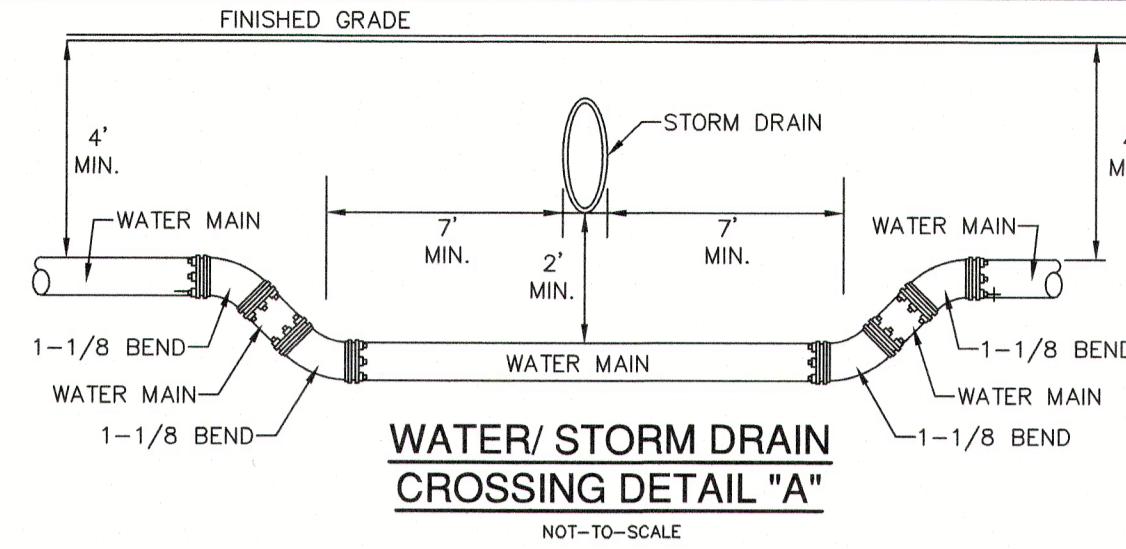
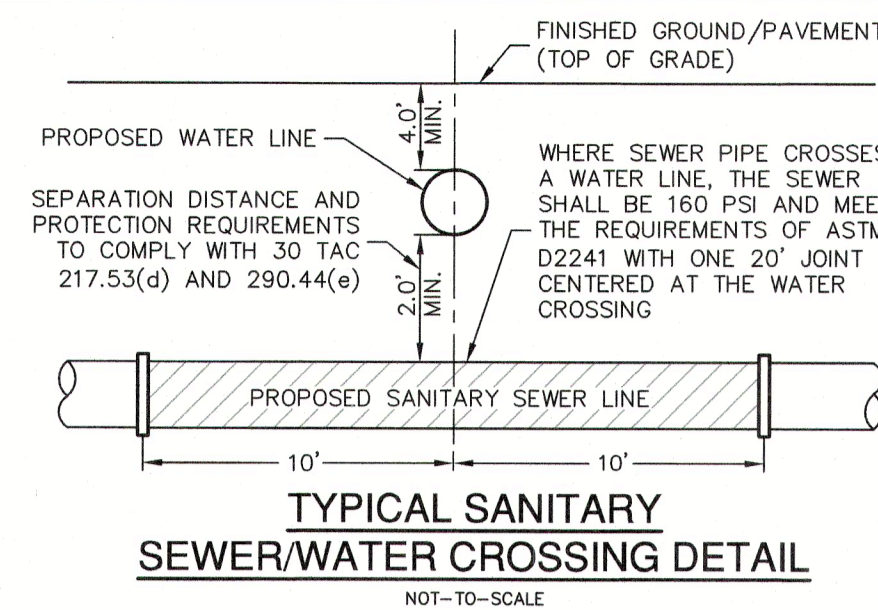
NBU PRESSURE ZONE:
PROPOSED WATER MAIN IS WITHIN NBU PRESSURE ZONE 5.

NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.



FIRE HYDRANT DETAIL
NOT-TO-SCALE

| ITEM | UNIT | QUANTITY |
|--------------------------------|------|----------|
| 8" WATER LINE | LF | 12954 |
| 12" WATER LINE | LF | 339 |
| 16" WATER LINE | LF | 1165 |
| 1" SINGLE SERVICE & 5/8" METER | EA | 215 |
| 1" IRRIGATION SERVICE | EA | 2 |
| LUES | EA | 215 |
| FIRE HYDRANT | EA | 28 |
| 6" GATE VALVE | EA | 28 |
| 8" GATE VALVE | EA | 47 |
| 12" GATE VALVE | EA | 1 |
| 16" GATE VALVE | EA | 1 |



Pipe Restraint Length Calculations
Source: EBAA Iron, Restraint Length Calculator v 7.1.2

| Soil Type | Safety Factor | Trench Type | Depth of Bury | Test Pressure |
|-----------|---------------|-------------|---------------|---------------|
| CH | 1.5 to 1.0 | 5 | 4 ft | 200 psi |

Assumptions:
Minimum Restraint Lengths in Feet

| | 8" Waterline | 12" Waterline | 16" Waterline |
|---------------|--------------|---------------|---------------|
| | Main | Branch | Main |
| 11.25 Degrees | 3 | 4 | 5 |
| 22.5 Degrees | 6 | 8 | 11 |
| 45 Degrees | 12 | 17 | 21 |

Horizontal Bends

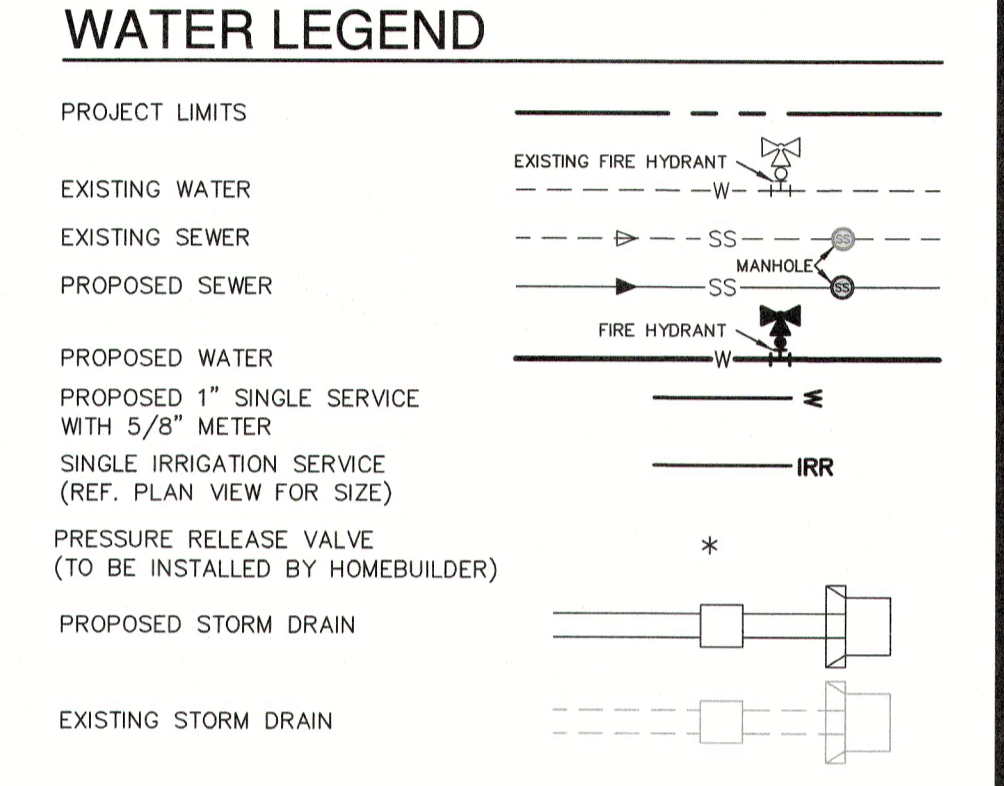
| | 8" Waterline | 12" Waterline | 16" Waterline |
|---------------|--------------|---------------|---------------|
| | Main | Branch | Main |
| 11.25 Degrees | 3 | 4 | 5 |
| 22.5 Degrees | 6 | 8 | 11 |
| 45 Degrees | 12 | 17 | 21 |

Misc. Fittings

| | 8" (6" Branch) | 12" (6" Branch) | 16" (6" Branch) |
|----------------------|----------------|-----------------|-----------------|
| 8"x6" Tee | 59 | | |
| 8"x8" Tee | 78 | | |
| 12"x6" Tee | | 59 | |
| 12"x8" Tee | 78 | 58 | |
| 16"x6" Tee | | | 59 |
| 16"x8" Tee | | | |
| Dead End/ Gate Valve | 78 | 110 | |

Vertical Bends (assumes low side depth of 10)

| | High Side | Low Side | High Side | Low Side | High Side | Low Side |
|---------------|-----------|----------|-----------|----------|-----------|----------|
| 11.25 Degrees | 8 | 2 | 11 | 2 | 14 | 3 |
| 22.5 Degrees | 16 | 3 | 22 | 4 | 29 | 5 |
| 45 Degrees | 32 | 5 | 46 | 7 | 59 | 10 |



JOINT RESTRAINT NOTE:
CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESSES OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. CONTRACTOR SHALL USE PIPE RESTRAINT LENGTH TABLE PROVIDED ON THIS SHEET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE JOINT RESTRAINTS WITH THE DEVELOPER'S ENGINEER IF CHANGES OCCUR.

NOTE:
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2. ALL GATE VALVES 16" AND SMALLER SHALL BE RESILIENT SEATED GATE VALVES.

