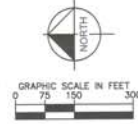
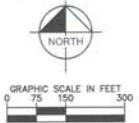
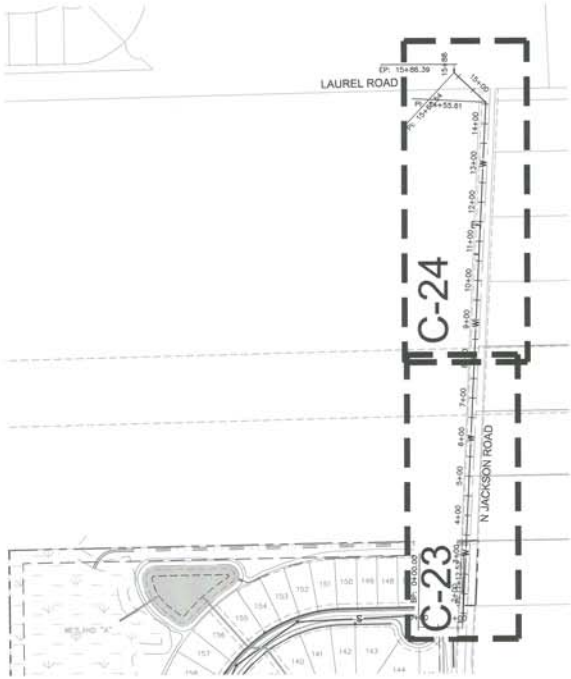
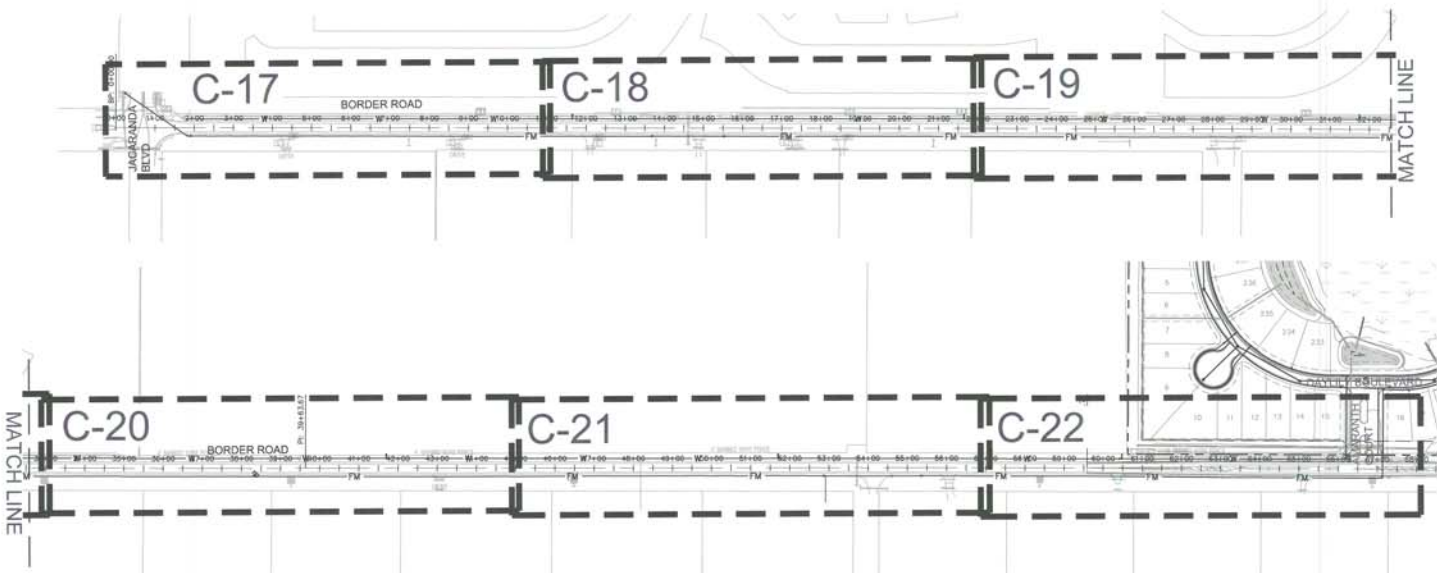


RECORD DRAWINGS  
 May 30, 2019  
 APPROVED



|   |   |   |                             |           |      |
|---|---|---|-----------------------------|-----------|------|
| WOODS AT VENICE<br>PREPARED FOR<br>BORDER ROAD<br>INVESTMENTS, LLC<br>FLORIDA   |   | <b>Kimley»Horn</b><br>1777 AVONUE STREET, SUITE 200, SARASOTA, FL 34236<br>PHONE: 941-579-7800<br>WWW.KIMLEY-HORN.COM CA 00000896 | NO.                         | REVISIONS | DATE |
|   |   |   |                             |           |      |
| AAA PROJECT<br>04819141<br>DATE: MAY 2019<br>SCALE: AS SHOWN<br>DRAWN BY: TML<br>CHECKED BY: JAL<br>DESIGNED BY: TML<br>CROCKED BY: TML | <b>RECORD DRAWING<br/>         PLAN AND PROFILE<br/>         INDEX PLAN</b> |   | SHEET NUMBER<br><b>C-2A</b> |           |      |

WOODS AT VENICE, PROJECT NO. 15-08-0000, PREPARED BY: JIMMY L. WOODS, P.E., DATE: MAY 30, 2019. ALL RIGHTS RESERVED. THIS DRAWING IS THE PROPERTY OF WOODS AT VENICE INVESTMENTS, LLC. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF WOODS AT VENICE INVESTMENTS, LLC.



RECORD DRAWINGS  
 May 30, 2019  
 APPROVED

|     |           |      |    |
|-----|-----------|------|----|
| NO. | REVISIONS | DATE | BY |
|     |           |      |    |
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|     |           |      |    |

**Kimley»Horn**  
 2218 BUREAU BLVD., SUITE 200, SACRAMENTO, CA 95833  
 1777 LAND STREET, SUITE 200, SACRAMENTO, CA 95834  
 WWW.KIMLEY-HORN.COM    TEL: 916-437-7600    FAX: 916-437-7601



RMA PROJECT: 04819141  
 DATE: MAY 2019  
 SCALE: AS SHOWN  
 DRAWN BY: JAL  
 CHECKED BY: JAL  
 DESIGNED BY: JAL

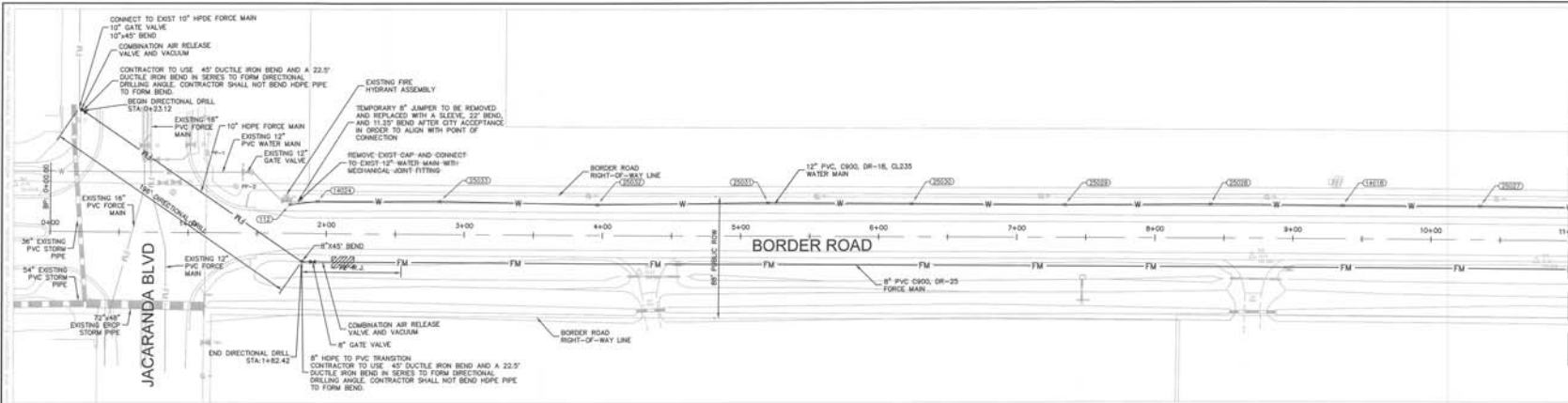
**RECORD DRAWING  
 OFFSITE PLAN AND  
 PROFILE INDEX**

**WOODS AT VENICE**  
 PREPARED FOR:  
**BORDER ROAD  
 INVESTMENTS, LLC**  
 CITY OF VENICE, FLORIDA

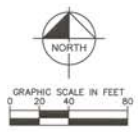
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**C-2B**







MATCH LINE SEE SHEET C-18

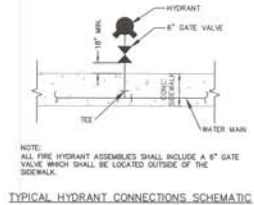


### BORDER ROAD

- ALL UTILITY MAINS SHALL HAVE 3' OF COVER UNLESS OTHERWISE NOTED.
- ALL WATER, REUSE AND IRRIGATION MAINS SHALL BE PVC, C-900, DR-18, CL 235, UNLESS OTHERWISE NOTED.
- ALL SANITARY SEWER GRAVITY MAINS SHALL BE PVC, SDR-35, UNLESS OTHERWISE INDICATED.
- ALL SANITARY SEWER FORCE MAINS SHALL BE PVC, C900, DR-25, UNLESS OTHERWISE INDICATED.
- ALL VALVES TO BE INSTALLED OUTSIDE OF ALL PAVEMENT AND CURBED AREAS.
- ALL FIRE HYDRANTS SHALL BE LOCATED 1' BACK OF R/W TYPICALLY, UNLESS OTHERWISE NOTED.
- PROFILES ARE NOTED FOR CLARITY.
- SEE UTILITY DETAIL DRAWINGS FOR WATER, IRRIGATION, REUSE AND SEWER SERVICE TERMINATIONS.
- SANITARY GRAVITY SEWER PIPE LENGTHS ARE FROM CENTER TO CENTER OF MANHOLES.
- ALL WATER SERVICES AND CURB STOPS ARE 1", UNLESS OTHERWISE NOTED.
- THE MAXIMUM ALLOWABLE PIPE DEFLECTION IS 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