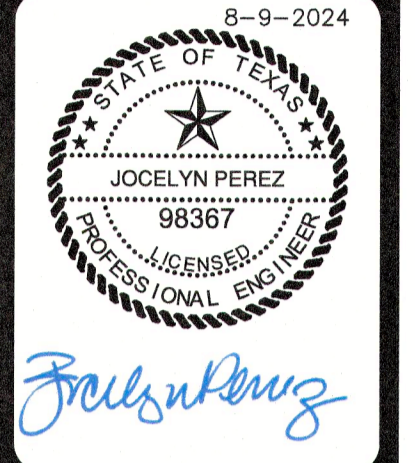
CITY OF NEW BRAUNFELS NOTES

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- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
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- 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") THICK. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING 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.

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| NO. | REVISION | DATE |
|-----|----------|------|
| | | |



PAPE-DAWSON ENGINEERS
1022 INDEPENDENCE DR. STE 102 NEW BRAUNFELS, TX 78102 (800) 652-5693
TEXAS ENGINEERING FIRM #7011 TEXAS SURVEYING FIRM #1008800

VERAMENDI PRECINCT 18 UNIT 1
NEW BRAUNFELS, TEXAS
OVERALL WATER DISTRIBUTION PLAN

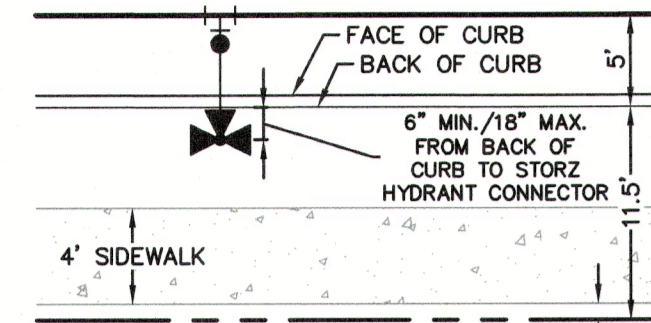
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|----------|------------|
| PLAT NO. | |
| JOB NO. | 30001-66 |
| DATE | 07-03-2023 |
| DESIGNER | GDL |
| CHECKED | DRWN BH |
| SHEET | C4.01 |

FOR PERMIT

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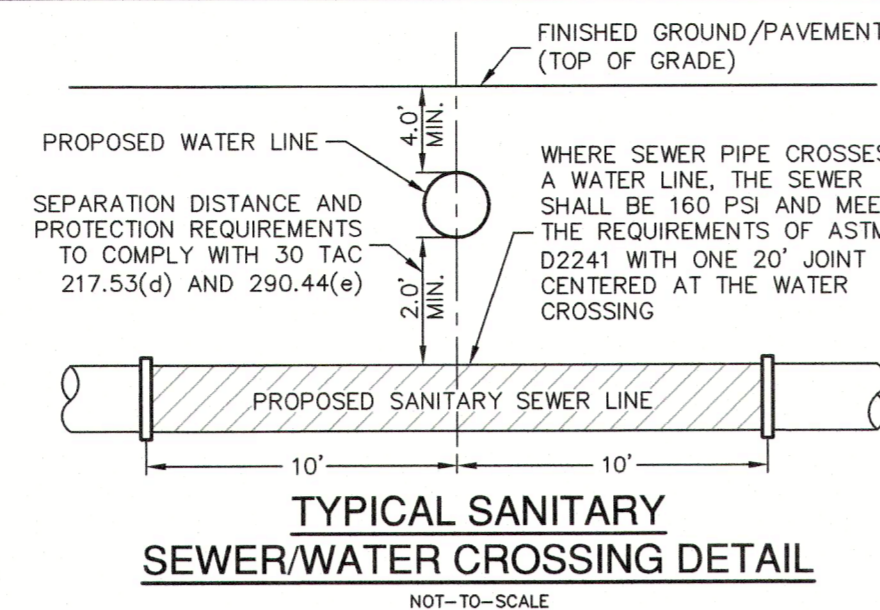
NBU PRESSURE ZONE:
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NOTE:
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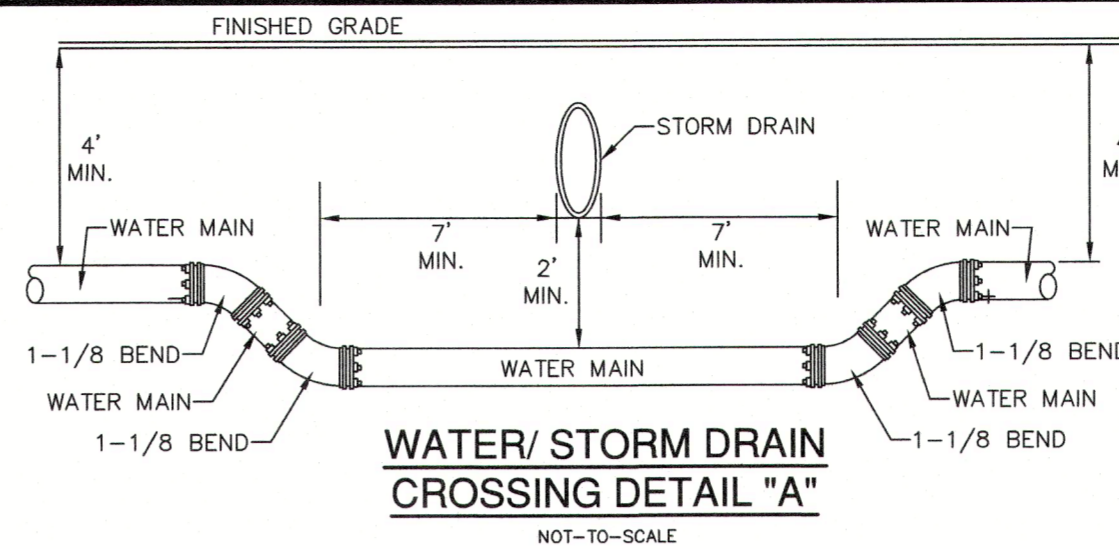


FIRE HYDRANT DETAIL
NOT-TO-SCALE

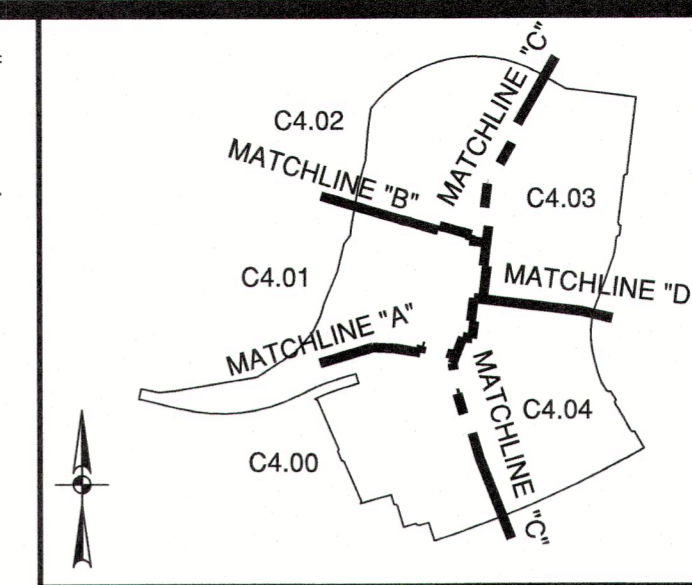
| ITEM | UNIT | QUANTITY |
|--------------------------------|------|----------|
| 8" WATER LINE | LF | 12954 |
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| 16" WATER LINE | LF | 1165 |
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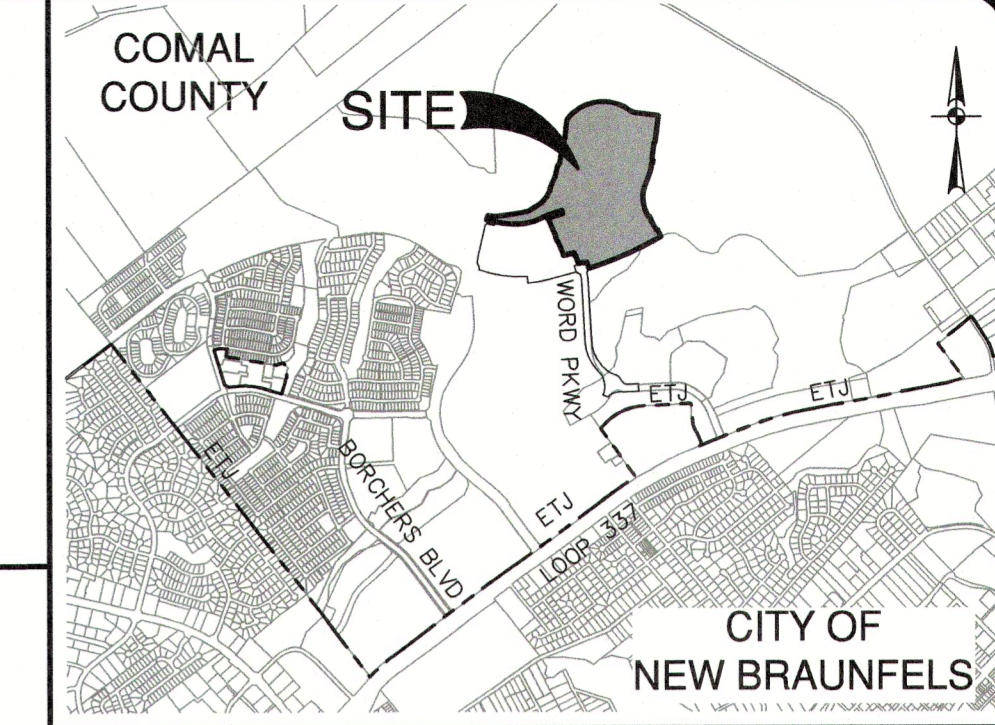
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
NOT-TO-SCALE