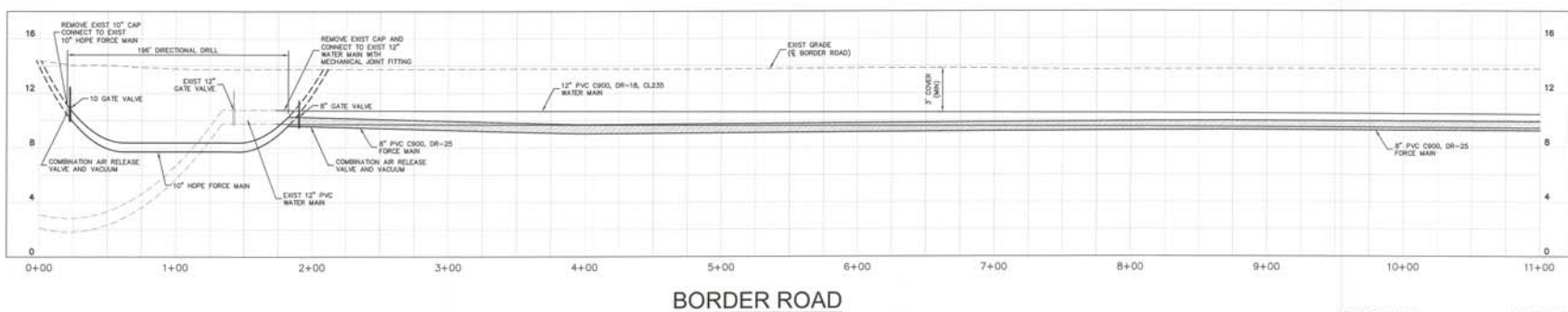
- FIELD DEFLECT MAINS TO CLEAR BODING INLETS WHERE REQUIRED AND MAINTAIN MINIMUM SEPARATION.
- MAINS SHALL BE 5' BACK OF CURB (TYPICAL), UNLESS OTHERWISE NOTED OR SHOWN.
- ALL SINGLE AND DOUBLE WATER SERVICES UNDER ROADWAYS ARE TO BE SLEEVED.
- ALL RIGHTS-OF-WAY, PUBLIC AND PRIVATE, WILL INCLUDE A PUBLIC UTILITY EASEMENT, FILL WITH MINIMUM 10' WIDE UTILITY EASEMENTS ADJACENT TO ROAD RIGHTS-OF-WAY (BOTH SIDES).
- PIPE JOINTS SHALL BE RESTRAINED AS PER DETAILS AND NOTES ON DRAWING D-1.
- DR-14 PIPE TO BE CENTERED ON CROSSING PIPE SUCH THAT THE JOINTS WILL BE EQUIDISTANT FROM THE OTHER MAIN.
- IRRIGATION DISTRIBUTION MAIN AND SERVICES DESIGNED BY OTHERS.
- IRRIGATION SYSTEM IS PRIVATE.
- PROFILE GRADE IS THE CENTERLINE OF PAVEMENT GRADE AND/OR ITS EXTENSION TO THE CONTROL LINE OF R/W (BASELINE).
- MEANDER SIDEWALK TO CLEAR AROUND VALVE PADS.

- ALL VALVE COVERS AND/OR PADS THAT ARE WITHIN ADJACENT TO OR IN CLOSE PROXIMITY TO SIDEWALK SHALL BE ADJUSTED TO MATCH SIDEWALK GRADE.
- ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A 6" GATE VALVE WHICH SHALL BE LOCATED OUTSIDE OF SIDEWALK.
- UTILITY SYMBOLS ON THE PLAN MAY APPEAR LARGER THAN ACTUAL SIZE OR HIDDEN FROM INTENDED LOCATION FOR CLARITY. UTILITY APPURTENANCES ARE TO BE INSTALLED PER DETAILS IN PLAN SET OR REFERENCED STANDARD DETAILS.



| OFF-SITE WATER SWING TABLE |                   | LOCATION 1 |             | LOCATION 2 |             |          |
|----------------------------|-------------------|------------|-------------|------------|-------------|----------|
| POINT NUMBER               | DESCRIPTION       | ELEVATION  | DESCRIPTION | DISTANCE   | DESCRIPTION | DISTANCE |
| 112                        | 12" WATER TIE     | 10.41      | PP-1        | 70.57      | PP-2        | 40.84    |
| 14024                      | TEMP WATER JUMPER | 13.56      | PP-1        | 87.38      | PP-2        | 59.90    |

| OFF-SITE WATER SWING TABLE |             |                |                | TOP OF PIPE |  |
|----------------------------|-------------|----------------|----------------|-------------|--|
| POINT NUMBER               | DESCRIPTION | PIPE ELEVATION | E.F. ELEVATION |             |  |
| 25033                      | TOP OF PIPE | 10.40          | 14.20          |             |  |
| 25034                      | TOP OF PIPE | 9.92           | 14.37          |             |  |
| 25035                      | TOP OF PIPE | 10.65          | 14.19          |             |  |
| 25036                      | TOP OF PIPE | 9.70           | 14.18          |             |  |
| 25037                      | TOP OF PIPE | 10.82          | 14.17          |             |  |
| 25038                      | TOP OF PIPE | 10.50          | 14.20          |             |  |
| 14019                      | TOP OF PIPE | 10.35          | 14.19          |             |  |
| 25027                      | TOP OF PIPE | 9.84           | 14.20          |             |  |



### BORDER ROAD

RECORD DRAWINGS  
May 30, 2019  
APPROVED



DATE: 05/30/19
REVISIONS:

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1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236  
PHONE: 941-551-7600  
WWW.KIMLEY-HORN.COM CA 00846

UNLICENSED PROFESSIONAL

DATE PROJECT: MAY 2018

DATE: MAY 2018

SCALE: AS SHOWN

DESIGNED BY: PHAN

DRAWN BY: J.L.L.

CHECKED BY: T.M.S.

RECORD DRAWING  
OFFSITE PLAN AND  
PROFILE

WOODS AT VENICE  
PREPARED FOR  
BORDER ROAD  
INVESTMENTS, LLC

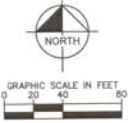
FLORIDA

CITY OF VENICE

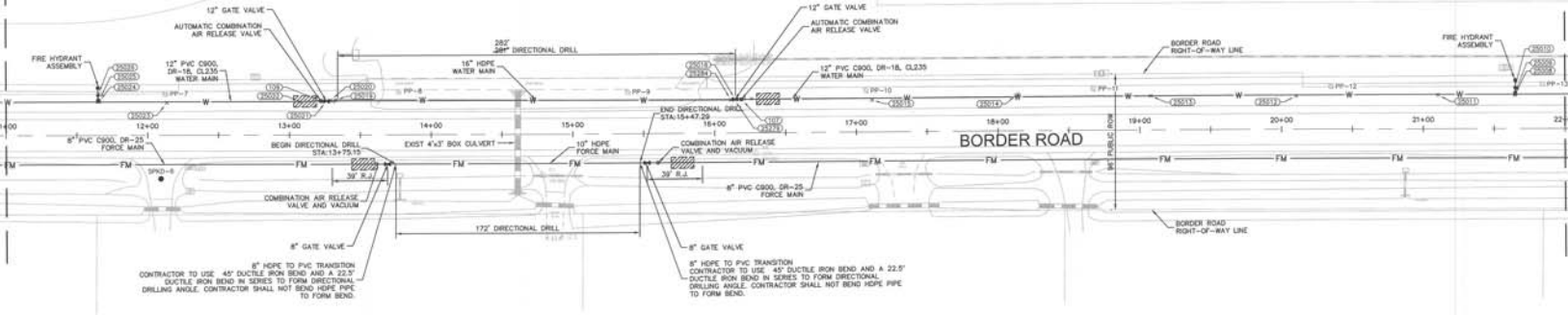
SHEET NUMBER
C-17



MATCH LINE SEE SHEET C-17



MATCH LINE SEE SHEET C-19

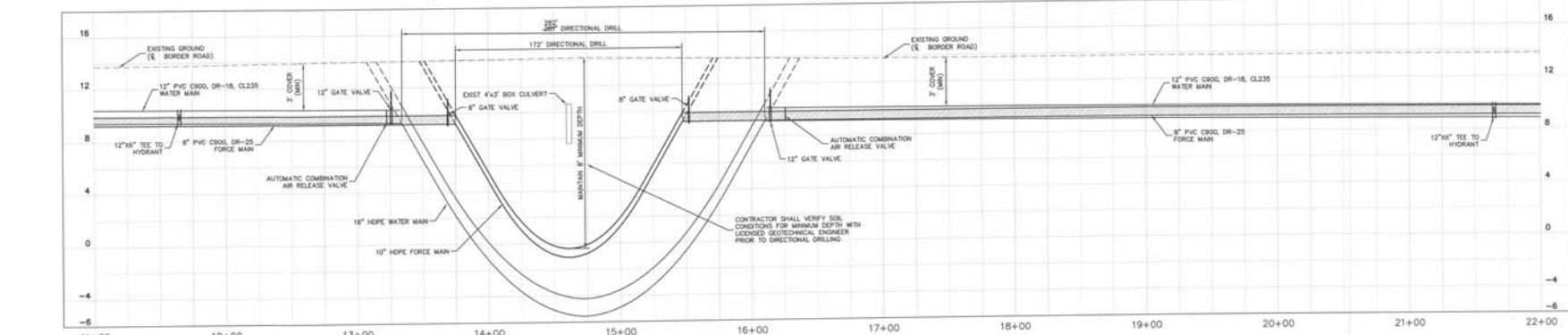
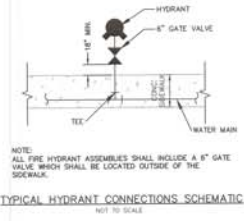
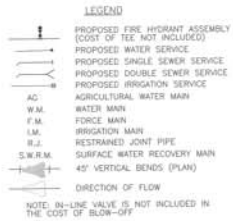


**BORDER ROAD**

1. ALL UTILITY MARKS SHALL HAVE 3' OF COVER UNLESS OTHERWISE NOTED.
2. ALL WATER, REUSE AND IRRIGATION MAINS SHALL BE PVC, C-900, DR-16, CL235, UNLESS OTHERWISE NOTED.
3. ALL SANITARY SEWER GRAVITY MAINS SHALL BE PVC, SDR-35, UNLESS OTHERWISE INDICATED.
4. ALL SANITARY SEWER FORCE MAINS SHALL BE PVC, SDR-35, UNLESS OTHERWISE INDICATED.
5. ALL VALVES TO BE INSTALLED OUTSIDE OF ALL PAVEMENT AND CURBED AREAS.
6. ALL FIRE HYDRANTS SHALL BE LOCATED 7' BACK OF R/W, TYPICALLY, UNLESS OTHERWISE NOTED.
7. PROFILES ARE ROTATED FOR CLARITY.
8. SEE UTILITY DETAIL DRAWINGS FOR WATER, IRRIGATION, REUSE AND SEWER SERVICE REMARKS.
9. SANITARY GRAVITY SEWER PIPE LENGTHS ARE FROM CENTER TO CENTER OF MANHOLES.
10. ALL WATER SERVICES AND CURB STOPS ARE 1', UNLESS OTHERWISE NOTED.
11. THE MAXIMUM ALLOWABLE PIPE DEFLECTION IS 1/2% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

12. FIELD DEFLECT MANS TO CLEAR BEHIND INLETS WHERE REQUIRED AND MAINTAIN MINIMUM SEPARATION.
13. MANS SHALL BE 3' BACK OF CURB (TYPICAL) UNLESS OTHERWISE NOTED OR SHOWN.
14. ALL SINGLE AND DOUBLE WATER SERVICES UNDER ROADWAYS ARE TO BE SLEEVED.
15. ALL RIGHTS-OF-WAY, PUBLIC AND PRIVATE, WILL INCLUDE A PUBLIC UTILITY EASEMENT, FULL WIDTH, MINIMUM 10' WIDE UTILITY EASEMENTS ADJACENT TO ROAD RIGHTS-OF-WAY (R/W) SIDES.
16. PIPE JOINTS SHALL BE CENTERED ON CROSSING PIPE SUCH THAT THE JOINTS WILL BE EQUISTANT FROM THE OTHER MAIN.
17. DR-14 PIPE TO BE CENTERED ON CROSSING PIPE SUCH THAT THE JOINTS WILL BE EQUISTANT FROM THE OTHER MAIN.
18. IRRIGATION DISTRIBUTION MAIN AND SERVICES DESIGNED BY OTHERS.
19. IRRIGATION SYSTEM IS PRIVATE.
20. PROFILE GRADE IS THE CENTERLINE OF PAVEMENT GRADE AND/OR ITS EXTENSION TO THE CONTROL USE OF R/W (GRADELINE).
21. MEMBER SIDEWALK TO CLEAR AROUND VALVE PADE.

22. ALL VALVE COVERS AND/OR PADE THAT ARE WITHIN, ADJACENT TO OR IN CLOSE PROXIMITY TO SIDEWALK SHALL BE ADAPTED TO MATCH SIDEWALK GRADES.
23. ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A 6\"/>



**BORDER ROAD**

OFF-SITE WATER SWING THE TABLE

| POINT NUMBER | DESCRIPTION | PIPE ELEVATION | F.F. ELEVATION |
|--------------|-------------|----------------|----------------|
| 25023        | TOP OF PIPE | 9.88           | 14.33          |
| 25022        | TOP OF PIPE | 10.77          | 14.28          |
| 25012        | TOP OF PIPE | 9.86           | 14.28          |
| 25014        | TOP OF PIPE | 10.14          | 14.14          |
| 25013        | TOP OF PIPE | 9.88           | 14.21          |
| 25012        | TOP OF PIPE | 10.74          | 14.31          |
| 25011        | TOP OF PIPE | 9.84           | 14.34          |

OFF-SITE WATER SWING THE TABLE

| POINT NUMBER | DESCRIPTION | ELEVATION | LOCATION 1  |          | LOCATION 2  |          |
|--------------|-------------|-----------|-------------|----------|-------------|----------|
|              |             |           | DESCRIPTION | DISTANCE | DESCRIPTION | DISTANCE |
| 25008        | 12\"/>      |           |             |          |             |          |

**RECORD DRAWING SURVEYOR'S CERTIFICATION**  
 I HEREBY CERTIFY THAT THE RECORD DRAWING OF THE UTILITIES AND STREET AND DRAINAGE SHOWN, DETERMINED FROM THE DESIGN AND CONSTRUCTION INFORMATION, IS A TRUE AND CORRECT REPRESENTATION OF THE INFORMATION PROVIDED TO ME BY THE SUBMITTER.  
 DATE: MAY 30, 2019  
 SURVEYOR: [Signature]

**RECORD DRAWING ENGINEER'S CERTIFICATION**  
 I, THE UNDERSIGNED PROFESSIONAL ENGINEER, HEREBY CERTIFY THAT THE RECORD DRAWING OF THE UTILITIES AND STREET AND DRAINAGE SHOWN, DETERMINED FROM THE DESIGN AND CONSTRUCTION INFORMATION, IS A TRUE AND CORRECT REPRESENTATION OF THE INFORMATION PROVIDED TO ME BY THE SUBMITTER.  
 DATE: MAY 30, 2019  
 ENGINEER: [Signature]

**RECORD DRAWING OFFSITE PLAN AND PROFILE**

**WOODS AT VENICE PREPARED FOR BORDER ROAD INVESTMENTS, LLC**

SHEET NUMBER **C-18**

**Kimley»Horn**  
 © 2018 KIMLEY-HORN AND ASSOCIATES, INC.  
 1777 MAIN STREET, SUITE 200, BARABORA, FL 34708  
 WWW.KIMLEY-HORN.COM TX 00000088

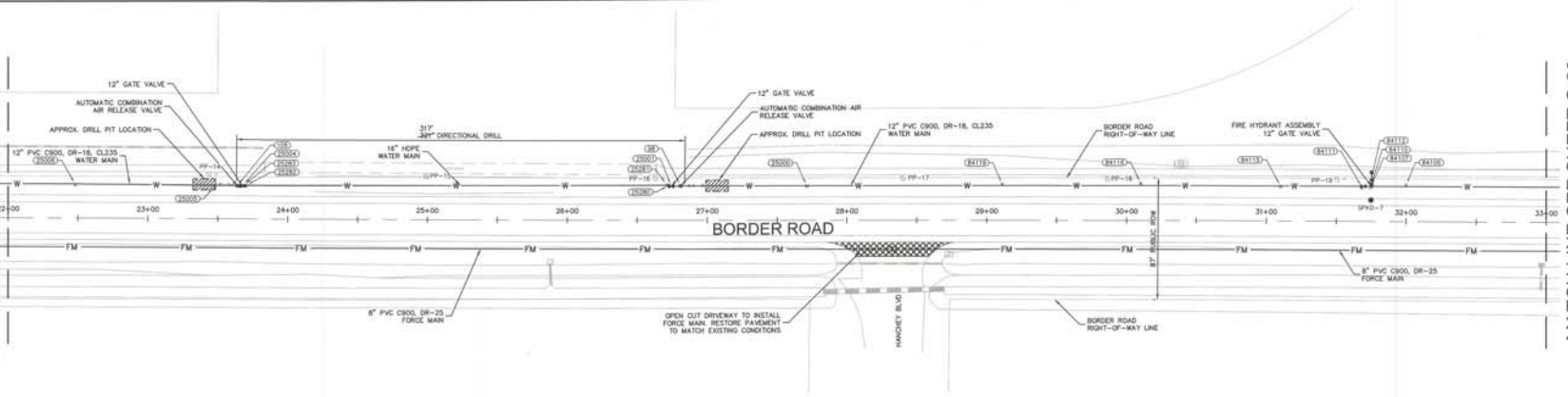
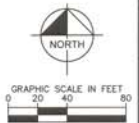
PROJECT: WOODS AT VENICE  
 DATE: MAY 2018  
 SCALE: AS SHOWN  
 DESIGNED BY: PNH  
 DRAWN BY: ALL  
 CHECKED BY: TMT

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| NO. | REVISIONS | DATE |
|     |           |      |