WATER/STORM DRAIN CROSSING DETAIL "A"
NOT-TO-SCALE



INDEX MAP
SCALE: 1" = 1000'



LOCATION MAP
NOT-TO-SCALE

Pipe Restraint Length Calculations
Source: EBAA Iron, Restraint Length Calculator v 7.1.2

| Soil Type | Safety Factor | Trench Type | Depth of Bury | Test Pressure |
|-----------|---------------|-------------|---------------|---------------|
| CH | 1.5 to 1.0 | 5 | 4 ft | 200 psi |

Minimum Restraint Lengths in Feet

| | 8" Waterline | 12" Waterline | 16" Waterline |
|--------|--------------|---------------|---------------|
| Main | | | |
| Branch | | | |

Horizontal Bends

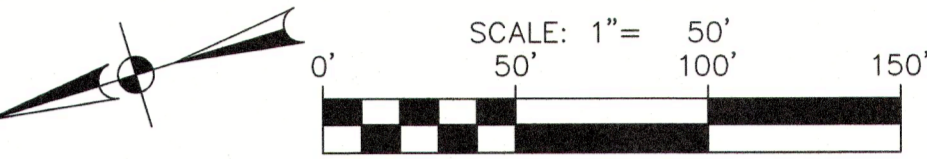
| Angle | 8" Waterline | 12" Waterline | 16" Waterline |
|---------------|--------------|---------------|---------------|
| 11.25 Degrees | 3 | 4 | 5 |
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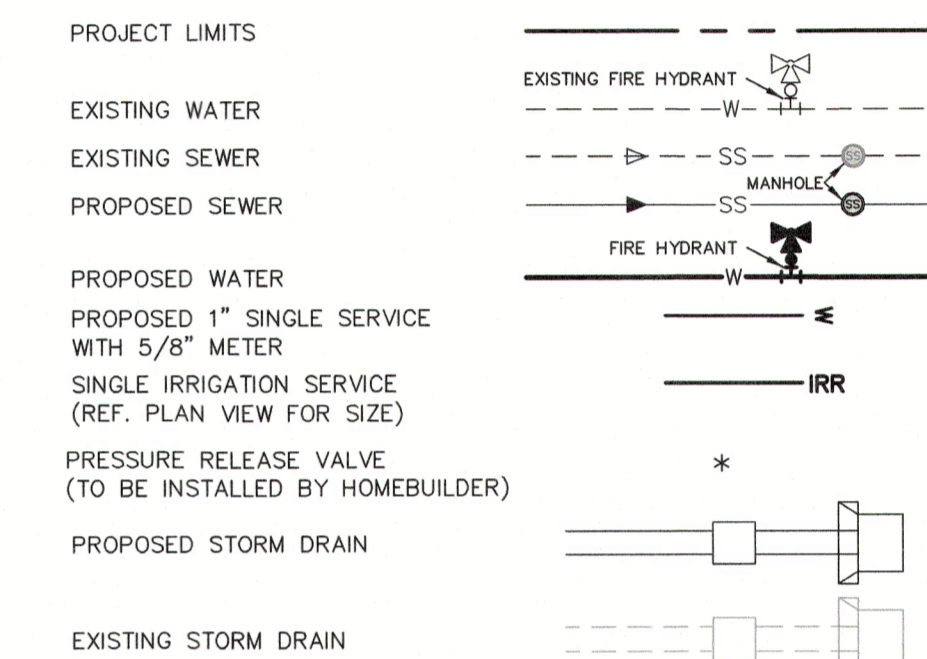
| Fitting | 8" Waterline | 12" Waterline | 16" Waterline |
|----------------------|----------------|----------------|----------------|
| 8"x6" Tee | 59 (6" Branch) | | |
| 8"x8" Tee | 78 | | |
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| 12"x8" Tee | 78 | 58 | |
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| Dead End/ Gate Valve | 78 | 110 | |

Vertical Bends (assumes low side depth of 10')

| Angle | High Side | Low Side | High Side | Low Side | High Side | Low Side |
|---------------|-----------|----------|-----------|----------|-----------|----------|
| 11.25 Degrees | 8 | 2 | 11 | 2 | 14 | 3 |
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WATER LEGEND



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CITY OF NEW BRAUNFELS NOTES

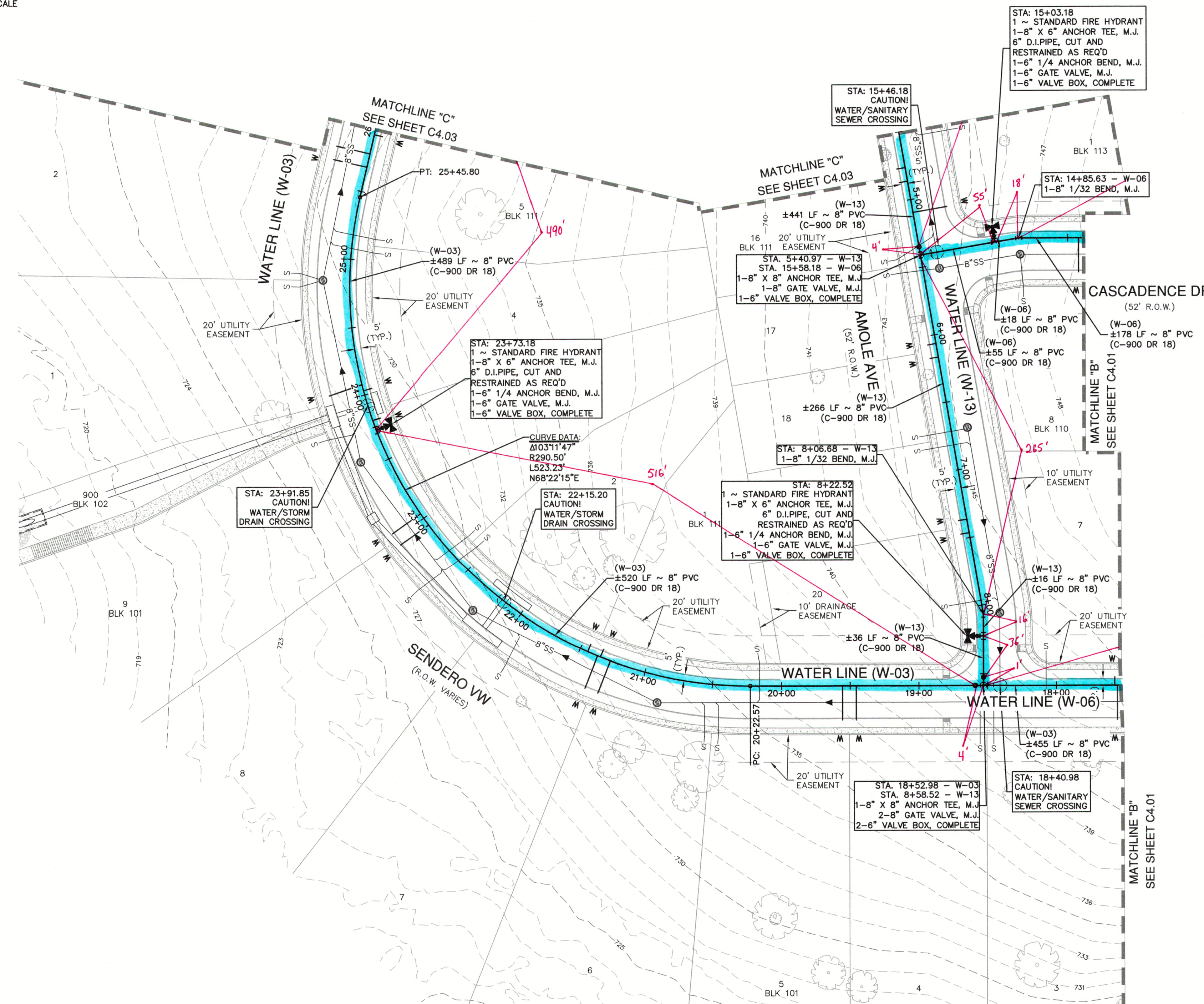
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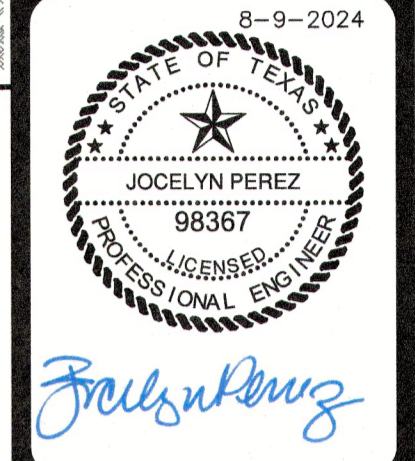
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| NO. | REVISION | DATE |
|-----|----------|------|
| | | |



PAPE-DAWSON ENGINEERS
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 18 UNIT 1
NEW BRAUNFELS, TEXAS
OVERALL WATER DISTRIBUTION PLAN

| | |
|----------|-------------|
| PLAT NO. | |
| JOB NO. | 30001-66 |
| DATE | 07-03-2023 |
| DESIGNER | GDL |
| CHECKED | DL DRAWN_BH |
| SHEET | C4.02 |