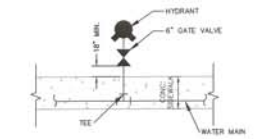
MATCH LINE SEE SHEET C-18

MATCH LINE SEE SHEET C-20



1. ALL UTILITY MAINS SHALL HAVE 3' OF COVER UNLESS OTHERWISE NOTED.
2. ALL WATER REUSE AND IRRIGATION MAINS SHALL BE PVC, C-900, DR-18, CL 235, UNLESS OTHERWISE NOTED.
3. ALL SANITARY SEWER GRAVITY MAINS SHALL BE PVC, C900, DR-26, UNLESS OTHERWISE INDICATED.
4. ALL SANITARY SEWER FORCE MAINS SHALL BE PVC, C900, DR-25 UNLESS OTHERWISE INDICATED.
5. ALL VALVES TO BE INSTALLED OUTSIDE OF ALL PAVEMENT AND CURBED AREAS.
6. ALL FIRE HYDRANTS SHALL BE LOCATED 1' BACK OF R/W TYPICALLY, UNLESS OTHERWISE NOTED.
7. PROFILES ARE DETAIL FOR CLARITY.
8. SEE UTILITY DETAIL DRAWINGS FOR WATER, IRRIGATION, REUSE AND SEWER SERVICE TERMINATIONS.
9. SANITARY GRAVITY SEWER PIPE LENGTHS ARE FROM CENTER TO CENTER OF MANHOLES.
10. ALL WATER SERVICES AND CURB STOPS ARE 1', UNLESS OTHERWISE NOTED.
11. THE MAXIMUM ALLOWABLE PIPE DEFLECTION IS 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
12. FIELD DEFLECT WANS TO CLEAR BEHIND INLETS WHERE REQUIRED AND MAINTAIN MINIMUM SEPARATION.
13. MAINS SHALL BE 5' BACK OF CURB (TYPICAL), UNLESS OTHERWISE NOTED OR SHOWN.
14. ALL SINGLE AND DOUBLE WATER SERVICES UNDER ROADWAYS ARE TO BE SLEEVED.
15. ALL RIGHTS-OF-WAY, PUBLIC AND PRIVATE, WILL INCLUDE A PUBLIC UTILITY EASEMENT, 10' WIDE WITH MINIMUM 10' WIDE UTILITY EASEMENTS ADJACENT TO ROAD RIGHTS-OF-WAY (BOTH SIDES).
16. PIPE JOINTS SHALL BE RESTRAINED AS PER DETAILS AND NOTES ON DRAWING D-1.
17. DR-14 PIPE TO BE CENTERED ON CROSSING PIPE SUCH THAT THE JOINTS WILL BE EQUIDISTANT FROM THE OTHER MAIN.
18. IRRIGATION DISTRIBUTION MAIN AND SERVICES DESIGNED BY OTHERS.
19. IRRIGATION SYSTEM IS PRIVATE.
20. PROFILE GRADE IS THE CENTERLINE OF PAVEMENT GRADE AND/OR ITS EXTENSION TO THE CONTROL LINE OF R/W (BASELINE).
21. MEANDER SIDEWALK TO CLEAR AROUND VALVE PADS.
22. ALL VALVE COVERS AND/OR PADS THAT ARE WITHIN ADJACENT TO OR IN CLOSE PROXIMITY TO SIDEWALK SHALL BE ADJUSTED TO MATCH SIDEWALK GRADES.
23. ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A 6" GATE VALVE WHICH SHALL BE LOCATED OUTSIDE OF SIDEWALK.
24. UTILITY SYMBOLS ON THE PLAN MAY APPEAR LARGER THAN ACTUAL SIZE OR MOVED FROM INTENDED LOCATION FOR CLARITY. UTILITY APPURTENANCES ARE TO BE INSTALLED PER DETAILS IN PLAN SET OR REFERENCED STANDARD DETAILS.

**BORDER ROAD**



NOTE:  
ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A 6" GATE VALVE WHICH SHALL BE LOCATED OUTSIDE OF THE SIDEWALK.  
NOT TO SCALE

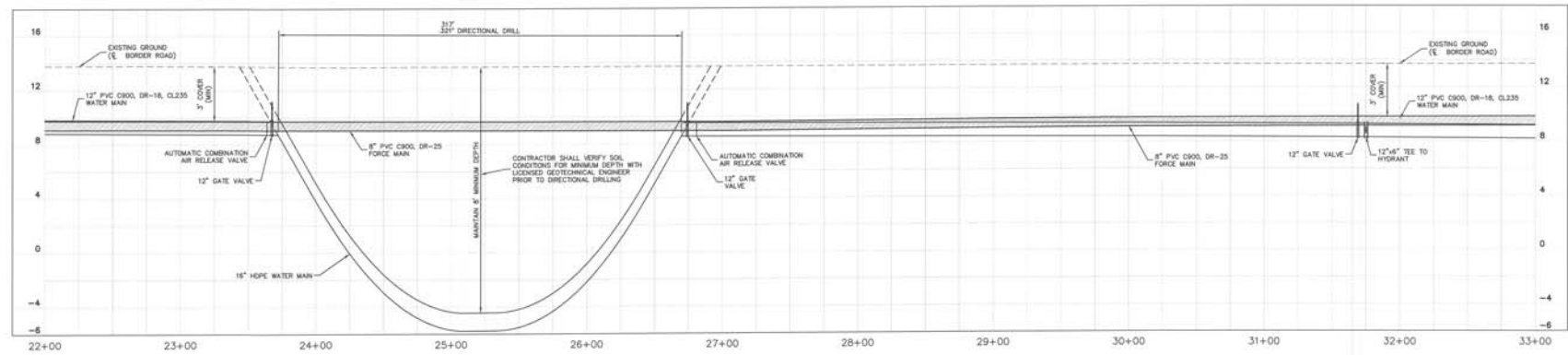
OFF-SITE WATER SWING TIE TABLE

| POINT NUMBER | DESCRIPTION | PIPE ELEVATION | F.F. ELEVATION |
|--------------|-------------|----------------|----------------|
| 25000        | TOP OF PIPE | 9.25           | 14.10          |
| 25002        | TOP OF PIPE | 10.21          | 14.32          |
| 25006        | TOP OF PIPE | 10.16          | 13.84          |
| 24106        | TOP OF PIPE | 10.61          | 13.50          |
| 24119        | TOP OF PIPE | 9.88           | 13.99          |
| 24116        | TOP OF PIPE | 10.20          | 13.84          |
| 24119        | TOP OF PIPE | 10.00          | 13.90          |

OFF-SITE WATER SWING TIE TABLE

| FITTING | POINT NUMBER | DESCRIPTION            | ELEVATION | DESCRIPTION | LOCATION 1 DISTANCE | LOCATION 2 DESCRIPTION | LOCATION 2 DISTANCE |
|---------|--------------|------------------------|-----------|-------------|---------------------|------------------------|---------------------|
| 98      | 98           | AIR RELEASE VALVE      | 14.10     | PP-16       | 18.94               | PP-17                  | 159.14              |
| 105     | 105          | AIR RELEASE VALVE      | 12.19     | PP-14       | 22.50               | PP-15                  | 135.93              |
| 25001   | 25001        | 14" WATER VALVE        | 11.98     | PP-16       | 15.23               | PP-17                  | 155.87              |
| 25004   | 25004        | 12" WATER VALVE        | 10.96     | PP-14       | 25.50               | PP-15                  | 131.57              |
| 25060   | 25060        | 16" 110" WATER REDUCER | 10.42     | PP-16       | 11.03               | PP-17                  | 159.35              |
| 25081   | 25081        | 18" MECHANICAL JOINT   | 10.15     | PP-16       | 9.74                | PP-17                  | 168.84              |
| 25082   | 25082        | 18" MECHANICAL JOINT   | 9.28      | PP-14       | 27.51               | PP-15                  | 129.58              |
| 25083   | 25083        | 16" 210" WATER REDUCER | 10.44     | PP-14       | 29.04               | PP-15                  | 131.00              |
| 24107   | 24107        | 12" 18" WATER TEE      | 10.66     | PP-19       | 24.84               | *SPKD-7                | 9.00                |
| 24110   | 24110        | 8" WATER VALVE         | 11.69     | PP-19       | 24.90               | *SPKD-7                | 11.31               |
| 24111   | 24111        | 12" WATER VALVE        | 12.61     | PP-19       | 18.87               | *SPKD-7                | 11.03               |
| 24112   | 24112        | FIRE HYDRANT           | 17.50     | PP-19       | 24.57               | *SPKD-7                | 14.51               |

\*SPKD - PK NAIL & DISC SET FOR SWING TIE INFORMATION.



**BORDER ROAD**

RECORD DRAWINGS  
May 30, 2019  
APPROVED



RECORD DRAWING  
OFFSITE PLAN AND  
PROFILE

WOODS AT VENICE  
PREPARED FOR  
BORDER ROAD  
INVESTMENTS, LLC

SHEET NUMBER  
C-19

Kimley»Horn  
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1177 MAIN STREET, SUITE 200, SARASOTA, FL 34238  
WWW.KIMLEY-HORN.COM CA 0000006

DATE: MAY 2019  
SCALE: AS SHOWN  
DESIGNED BY: FWH  
DRAWN BY: JLL  
CHECKED BY: TAE

RECORD DRAWING  
SURVEYOR'S CERTIFICATION

RECORD DRAWING  
ENGINEER'S CERTIFICATION

RECORD DRAWING  
ENGINEER'S CERTIFICATION

RECORD DRAWING  
ENGINEER'S CERTIFICATION

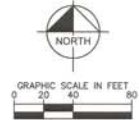
RECORD DRAWING  
ENGINEER'S CERTIFICATION

RECORD DRAWING  
ENGINEER'S CERTIFICATION

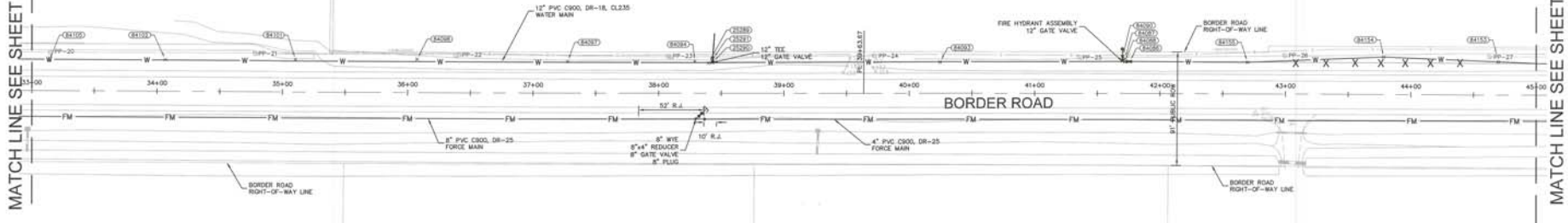
RECORD DRAWING  
ENGINEER'S CERTIFICATION