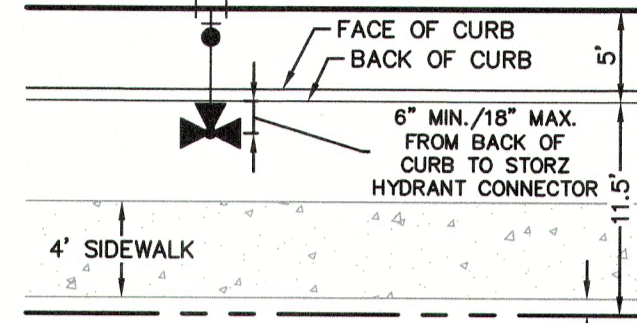
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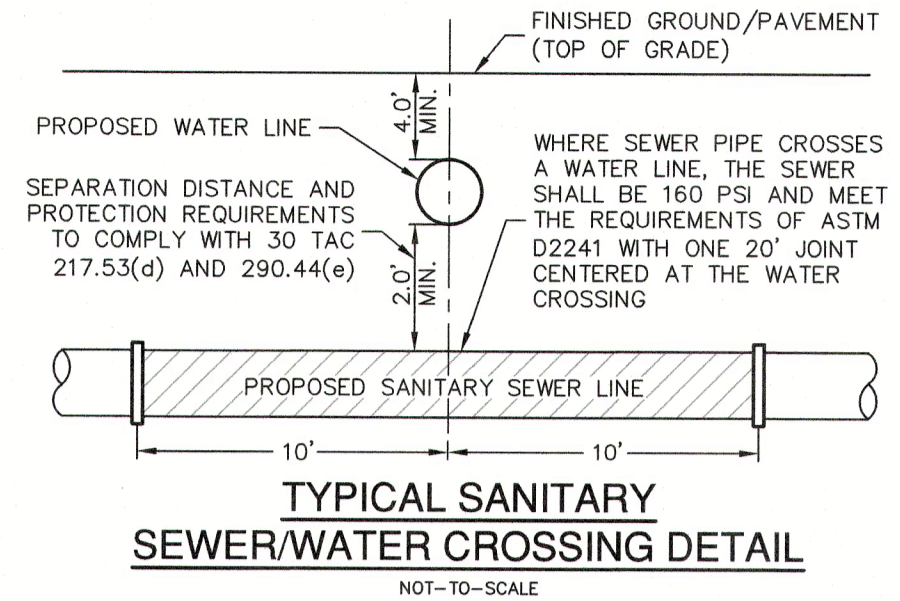
NBU PRESSURE ZONE:
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NOTE:
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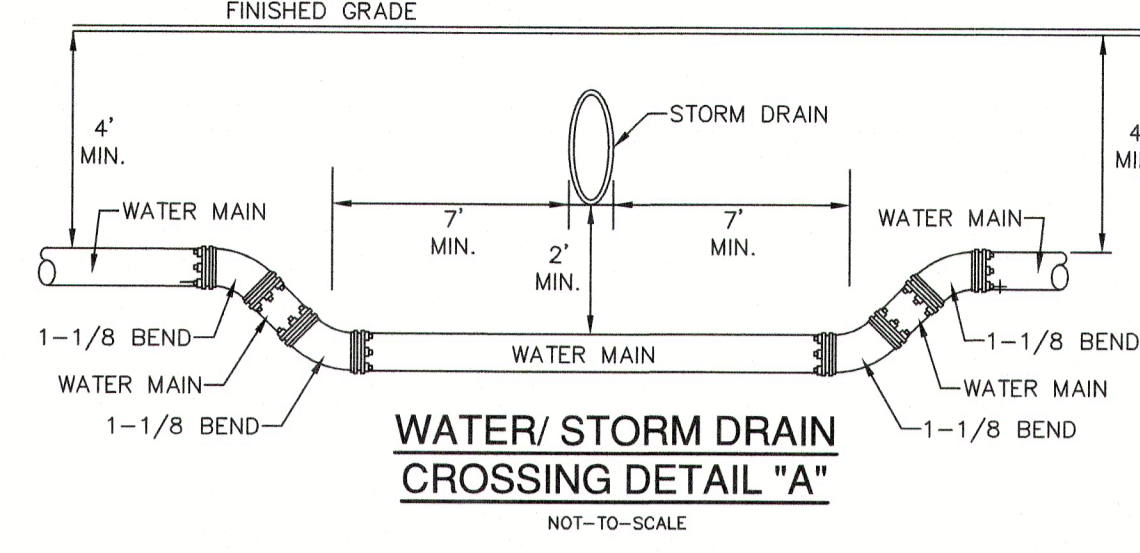
| WATER (NBU JOB NO. W-226995) | UNIT | QUANTITY |
|--------------------------------|------|----------|
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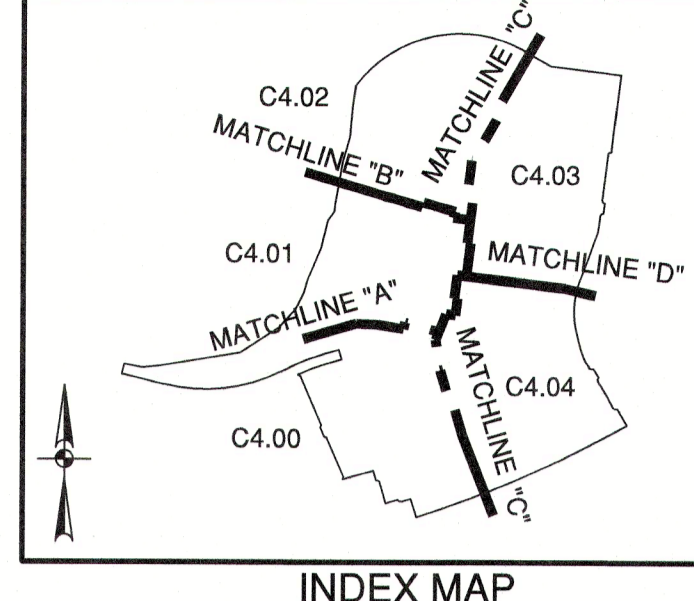
FIRE HYDRANT DETAIL
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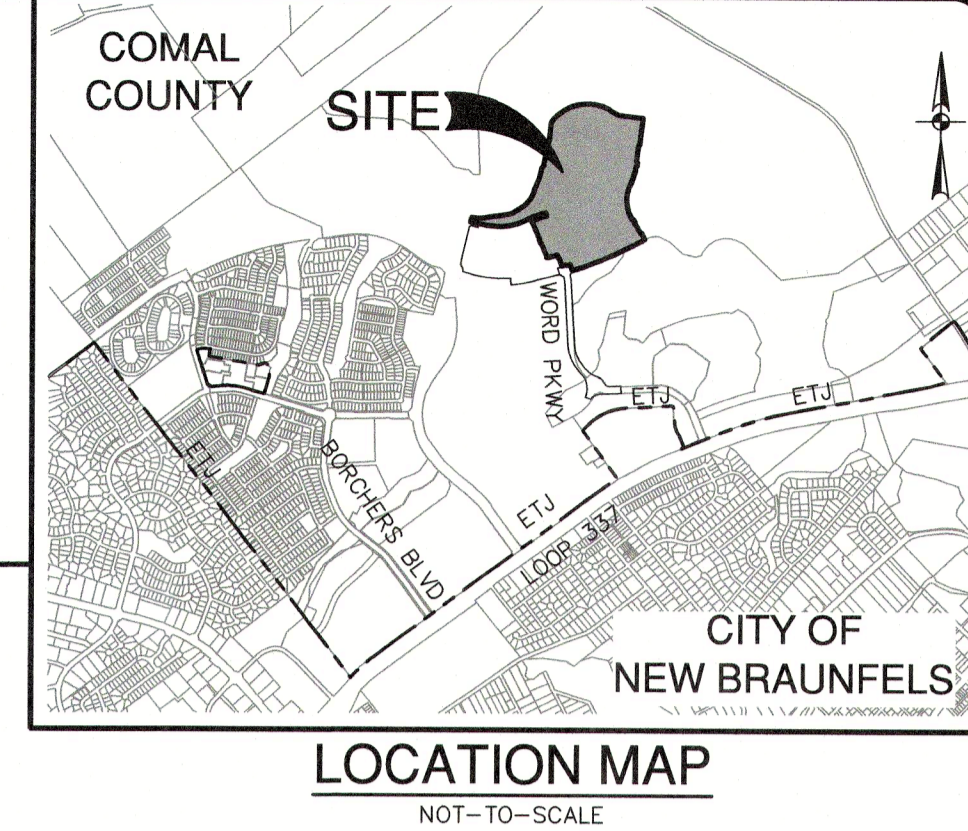
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
 NOT-TO-SCALE