RECORD DRAWING  
ENGINEER'S CERTIFICATION

MATCH LINE SEE SHEET C-19



MATCH LINE SEE SHEET C-21

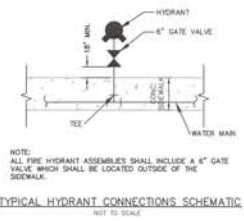


**BORDER ROAD**

1. ALL UTILITY MANS SHALL HAVE 3' OF COVER UNLESS OTHERWISE NOTED.
2. ALL WATER, REUSE AND IRRIGATION MANS SHALL BE PVC, C-300, DR-18, CL 235, UNLESS OTHERWISE NOTED.
3. ALL SANITARY SEWER GRAVITY MANS SHALL BE PVC, SDR-26, UNLESS OTHERWISE INDICATED.
4. ALL SANITARY SEWER FORCE MANS SHALL BE PVC, C300, DR-25 UNLESS OTHERWISE INDICATED.
5. ALL VALVES TO BE INSTALLED OUTSIDE OF ALL PAVEMENT AND CURBED AREAS.
6. ALL FIRE HYDRANTS SHALL BE LOCATED 1' BACK OF P/W TYPICALLY, UNLESS OTHERWISE NOTED. PROFILES ARE ROTATED FOR CLARITY.
7. SEE UTILITY DETAIL DRAWINGS FOR WATER, IRRIGATION, REUSE AND SEWER SERVICE TERMINATIONS.
8. SANITARY GRAVITY SEWER PIPE LENGTHS ARE FROM CENTER TO CENTER OF MANHOLES.
9. ALL WATER SERVICES AND CURB STOPS ARE 1', UNLESS OTHERWISE NOTED.
10. THE MAXIMUM ALLOWABLE PIPE DEFLECTION IS 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

12. FIELD DEFLECT MANS TO CLEAR BEHIND INLETS WHERE REQUIRED AND MAINTAIN MINIMUM SEPARATION.
13. MANS SHALL BE 5' BACK OF CURB (TYPICAL), UNLESS OTHERWISE NOTED OR SHOWN.
14. ALL SINGLE AND DOUBLE WATER SERVICES UNDER ROADWAYS ARE TO BE SLEEVED.
15. ALL RIGHTS-OF-WAY, PUBLIC AND PRIVATE, WILL INCLUDE A PUBLIC UTILITY EXHIBENT, FULL WIDTH, MINIMUM 4' WIDE UTILITY EXHIBENTS ADJACENT TO ROAD RIGHTS-OF-WAY (BOTH SIDES).
16. PIPE JOINTS SHALL BE RESTRAINED AS PER DETAILS AND NOTES ON DRAWING D-1.
17. DR-14 PIPE TO BE CENTERED ON CROSSING PIPE SUCH THAT THE JOINTS WILL BE EQUIDISTANT FROM THE OTHER MAN.
18. IRRIGATION DISTRIBUTION MAN AND SERVICES DESIGNED BY OTHERS.
19. IRRIGATION SYSTEM IS PRIVATE.
20. PROFILE GRADE IS THE CENTERLINE OF PAVEMENT GRADE AND/OR ITS EXTENSION TO THE CONTROL LINE OF P/W (GRADES).
21. MEANDER SIDEWALK TO CLEAR AROUND VALVE PADS.

22. ALL VALVE COVERS AND/OR PADS THAT ARE WITHIN, ADJACENT TO OR IN CLOSE PROXIMITY TO SIDEWALK SHALL BE ADAPTED TO MATCH SIDEWALK GRADES.
23. ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A 6\"/>



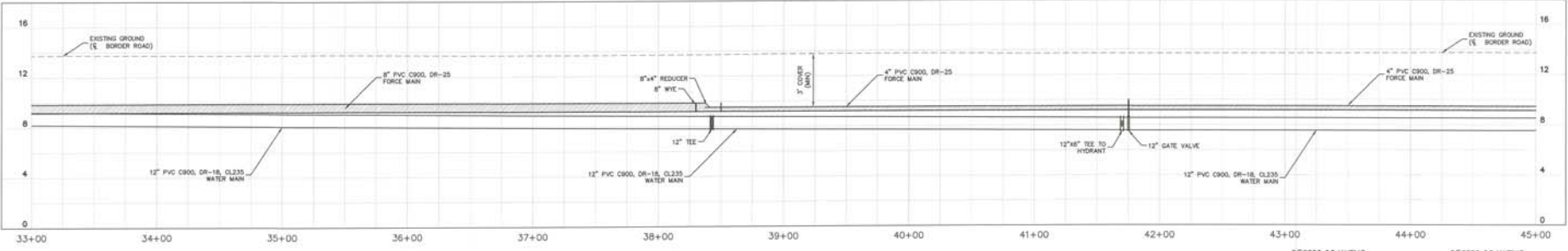
**OFF-SITE WATER SWING IN TABLE**

| FITTING | LOCATION 1   |             | LOCATION 2  |          |
|---------|--------------|-------------|-------------|----------|
|         | POINT NUMBER | DESCRIPTION | DESCRIPTION | DISTANCE |
| 84296   | 12\"/>       |             |             |          |

**OFF-SITE WATER SWING DE TABLE**

| POINT NUMBER | DESCRIPTION | TOP OF PIPE |                |
|--------------|-------------|-------------|----------------|
|              |             | ELEVATION   | F.F. ELEVATION |
| 84093        | TOP OF PIPE | 8.85        | 13.93          |
| 84094        | TOP OF PIPE | 9.30        | 13.68          |
| 84097        | TOP OF PIPE | 9.27        | 13.76          |
| 84098        | TOP OF PIPE | 9.49        | 13.31          |
| 84101        | TOP OF PIPE | 10.89       | 13.81          |
| 84102        | TOP OF PIPE | 10.14       | 14.01          |
| 84105        | TOP OF PIPE | 10.48       | 14.00          |
| 84163        | TOP OF PIPE | 9.86        | 12.23          |
| 84154        | TOP OF PIPE | 10.02       | 12.97          |
| 84155        | TOP OF PIPE | 11.20       | 12.97          |

RECORD DRAWINGS  
May 30, 2019  
APPROVED



**BORDER ROAD**

HORIZ. 1"=40'  
VERT. 1"=4'

**RECORD DRAWINGS SURVEYOR'S CERTIFICATION**

I HEREBY CERTIFY THAT THE RECORD DRAWING OF THE UTILITIES AND STREET AND DRAINAGE SHOWN, SUPERSEDED UPON THE SECTION, CONSTRUCTION PLANS, IS TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF A TRUE AND CORRECT REPRESENTATION OF THE INFORMATION FURNISHED TO ME BY THE SURVEYOR.

**RECORD DRAWINGS ENGINEER'S CERTIFICATION**

I, THE UNDERSIGNED PROFESSIONAL ENGINEER, HEREBY CERTIFY THAT THE RECORD DRAWING OF THE UTILITIES AND STREET AND DRAINAGE SHOWN, SUPERSEDED UPON THE SECTION, CONSTRUCTION PLANS, IS TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF A TRUE AND CORRECT REPRESENTATION OF THE INFORMATION FURNISHED TO ME BY THE SURVEYOR.

DATE OF SURVEY: 05/27/2019  
STATE OF FLORIDA

**Kimley Horn**

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1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236  
PHONE: 941-551-1600  
WWW.KIMLEY-HORN.COM CA 036666

PROJECT: 141  
DATE: MAY 2018  
SCALE: AS SHOWN  
DRAWN BY: PWH  
CHECKED BY: ALL  
DATE: THIS DATE

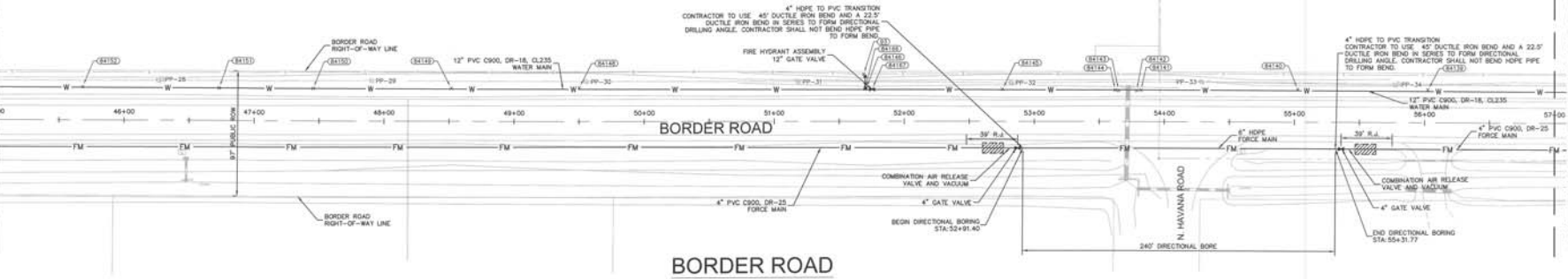
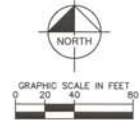
WOODS AT VENICE  
PREPARED FOR  
**BORDER ROAD INVESTMENTS, LLC**  
FLORIDA