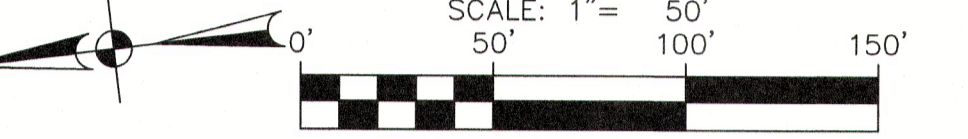
WATER/STORM DRAIN CROSSING DETAIL "A"
 NOT-TO-SCALE



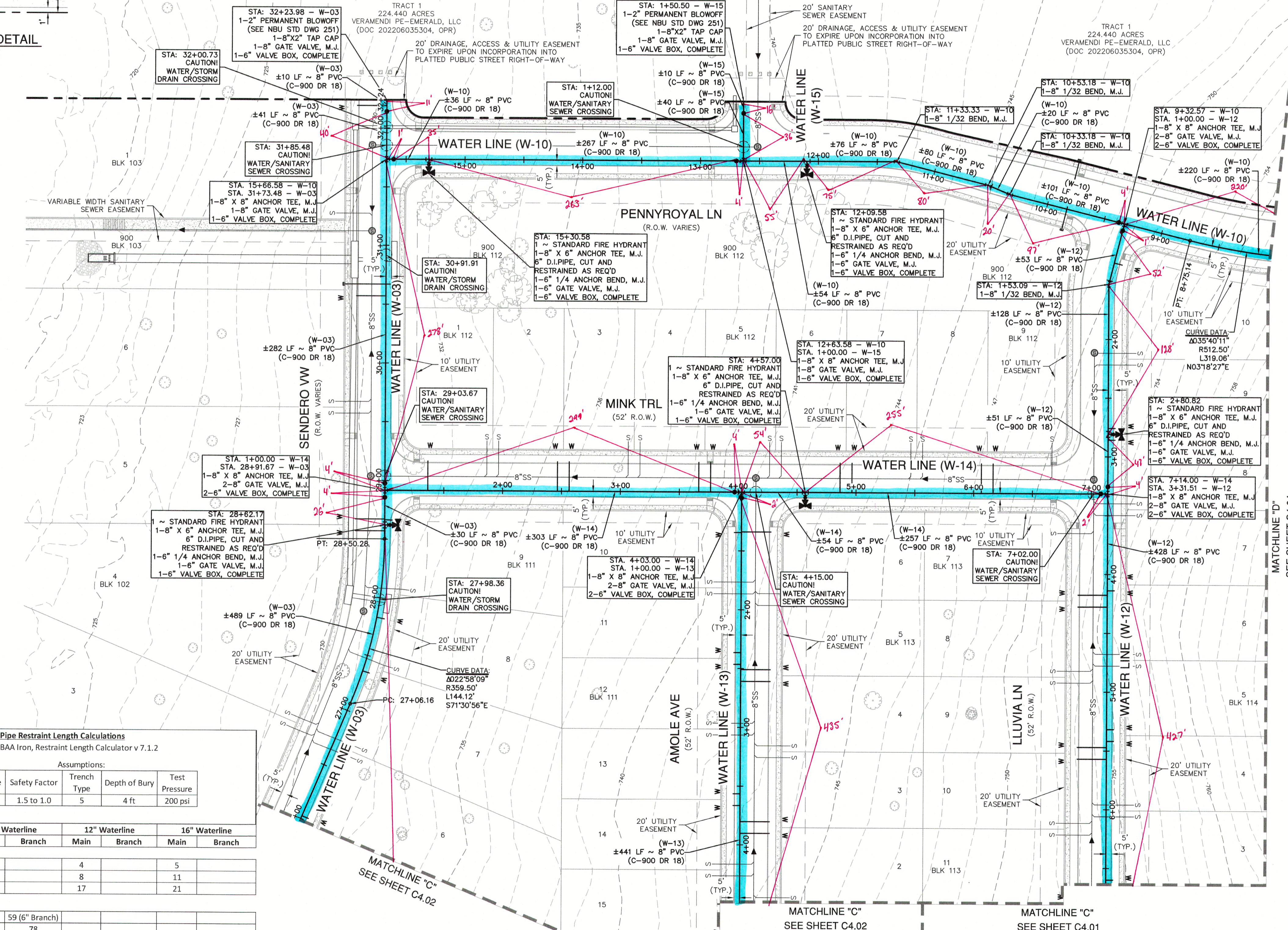
INDEX MAP
 SCALE: 1" = 1000'



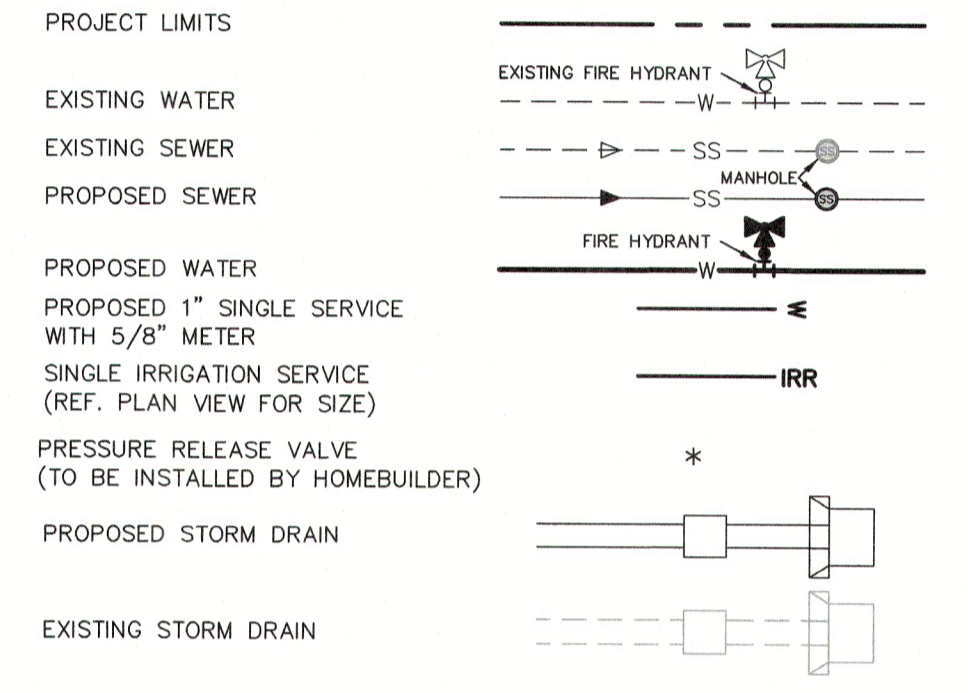
LOCATION MAP
 NOT-TO-SCALE



SCALE: 1" = 50'
 100'
 150'



WATER LEGEND



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- 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") THICK. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE CONTRACTOR'S OPERATOR 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.

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT "TEXAS 811" A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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 ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES 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 CONTRACTOR'S 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 EXCAVATION.

Pipe Restraint Length Calculations
 Source: EBAA Iron, Restraint Length Calculator v 1.7.12

| Assumptions: | | | | |
|--------------|---------------|-------------|---------------|---------------|
| Soil Type | Safety Factor | Trench Type | Depth of Bury | Test Pressure |
| CH | 1.5 to 1.0 | 5 | 4 ft | 200 psi |

Minimum Restraint Lengths in Feet

| | 8" Waterline | | 12" Waterline | | 16" Waterline | |
|------------------|--------------|--------|---------------|--------|---------------|--------|
| | Main | Branch | Main | Branch | Main | Branch |
| Horizontal Bends | | | | | | |
| 11.25 Degrees | 3 | 4 | 8 | 8 | 5 | 5 |
| 22.5 Degrees | 6 | 8 | 17 | 17 | 11 | 11 |
| 45 Degrees | 12 | 17 | 34 | 34 | 21 | 21 |

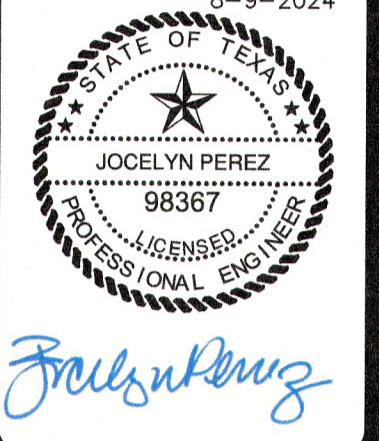
| Misc. Fittings | |
|----------------------|----------------|
| 8"x6" Tee | 59 (6" Branch) |
| 8"x8" Tee | 78 |
| 12"x6" Tee | 59 (6" Branch) |
| 12"x8" Tee | 78 |
| 16"x6" Tee | 59 (6" Branch) |
| Dead End/ Gate Valve | 78 |

Vertical Bends (assumes low side depth of 10')

| | High Side | | Low Side | | High Side | | Low Side | |
|---------------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | High Side | Low Side | High Side | Low Side | High Side | Low Side | High Side | Low Side |
| 11.25 Degrees | 8 | 2 | 11 | 2 | 14 | 3 | 3 | 3 |
| 22.5 Degrees | 16 | 3 | 22 | 4 | 29 | 5 | 5 | 5 |
| 45 Degrees | 32 | 5 | 46 | 7 | 59 | 10 | 10 | 10 |

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| NO. | REVISION | DATE |
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PAPE-DAWSON ENGINEERS
 1672 INDEPENDENCE DR. STE 102 NEW BRAUNFELS, TX 78130 | 830.632.5583
 TEXAS ENGINEERING FIRM #470 1 TEXAS SURVEYING FIRM #1028800

VERAMENDI PRECINCT 18 UNIT 1
 NEW BRAUNFELS, TEXAS
OVERALL WATER DISTRIBUTION PLAN

| | |
|----------|------------|
| PLAT NO. | |
| JOB NO. | 30001-66 |
| DATE | 07-03-2023 |
| DESIGNER | GDL |
| CHECKED | DL |
| DRAWN | BH |
| SHEET | C4.03 |

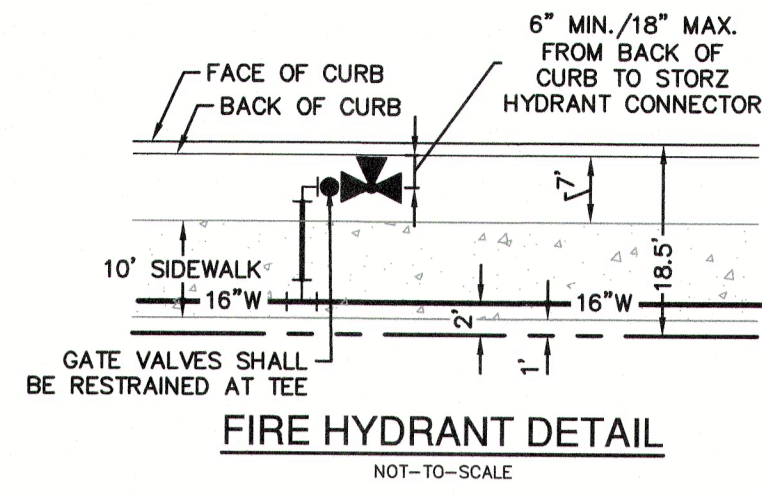
FOR PERMIT

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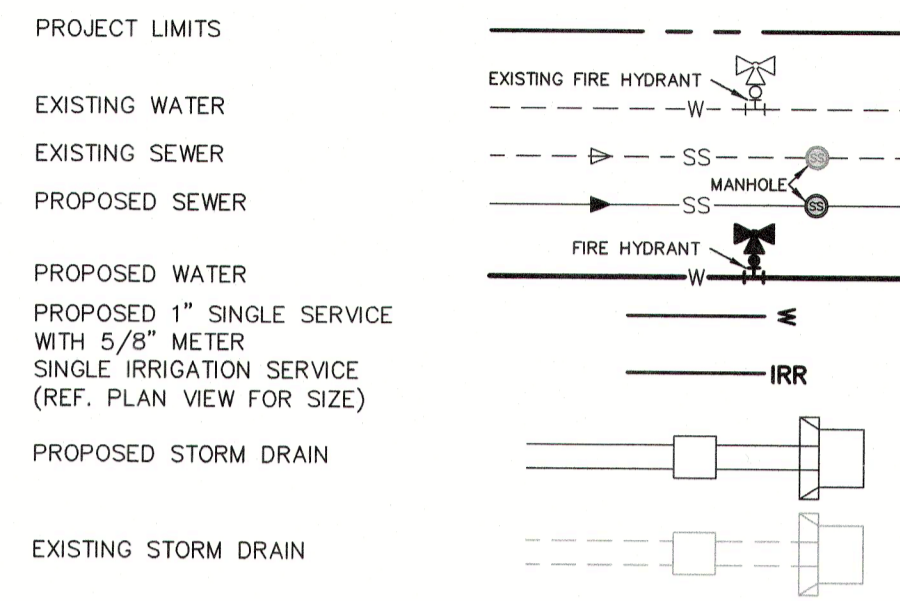
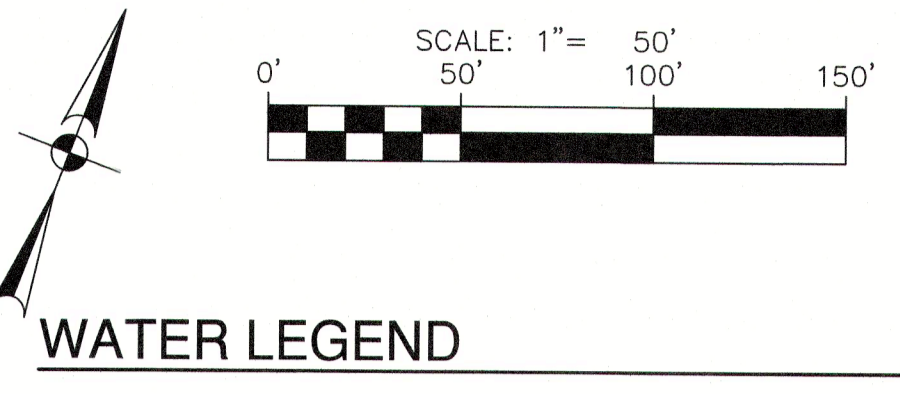
NBU PRESSURE ZONE:
 PROPOSED WATER MAIN IS WITHIN NBU PRESSURE ZONE 5.

NOTE:
 FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

| ITEM | UNIT | QUANTITY |
|--------------------------------|------|----------|
| 8" WATER LINE | LF | 12954 |
| 12" WATER LINE | LF | 339 |
| 16" WATER LINE | LF | 1165 |
| 1" SINGLE SERVICE & 5/8" METER | EA | 215 |
| 1" IRRIGATION SERVICE | EA | 2 |
| LUES | EA | 215 |
| FIRE HYDRANT | EA | 28 |
| 6" GATE VALVE | EA | 28 |
| 8" GATE VALVE | EA | 47 |
| 12" GATE VALVE | EA | 1 |
| 16" GATE VALVE | EA | 1 |



FOR CHLORINATION INJECTION
 2 - 1" CORPORATION STOP, C.C.X.I.P.
 1 - 1" COPPER TUBING, CUT AS REQUIRED
 2 - 1" COMP. 1 1/4 COUPLING, CORP. STOP
 2 - 1 1/4" THD. SOLID CAPS, THR.
 16" VALVE SHALL REMAIN CLOSED UNTIL NEW MAINS HAVE BEEN DISINFECTED BY CONTRACTOR AND ACCEPTED BY NBU
 CONTRACTOR SHALL TIE PROPOSED 16" MAIN TO EXISTING 16" PVC C-900 DR. 18 MAIN AFTER DISINFECTED BY CONTRACTOR AND ACCEPTANCE BY NBU
 2" TEMPORARY BLOWOFF ASSEMBLY



Pipe Restraint Length Calculations
 Source: EBAA Iron, Restraint Length Calculator v 7.1.2

| Soil Type | Safety Factor | Trench Type | Depth of Bury | Test Pressure |
|-----------|---------------|-------------|---------------|---------------|
| CH | 1.5 to 1.0 | 5 | 4 ft | 200 psi |

Minimum Restraint Lengths in Feet

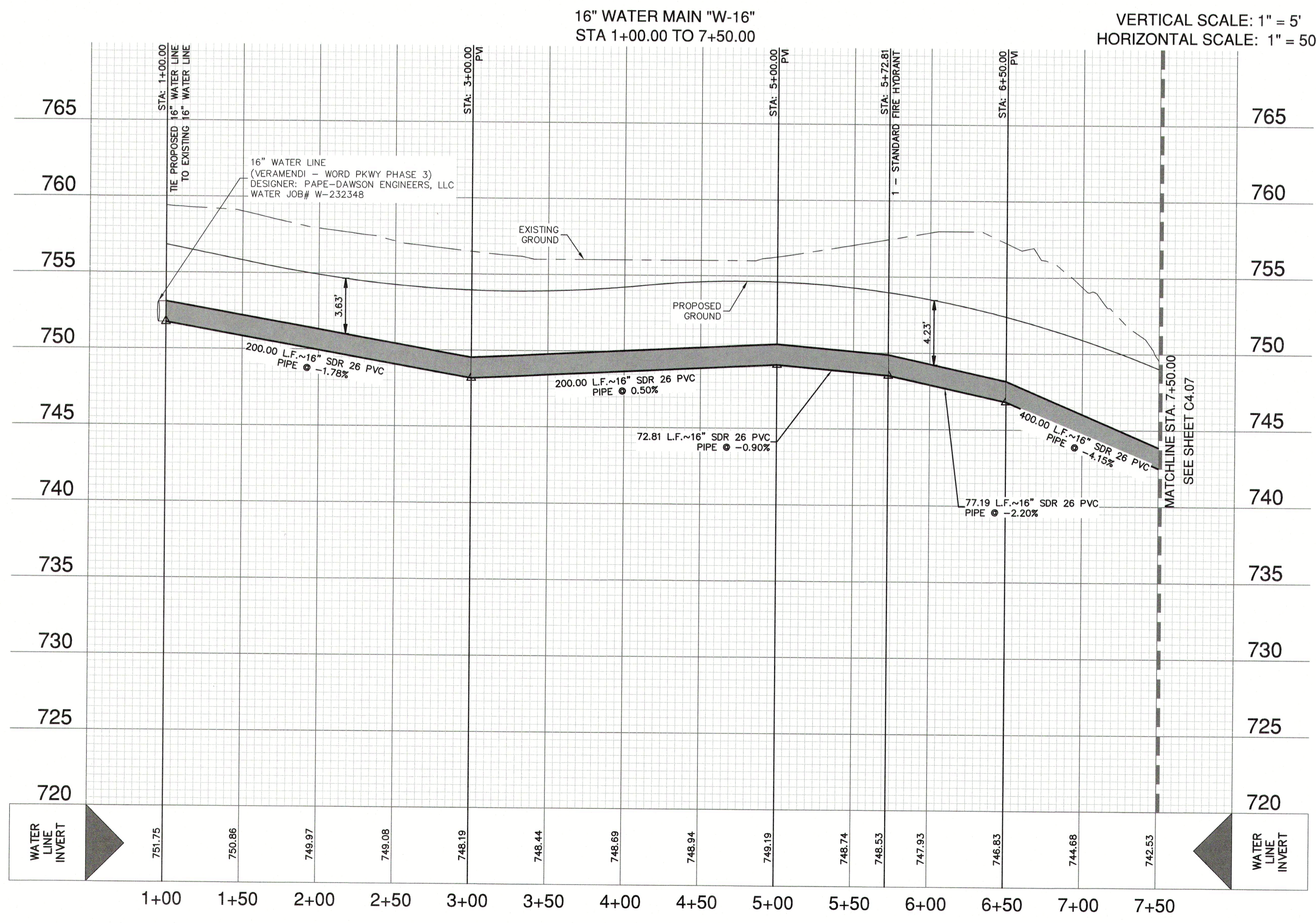
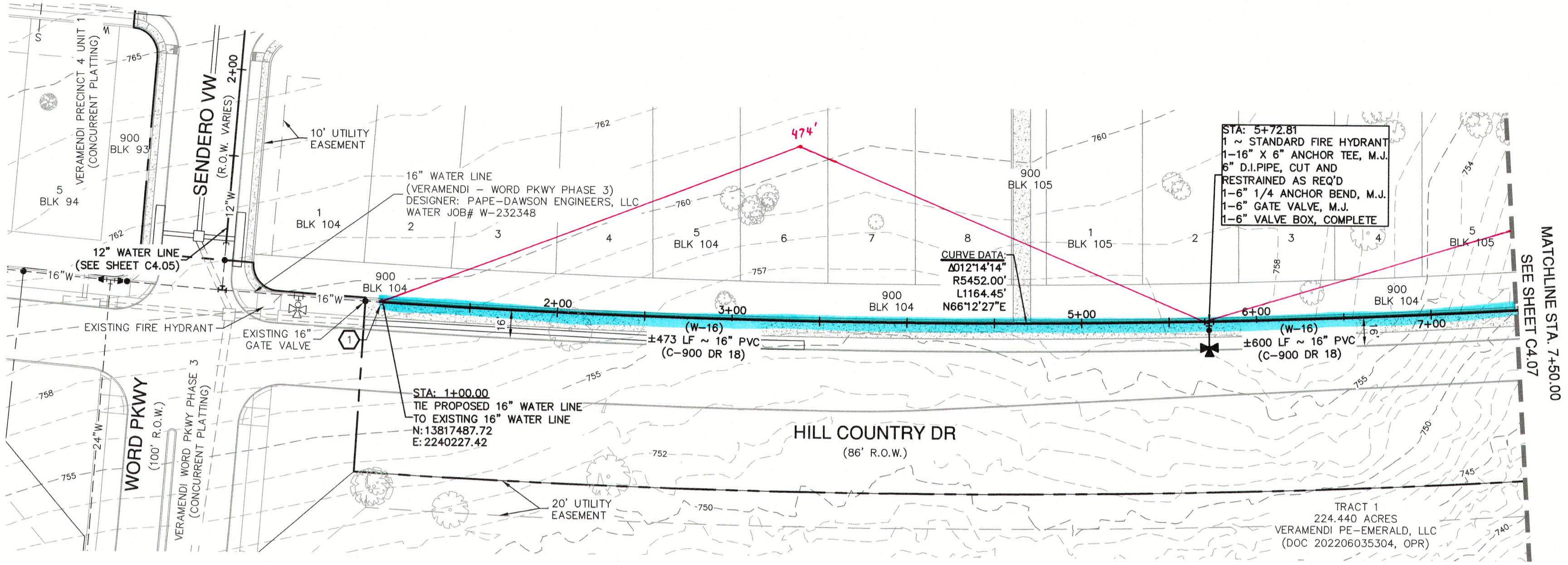
| Horizontal Bends | 8" Waterline | | 12" Waterline | | 16" Waterline | |
|------------------|--------------|--------|---------------|--------|---------------|--------|
| | Main | Branch | Main | Branch | Main | Branch |
| 11.25 Degrees | 3 | | 4 | | 5 | |
| 22.5 Degrees | 6 | | 8 | | 11 | |
| 45 Degrees | 12 | | 17 | | 21 | |