SHEET NUMBER  
**C-20**



MATCH LINE SEE SHEET C-20

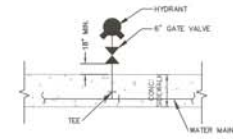
MATCH LINE SEE SHEET C-22



1. ALL UTILITY MANS SHALL HAVE 3' OF COVER UNLESS OTHERWISE NOTED.
2. ALL WATER, REUSE AND IRRIGATION MANS SHALL BE PVC, C-900, DR-18, CL 235, UNLESS OTHERWISE NOTED.
3. ALL SANITARY SEWER GRAVITY MANS SHALL BE PVC, SDI-26, UNLESS OTHERWISE INDICATED.
4. ALL SANITARY SEWER FORCE MANS SHALL BE PVC, C900, DR-25 UNLESS OTHERWISE INDICATED.
5. ALL VALVES TO BE INSTALLED OUTSIDE OF ALL PAVEMENT AND CURBED AREAS.
6. ALL FIRE HYDRANTS SHALL BE LOCATED 1' BACK OF R/W TYPICALLY, UNLESS OTHERWISE NOTED.
7. PROFILES ARE ROTATED FOR CLARITY.
8. SEE UTILITY DETAIL DRAWINGS FOR WATER, IRRIGATION, REUSE AND SEWER SERVICE TERMINATIONS.
9. SANITARY GRAVITY SEWER PIPE LENGTHS ARE FROM CENTER TO CENTER OF MANHOLES.
10. ALL WATER SERVICES AND CURB STOPS ARE 1", UNLESS OTHERWISE NOTED.
11. THE MAXIMUM ALLOWABLE PIPE DEFLECTION IS 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

12. FIELD DUCTILE MANS TO CLEAR BEHIND INLETS WHERE REQUIRED AND MAINTAIN MINIMUM SEPARATION.
13. MANS SHALL BE 5' BACK OF CURB (TYPICAL), UNLESS OTHERWISE NOTED OR SHOWN.
14. ALL SINGLE AND DOUBLE WATER SERVICES UNDER ROADWAYS ARE TO BE TEELEES.
15. ALL RIGHTS-OF-WAY, PUBLIC AND PRIVATE, WILL INCLUDE A PUBLIC UTILITY EASEMENT, FULL WIDTH, MINIMUM 10' WIDE UTILITY EASEMENTS ADJACENT TO ROAD RIGHTS-OF-WAY (BOTH SIDES).
16. PIPE JOINTS SHALL BE RESTRAINED AS PER DETAILS AND NOTES ON DRAWING D-1.
17. DR-18 PIPE TO BE CENTERED ON CROSSING PIPE SUCH THAT THE JOINTS WILL BE EQUIDISTANT FROM THE OTHER MAN.
18. BRIGATION DISTRIBUTION MAIN AND SERVICES DESIGNED BY OTHERS.
19. BRIGATION SYSTEM IS PRIVATE.
20. PROFILE GRADE IS THE CENTERLINE OF PAVEMENT GRADE AND/OR ITS EXTENSION TO THE CONTROL LINE OF R/W (BASELINE).
21. MEANDER SIDEWALK TO CLEAR ABOVE VALVE PADS.

22. ALL VALVE COVERS AND/OR PADS THAT ARE WITHIN ADJACENT TO OR IN CLOSE PROXIMITY TO SIDEWALK SHALL BE ADJUSTED TO MATCH SIDEWALK GRAD.
23. ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A 6" GATE VALVE WHICH SHALL BE LOCATED OUTSIDE OF SIDEWALK.
24. UTILITY SYMBOLS ON THE PLAN MAY APPEAR LARGER THAN ACTUAL SIZE OR MONED FROM INTENDED LOCATION FOR CLARITY. UTILITY APPURTENANCES ARE TO BE INSTALLED PER DETAILS IN PLAN SET OR REFERENCED STANDARD DETAILS.



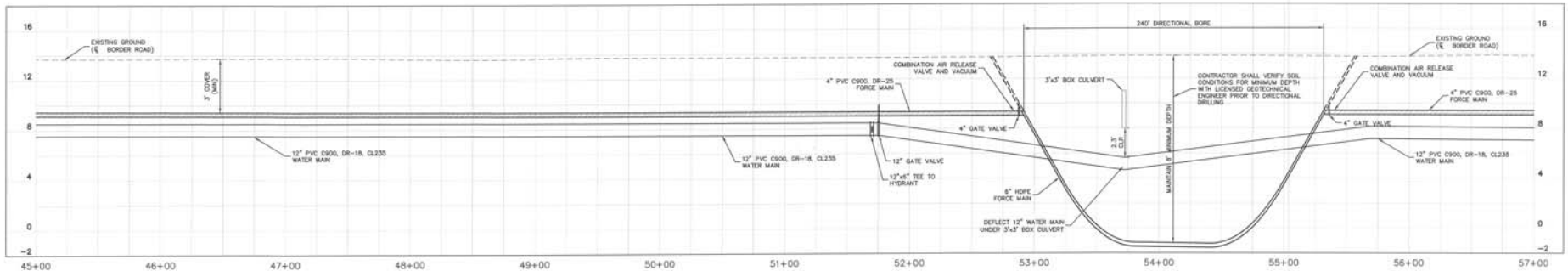
NOTE: ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A 6" GATE VALVE WHICH SHALL BE LOCATED OUTSIDE OF THE SIDEWALK.  
NOT TO SCALE

OFF-SITE WATER SWING TABLE

| FITTING      |                 | LOCATION 1 |             | LOCATION 2 |             |          |             |
|--------------|-----------------|------------|-------------|------------|-------------|----------|-------------|
| POINT NUMBER | DESCRIPTION     | ELEVATION  | DESCRIPTION | DISTANCE   | DESCRIPTION | DISTANCE | TOP OF PIPE |
| 84141        | 12" WATER BEND  | 8.44       | PP-32       | 98.99      | PP-33       | 47.18    | 8.44        |
| 84142        | 12" WATER BEND  | 8.25       | PP-32       | 98.71      | PP-33       | 50.50    | 8.41        |
| 84143        | 12" WATER BEND  | 8.57       | PP-32       | 83.06      | PP-33       | 64.08    | 8.45        |
| 84144        | 12" WATER BEND  | 8.70       | PP-32       | 59.84      | PP-33       | 68.03    | 8.45        |
| 83           | FIRE HYDRANT    | 18.15      | PP-31       | 50.97      | PP-32       | 113.52   | 8.45        |
| 84145        | 12" WATER TEE   | 9.09       | PP-31       | 59.84      | PP-32       | 111.44   | 8.45        |
| 84146        | 12" WATER VALVE | 8.83       | PP-31       | 52.17      | PP-32       | 112.22   | 8.31        |
| 84147        | 12" WATER VALVE | 10.41      | PP-31       | 57.53      | PP-32       | 106.90   | 9.43        |

OFF-SITE WATER SWING TABLE

| POINT NUMBER | DESCRIPTION | PIPE ELEVATION | F.T. ELEVATION |
|--------------|-------------|----------------|----------------|
| 84141        | TOP OF PIPE | 8.44           | 13.39          |
| 84142        | TOP OF PIPE | 8.41           | 12.38          |
| 84143        | TOP OF PIPE | 8.87           | 13.00          |
| 84144        | TOP OF PIPE | 10.14          | 13.00          |
| 84145        | TOP OF PIPE | 9.45           | 13.17          |
| 84150        | TOP OF PIPE | 10.76          | 13.57          |
| 84151        | TOP OF PIPE | 8.31           | 13.30          |
| 84152        | TOP OF PIPE | 9.43           | 12.74          |



**BORDER ROAD**  
HORIZ: 1"=40'  
VERT: 1"=4'

RECORD DRAWINGS  
May 30, 2019  
APPROVED

RECORD DRAWINGS  
SURVEYOR'S CERTIFICATION  
I HEREBY CERTIFY THAT THE RECORD DRAWING OF THE UTILITIES AND STREET AND DRAINAGE WORK SHOWN HEREON WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF IS A TRUE AND CORRECT REPRESENTATION OF THE IMPROVEMENTS SHOWN THEREON.  
DATE: 05/30/2019  
WALTER E. GONZALES, JR.  
FLORIDA SURVEYOR LICENSE NO. 12187

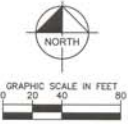
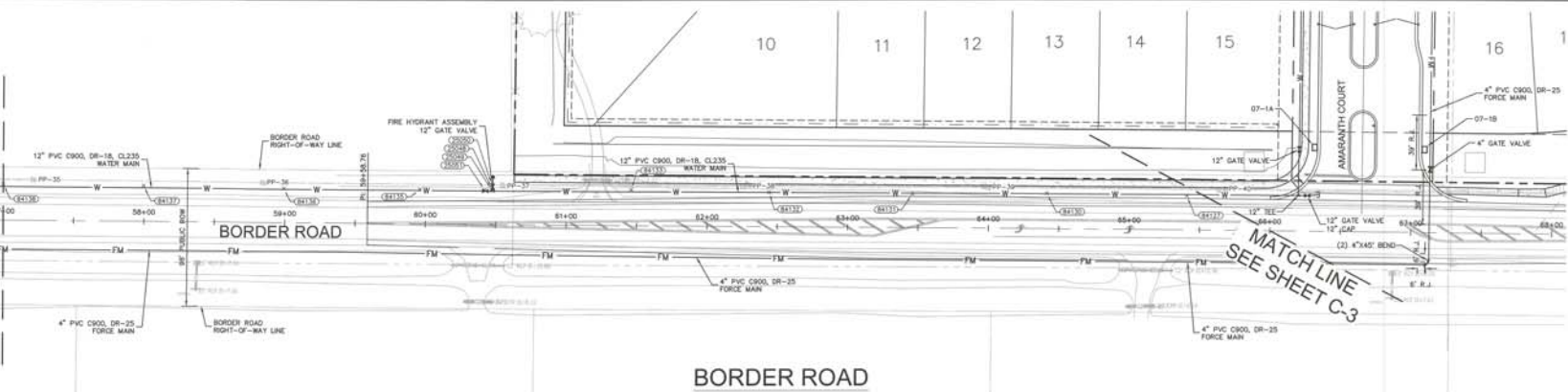
RECORD DRAWINGS  
ENGINEER'S CERTIFICATION  
I, THE UNDERSIGNED PROFESSIONAL ENGINEER, HEREBY CERTIFY THAT THE DESIGN, CONSTRUCTION PLANS AND SPECIFICATIONS SHOWN ON THESE RECORD DRAWINGS HAVE BEEN PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF IS A TRUE AND CORRECT REPRESENTATION OF THE IMPROVEMENTS SHOWN THEREON.  
DATE: 05/30/2019  
WALTER E. GONZALES, JR.  
FLORIDA ENGINEER LICENSE NO. 12187