Misc. Fittings

| Fitting | 8" Waterline | 12" Waterline | 16" Waterline |
|----------------------|----------------|----------------|----------------|
| 8"x6" Tee | 59 (6" Branch) | | |
| 8"x8" Tee | 78 | | |
| 12"x6" Tee | | 59 (6" Branch) | |
| 12"x8" Tee | | 78 | 58 |
| 16"x6" Tee | | | 59 (6" Branch) |
| Dead End/ Gate Valve | 78 | 110 | |

Vertical Bends (assumes low side depth of 10)

| Vertical Bends | 8" Waterline | | 12" Waterline | | 16" Waterline | |
|----------------|--------------|----------|---------------|----------|---------------|----------|
| | High Side | Low Side | High Side | Low Side | High Side | Low Side |
| 11.25 Degrees | 8 | 2 | 11 | 2 | 14 | 3 |
| 22.5 Degrees | 16 | 3 | 22 | 4 | 29 | 5 |
| 45 Degrees | 32 | 5 | 46 | 7 | 59 | 10 |



JOINT RESTRAINT NOTE:
 CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. CONTRACTOR SHALL USE PIPE RESTRAINT LENGTH TABLE PROVIDED ON THIS SHEET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE JOINT RESTRAINTS WITH THE DEVELOPER'S ENGINEER IF CHANGES OCCUR.

NOTE:
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 2. ALL GATE VALVES 16" AND SMALLER SHALL BE RESILIENT SEATED GATE VALVES.

CITY OF NEW BRAUNFELS NOTES

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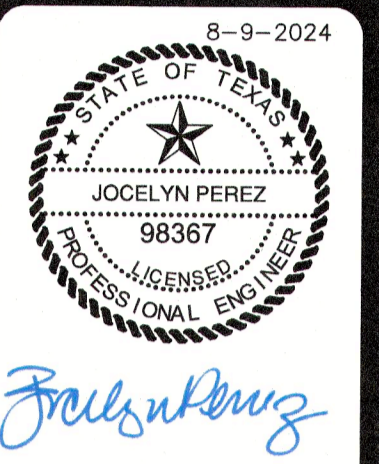
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| NO. | REVISION | DATE |
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| | | |



PAPE-DAWSON ENGINEERS
 1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.6333
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028900

VERAMENDI PRECINCT 18 UNIT 1
 NEW BRAUNFELS, TEXAS
 16 INCH WATER MAIN W-16 - PLAN & PROFILE
 STA 1+00.00 TO 7+50.00

| | |
|----------|------------|
| PLAT NO. | |
| JOB NO. | 30001-66 |
| DATE | 07-03-2023 |
| DESIGNER | GDL |
| CHECKED | GL |
| DRAWN | BH |
| SHEET | C4.06 |

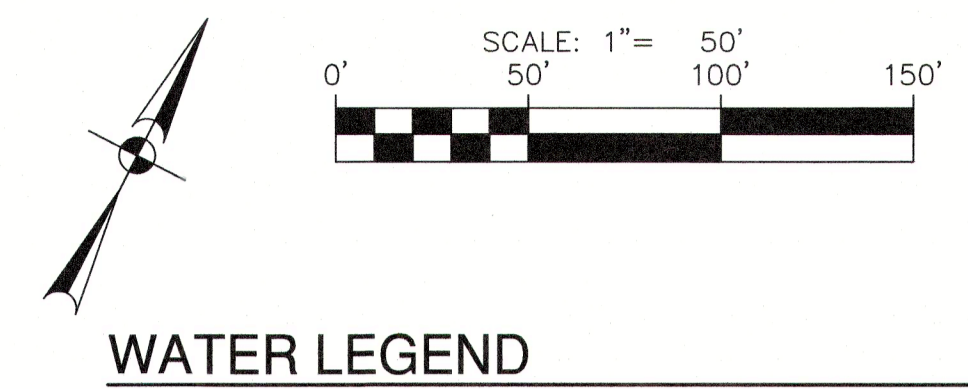
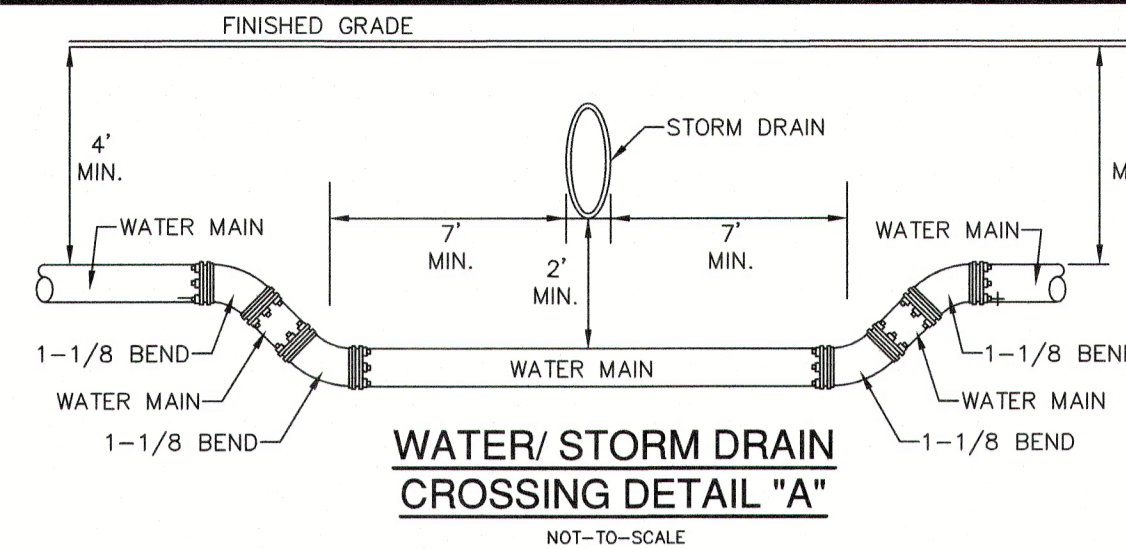
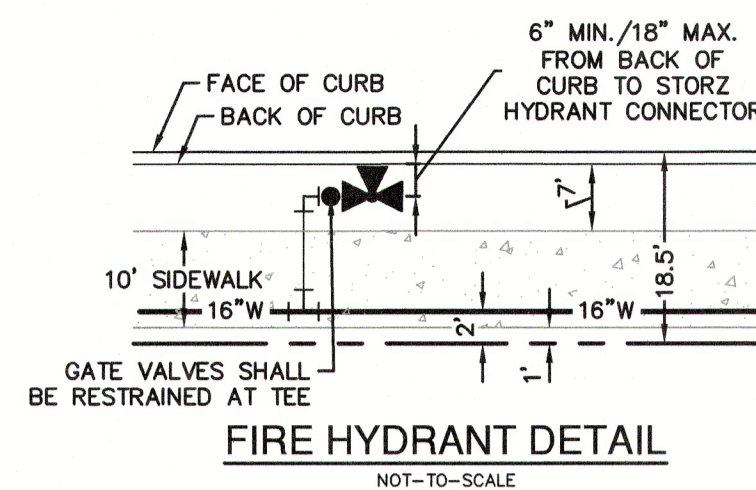
FOR PERMIT

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NBU PRESSURE ZONE:
 PROPOSED WATER MAIN IS WITHIN NBU PRESSURE ZONE 5.

NOTE:
 FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

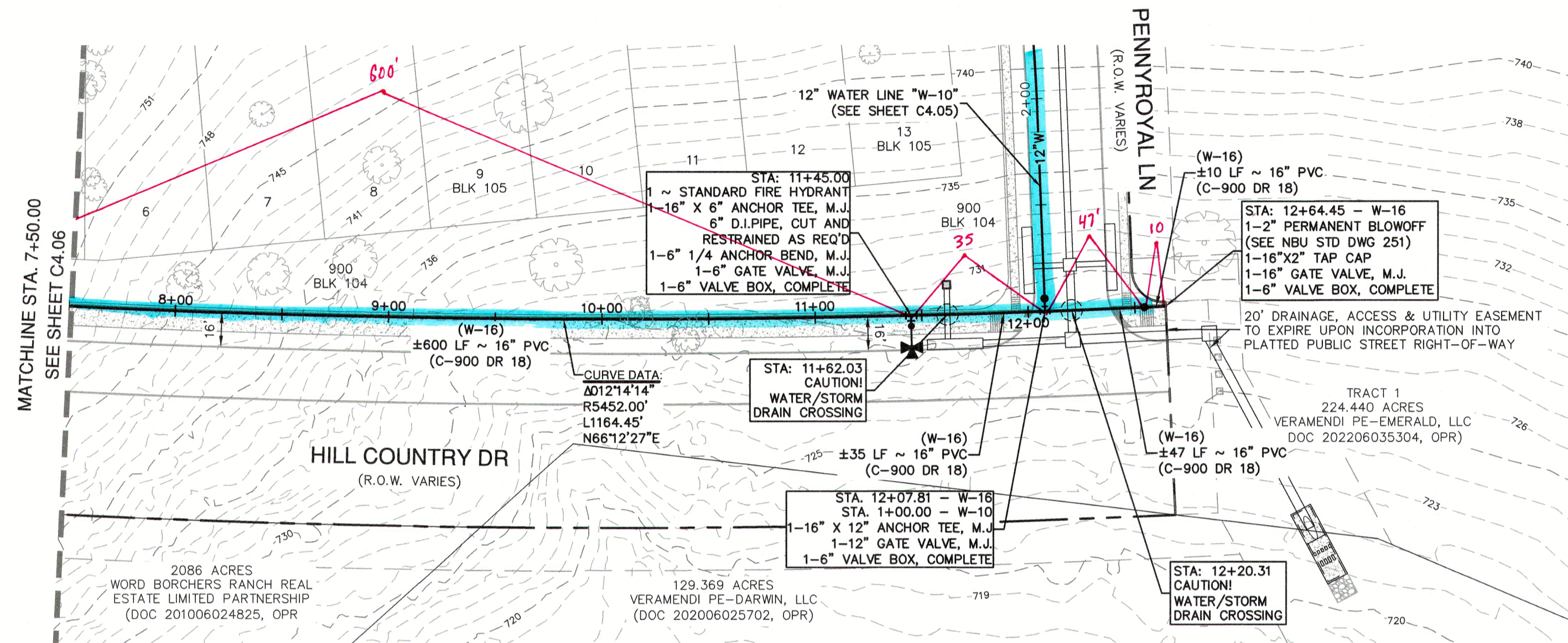
| ITEM | UNIT | QUANTITY |
|--------------------------------|------|----------|
| 8" WATER LINE | LF | 12954 |
| 12" WATER LINE | LF | 339 |
| 16" WATER LINE | LF | 1165 |
| 1" SINGLE SERVICE & 5/8" METER | EA | 215 |
| 1" IRRIGATION SERVICE | EA | 2 |
| LUES | EA | 215 |
| FIRE HYDRANT | EA | 28 |
| 6" GATE VALVE | EA | 28 |
| 8" GATE VALVE | EA | 47 |
| 12" GATE VALVE | EA | 1 |
| 16" GATE VALVE | EA | 1 |



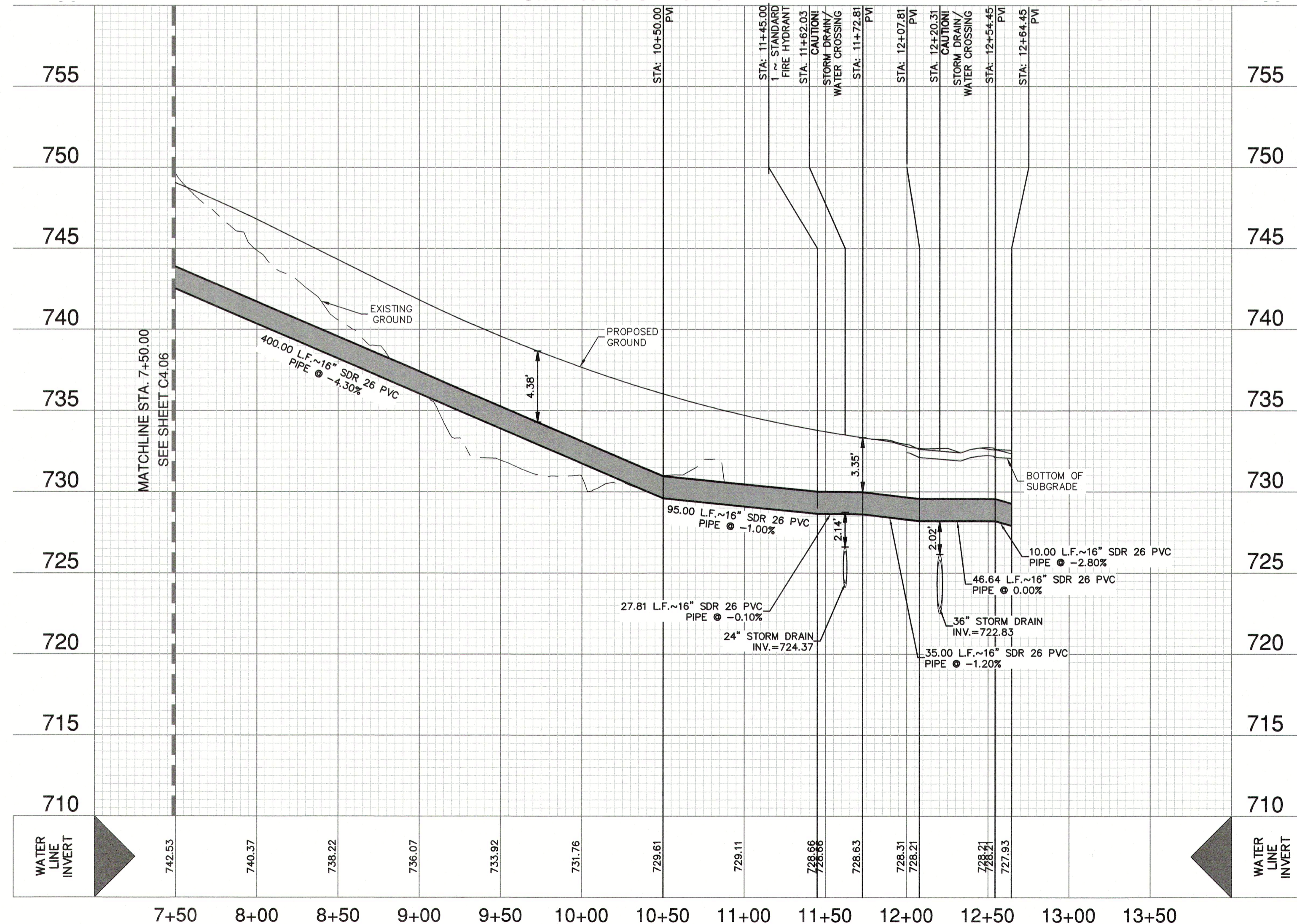
Pipe Restraint Length Calculations
 Source: EBAA Iron, Restraint Length Calculator v 7.1.2

Assumptions:
 Soil Type: CH, Safety Factor: 1.5 to 1.0, Trench Type: 5, Depth of Bury: 4 ft, Test Pressure: 200 psi

| Minimum Restraint Lengths in Feet | 8" Waterline | | 12" Waterline | | 16" Waterline | |
|---|--------------|----------------|---------------|----------------|---------------|----------------|
| | Main | Branch | Main | Branch | Main | Branch |
| Horizontal Bends | | | | | | |
| 11.25 Degrees | 3 | | 4 | | 5 | |
| 22.5 Degrees | 6 | | 8 | | 11 | |
| 45 Degrees | 12 | | 17 | | 21 | |
| Misc. Fittings | | | | | | |
| 8"x6" Tee | | 59 (6" Branch) | | | | |
| 8"x8" Tee | | 78 | | | | |
| 12"x6" Tee | | | | 59 (6" Branch) | | |
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| 16"x6" Tee | | | | | | 59 (6" Branch) |
| Dead End/ Gate Valve | 78 | | 110 | | | |
| Vertical Bends (assumes low side depth of 10) | | | | | | |
| | High Side | Low Side | High Side | Low Side | High Side | Low Side |
| 11.25 Degrees | 8 | 2 | 11 | 2 | 14 | 3 |
| 22.5 Degrees | 16 | 3 | 22 | 4 | 29 | 5 |
| 45 Degrees | 32 | 5 | 46 | 7 | 59 | 10 |



16" WATER MAIN "W-16"
 STA 7+50.00 TO 12+64.45
 VERTICAL SCALE: 1" = 5'
 HORIZONTAL SCALE: 1" = 50'



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DATE: _____
 NO. REVISION: _____
 8-9-2024

PAPE-DAWSON ENGINEERS
 1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | (830) 552-5633
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1028900

VERAMENDI PRECINCT 18 UNIT 1
 NEW BRAUNFELS, TEXAS
 16 INCH WATER MAIN W-16 - PLAN & PROFILE
 STA 7+50.00 TO 12+64.45

PLAT NO. _____
 JOB NO. 30001-66
 DATE 07-03-2023
 DESIGNER GDL
 CHECKED GDL DRAWN BH
 SHEET C4.07

FOR PERMIT

Date: Aug 09, 2024, 2:52pm User ID: caroliner...
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