WOODS AT VENICE  
PREPARED FOR  
BORDER ROAD  
INVESTMENTS, LLC  
FLORIDA  
CITY OF VENICE  
SHEET NUMBER  
C-21

Kimley Horn  
© 2018 KIMLEY HORN AND ASSOCIATES, INC.  
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34239  
PHONE: 941-578-7800  
WWW.KIMLEYHORN.COM CT 30005696

|            |    |
|------------|----|
| DATE:      | BT |
| REVISIONS: |    |

MATCH LINE SEE SHEET C-21



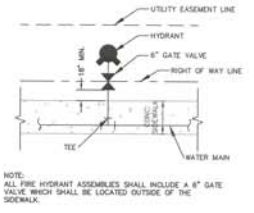
**BORDER ROAD**

| POINT NUMBER | DESCRIPTION | TOP OF PIPE | PIPE ELEVATION | F.F. ELEVATION |
|--------------|-------------|-------------|----------------|----------------|
| 84122        | TOP OF PIPE | 9.63        | 13.68          |                |
| 84130        | TOP OF PIPE | 9.57        | 13.70          |                |
| 84131        | TOP OF PIPE | 9.77        | 13.46          |                |
| 84133        | TOP OF PIPE | 9.26        | 13.89          |                |
| 84135        | TOP OF PIPE | 8.54        | 14.67          |                |
| 84135        | TOP OF PIPE | 8.74        | 14.40          |                |
| 84136        | TOP OF PIPE | 8.81        | 13.76          |                |
| 84137        | TOP OF PIPE | 8.26        | 14.69          |                |
| 84138        | TOP OF PIPE | 7.98        | 13.62          |                |

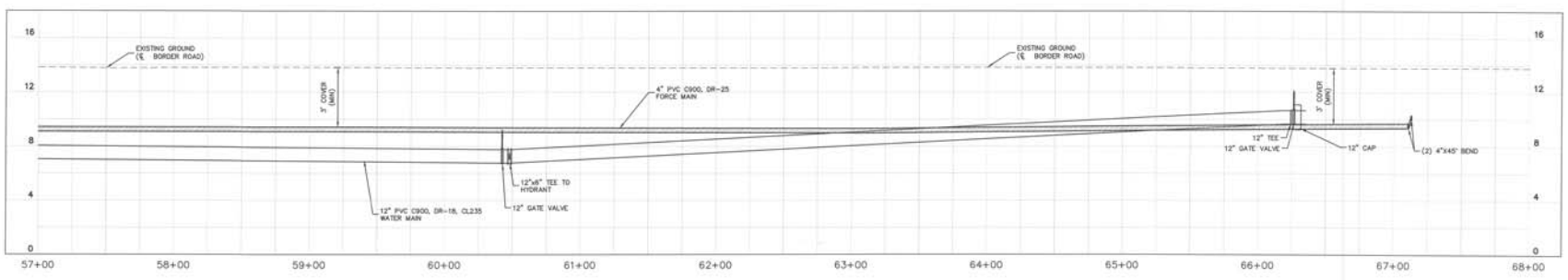
| FITTING NUMBER | DESCRIPTION | ELEVATION | LOCATION 1  |          | LOCATION 2  |          |
|----------------|-------------|-----------|-------------|----------|-------------|----------|
|                |             |           | DESCRIPTION | DISTANCE | DESCRIPTION | DISTANCE |
| 25048          | 6\"/>       |           |             |          |             |          |

- ALL UTILITY MAINS SHALL HAVE 3' OF COVER UNLESS OTHERWISE NOTED.
- ALL WATER, REUSE AND IRRIGATION MAINS SHALL BE PVC, CR-00, DR-18, CL 255, UNLESS OTHERWISE NOTED.
- ALL SANITARY SEWER GRAVITY MAINS SHALL BE PVC, SDR-35, UNLESS OTHERWISE INDICATED.
- ALL SANITARY SEWER FORCE MAINS SHALL BE PVC, CR-00, DR-25 UNLESS OTHERWISE INDICATED.
- ALL VALVES TO BE INSTALLED OUTSIDE OF ALL PAVEMENT AND CURBED AREAS.
- ALL FIRE HYDRANTS SHALL BE LOCATED 1' BACK OF R/W TYPICALLY, UNLESS OTHERWISE NOTED. PROFILES ARE ROTATED FOR CLARITY.
- SEE UTILITY DETAIL DRAWINGS FOR WATER, IRRIGATION, REUSE AND SEWER SERVICE TERMINATIONS.
- SANITARY GRAVITY SEWER PIPE LENGTHS ARE FROM CENTER TO CENTER OF MANHOLES.
- ALL WATER SERVICES AND CURB STOPS ARE 1", UNLESS OTHERWISE NOTED.
- THE MAXIMUM ALLOWABLE PIPE DEFLECTION IS 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
- FIELD DEFLECT MARKS TO CLEAR BEHIND INLETS WHERE REQUIRED AND MAINTAIN MINIMUM SEPARATION.
- MAINS SHALL BE 5' BACK OF CURB (TYPICAL), UNLESS OTHERWISE NOTED OR SHOWN.
- ALL SINGLE AND DOUBLE WATER SERVICES UNDER ROADWAYS ARE TO BE SLEEVED.
- ALL RIGHTS-OF-WAY, PUBLIC AND PRIVATE, WILL INCLUDE A PUBLIC UTILITY EASEMENT, FULL WIDTH, MINIMUM 10' WIDE UTILITY EASEMENTS ADJACENT TO ROAD RIGHTS-OF-WAY (BOTH SIDES).
- PIPE JOINTS SHALL BE RESTRAINED AS PER DETAILS AND NOTES ON DRAWING D-1.
- DR-18 PIPE TO BE CENTERED ON CROSSING PIPE SUCH THAT THE JOINTS WILL BE EQUIDISTANT FROM THE OTHER MAIN.
- IRRIGATION DISTRIBUTION MAIN AND SERVICES DESIGNED BY OTHERS.
- IRRIGATION SYSTEM IS PRIVATE.
- PROFILE GRADE IS THE CENTERLINE OF PAVEMENT GRADE AND/OR ITS EXTENSION TO THE CONTROL LINE OF R/W (BASELINE).
- MEANDER SIDEWALK TO CLEAR AROUND VALVE PADS.

- ALL VALVE COVERS AND/OR PADS THAT ARE WITHIN ADJACENT TO OR IN CLOSE PROXIMITY TO SIDEWALK SHALL BE ADJUSTED TO MATCH SIDEWALK GRADE.
- ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A 6" GATE VALVE WHICH SHALL BE LOCATED OUTSIDE OF SIDEWALK.
- UTILITY SYMBOLS ON THE PLAN MAY APPEAR LARGER THAN ACTUAL SIZE OR MOVED FROM INTENDED LOCATION FOR CLARITY. UTILITY APPROPRIANCES ARE TO BE INSTALLED PER DETAILS IN PLAN SET OR REFERENCED STANDARD DETAILS.



NOTE: ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A 6" GATE VALVE WHICH SHALL BE LOCATED OUTSIDE OF THE SIDEWALK.



**BORDER ROAD**  
HORIZ. 1"=40'  
VERT. 1"=4'

RECORD DRAWINGS  
May 30, 2019  
APPROVED



**Kimley Horn**  
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1777 MAIN STREET, SUITE 200, SARASOTA, FL 34238  
WWW.KIMLEY-HORN.COM CA 00000908

WOODS AT VENICE  
PREPARED FOR  
BORDER ROAD  
INVESTMENTS, LLC  
FLORIDA  
CITY OF VENICE

RECORD DRAWING  
OFFSITE PLAN AND  
PROFILE

DATE: MAY 2019  
SCALE: AS SHOWN  
DRAWN BY: JAL  
CHECKED BY: THE FIELD

PROJECT NUMBER: 042119141  
DATE: MAY 2019  
SCALE: AS SHOWN  
DRAWN BY: JAL  
CHECKED BY: THE FIELD

SHEET NUMBER  
C-22



**MARKING TAPE AND MESSAGES**

| PIPE                  | TAPE COLOR | MESSAGE                          |
|-----------------------|------------|----------------------------------|
| POTABLE WATER         | WHITE      | CAUTION POTABLE WATER MAIN BELOW |
| POTABLE WATER MAIN    | BLUE       | CAUTION POTABLE WATER MAIN BELOW |
| REUSE WATER MAIN      | PURPLE     | CAUTION REUSE WATER MAIN BELOW   |
| SEWER FORCE MAIN      | GREEN      | CAUTION SEWER FORCE MAIN BELOW   |
| SEWER SERVICE LATERAL | GREEN      | CAUTION SEWER MAIN BELOW         |

- COMPRESSED TRACING WIRE #12 AWG OR EQUAL SHALL BE ATTACHED TO TOP OF PIPE AT 20' INTERVALS ON ALL RECLAIMED WATER, FORCE OR POTABLE WATER MAINS. IT SHALL BE COLOR CODED TO REFLECT WHAT THE PIPE CARRIES. (BLUE = WATER, GREEN = SEWER, PURPLE = REUSE)
- MINIMUM COVER SHALL BE 30" FROM TOP OF PIPE TO FINISHED GRADE (EXCEPT AS APPROVED)
- INSTALLATION OF PIPE SHALL BE IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS
- PAVEMENT RESTORATION SHALL CONFORM WITH DETAIL ENG-2 OF THESE CITY STANDARDS
- CONFLICTS - UTILITIES 45° BENDS WITH SEPARATION AS PER CITY DETAIL
- ALL UTILITIES (PUBLIC & PRIVATE) THAT CROSS A DITCH SHALL BE 30" MIN. BELOW THE ACTUAL DESIGN BOTTOM OF CONVEYANCE

**PIPE TRENCH DETAIL**  
N.T.S.

|   |                            |                         |
|---|----------------------------|-------------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 34288<br>(941) 498-2628<br>FAX (941) 498-3031 | <b>UTILITIES - GENERAL</b> | DATE<br>JAN. 2018       |
|   | <b>UTILITY PIPE TRENCH</b> | SHEET NO.<br><b>U-1</b> |

**MINIMUM HORIZONTAL SEPARATION DISTANCES (FT)**  
(OUTSIDE OF PIPELINE TO OUTSIDE OF PIPELINE)

| WATER MAIN | FORCE MAIN | SANITARY SEWER | STORM WATER | REUSE MAIN | SEWER SERVICE LATERAL | TELEPHONE CABLE ETC. |
|------------|------------|----------------|-------------|------------|-----------------------|----------------------|
| 4          | 8          | 3              | 3           | 3          | 3                     | 3                    |

**MINIMUM VERTICAL SEPARATION DISTANCES (IN)**  
(OUTSIDE OF PIPELINE TO OUTSIDE OF PIPELINE)

| WATER MAIN | FORCE MAIN | SANITARY SEWER | STORM WATER | REUSE MAIN | SEWER SERVICE LATERAL | TELEPHONE CABLE ETC. |
|------------|------------|----------------|-------------|------------|-----------------------|----------------------|
| 2          | 12         | 3              | 3           | 3          | 3                     | 3                    |

- MAXIMUM JOINT DEFLECTION SHALL BE 80% OF MANUFACTURER'S RECOMMENDATION
- WHENEVER POSSIBLE, THE LAYOUT OF UTILITIES SHALL PLACE SANITARY SEWER AND SEWER FORCE MAINS BELOW RECLAIMED MAINS AND BELOW WATER MAINS, RESPECTIVELY. WHERE WATER MAINS ARE ABOVE GRAVITY SEWERS OR WATER MAINS FORCE MAINS, A VERTICAL CLEARANCE OF 6 INCHES IS ACCEPTABLE.
- ACCEPTABLE SEPARATIONS:
  - WHERE HORIZONTAL SEPARATION CANNOT BE MAINTAINED, C900 DR14 PVC PIPE SHALL BE USED FOR ONE OF THE PIPELINES
  - WHERE VERTICAL CLEARANCE CANNOT BE MAINTAINED, ONE FULL LENGTH OF DR14 C900 PIPE SHALL BE INSTALLED CENTERED AT THE POINT OF CROSSING
  - WHERE 30" MINIMUM DEPTH OF COVER CANNOT BE MAINTAINED, SPECIAL PROTECTION OR PIPE MATERIAL UPGRADE MAY BE REQUIRED, AT THE DISCRETION OF THE UTILITY DEPARTMENT
- NO WATER PIPE SHALL PASS THROUGH, OR COME IN CONTACT WITH ANY PART OF A SANITARY MANHOLE OR STORMWATER STRUCTURE

**UTILITY CONFLICT & SEPARATION DETAIL**  
N.T.S.

|   |  |                         |
|---|--|-------------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 34288<br>(941) 498-2628<br>FAX (941) 498-3031 | <b>UTILITIES - GENERAL</b>                 | DATE<br>JAN. 2018       |
|   | <b>UTILITY CONFLICTS &amp; SEPARATIONS</b> | SHEET NO.<br><b>U-5</b> |

**AUTOMATIC COMBINATION AIR RELEASE VALVE (CAV) DETAIL**  
N.T.S.

- AUTOMATIC AIR RELEASE WITH BACKWASH ACCESSORIES, MANUFACTURED BY AEGHENSEL, 400 VILMANN ROAD, 48 OR H-TET, MODEL 58M FOR POTABLE & REUSE, WASTEWATER SHALL BE IN-THE-COVER, 58B ONLY
- PRECAST CONCRETE 4 FOOT DIA. MANHOLE ON APPROVED COV STAINLESS STEEL ABOVE GROUND VALVE BOX SECTION WITH TOP SLAB, ASTM C913, LATEST REVISION
- 58B 3/8" FNPT, 4" SCH 80 FITTINGS
- 58B 3/8" BALL VALVE
- CRUSHED SHELL
- ALL 58B DOUBLE BAND SERVICE SADDLE (INCLUDING BODY)
- CAV'S SHALL BE PLACED AT THE HIGH POINT OF THE MAIN
- PIPE CAPS DISCHARGE TO NEAREST GRAVITY SEWER MANHOLE (SEWER & REUSE ONLY)

1) 1/2" HOLE MUST BE IN CENTER OF PAD.  
2) CONTAMINANT BOX MUST BE COMPLETELY CONSTRUCTED OF STAINLESS STEEL.  
3) CONTAMINANT BOX MUST BE EQUIPPED WITH A LOCKABLE DOOR.

**PIPE MATERIAL SCHEDULE**  
N.T.S.

| SERVICE                               | COLOR  | MATERIAL/CLASS                                     |
|---------------------------------------|--------|--|
| POTABLE WATER MAIN                    | BLUE   |  |
| RAIN WATER MAIN                       | WHITE  | AWWA C900 PVC / DR 18                              |
| REUSE MAIN                            | PURPLE | FUSIBLE C900 PVC / DR 18                           |
| SANITARY SEWER                        | GREEN  | HDPE PPI PE 3408 / DR 11 (DUCTILE IRON PIPE RIGID) |
| FORCE MAIN (MIN. 4" DIAMETER)         | GREEN  |  |
| WATER SERVICE                         | BLUE   | PE (POLYUBING) / DR 9                              |
| REUSE SERVICE                         | PURPLE | PE (POLYUBING) / DR 9                              |
| GRAVITY SEWER MAIN (MIN. 4" DIAMETER) | GREEN  | ASTM D3034 / SDR 26 / FUSIBLE PVC / SDR 26         |
| SEWER LATERAL (MIN. 4" DIAMETER)      | GREEN  | ASTM D3034 / SDR 26 / SDR 35 / SCH 40 PVC          |

**PIPE FITTINGS & MATERIAL**  
N.T.S.

|   |                                     |                         |
|---|-------------------------------------|-------------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 34288<br>(941) 498-2628<br>FAX (941) 498-3031 | <b>UTILITIES - GENERAL</b>          | DATE<br>JAN. 2018       |
|   | <b>PIPE FITTINGS &amp; MATERIAL</b> | SHEET NO.<br><b>U-6</b> |

**PIPE FITTINGS**  
N.T.S.

- ALL PIPE FITTINGS SHALL BE COMPACT, DUCTILE IRON
- ALL APPLICATIONS (RAIN, POTABLE, REUSE, SEWER) SHALL BE FUSION BONDING (PROV COATED) WELDED AND OBT.
- ALL FITTINGS SHALL MEET ANSI/AWWA C151/21:18 STANDARDS.

**PIPE MATERIAL SCHEDULE**  
N.T.S.

|   |                                     |                         |
|---|-------------------------------------|-------------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 34288<br>(941) 498-2628<br>FAX (941) 498-3031 | <b>UTILITIES - GENERAL</b>          | DATE<br>JAN. 2018       |
|   | <b>PIPE FITTINGS &amp; MATERIAL</b> | SHEET NO.<br><b>U-6</b> |

**VALVE BOX DETAIL**  
N.T.S.

- PAVED AREAS - SET CONCRETE PAD AND COVER FLUSH WITH FINISHED PAVEMENT SURFACE
- UNPAVED AREAS - SET PAD AND COVER 1" HIGH ABOVE FINISHED GRADE
- VALVES LOCATED IN DITCH AND OVER A DEPTH (LINE) MUST USE TRENCH ADAPTER VALVE BOX (AMERICAN FLOW CONTROL)
- COPPER-HEAD TRACING WIRE #12 AWG OR EQUAL SHALL BE USED. IT SHALL BE COLOR CODED TO REFLECT WHAT THE PIPE CARRIES. BLUE = WATER, GREEN = SEWER, PURPLE = REUSE
- PRE-CAST PADS MAY BE USED WITH CITY APPROVAL
- FOR CURBED ROADWAYS, CURB SHALL BE ETCHED WITH THE LETTER "V" DIRECTLY PERPENDICULAR TO THE VALVE BOX

**VALVE BOX DETAIL**  
N.T.S.

|   |                            |                         |
|---|----------------------------|-------------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 34288<br>(941) 498-2628<br>FAX (941) 498-3031 | <b>UTILITIES - GENERAL</b> | DATE<br>JAN. 2018       |
|   | <b>VALVE BOX</b>           | SHEET NO.<br><b>U-4</b> |

**RECORD DRAWINGS**  
May 30, 2019  
APPROVED

**MINIMUM LENGTH (FT) OF FORCE MAIN TO BE RESTRAINED ON EACH SIDE OF FITTING**

| FITTING       | PIPE SIZE (INCHES) |    |    |    |    |    |    |    |    |    |
|---------------|--------------------|----|----|----|----|----|----|----|----|----|
|               | 4                  | 6  | 8  | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
| 45 BEND: H    | 6                  | 9  | 12 | 14 | 16 | 21 | 23 | 25 | 28 | 29 |
| VD            | 4                  | 6  | 7  | 9  | 10 | 13 | 15 | 16 | 19 | 20 |
| 22.5 BEND: H  | 3                  | 4  | 6  | 7  | 8  | 10 | 11 | 12 | 14 | 14 |
| VD            | 2                  | 3  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9  |
| VD            | 7                  | 10 | 13 | 15 | 18 | 23 | 26 | 29 | 33 | 33 |
| 11.25 BEND: H | 2                  | 2  | 3  | 3  | 3  | 4  | 5  | 5  | 6  | 7  |

**MINIMUM LENGTH (FT) OF WATER OR REUSE MAIN TO BE RESTRAINED ON EACH SIDE OF FITTING**

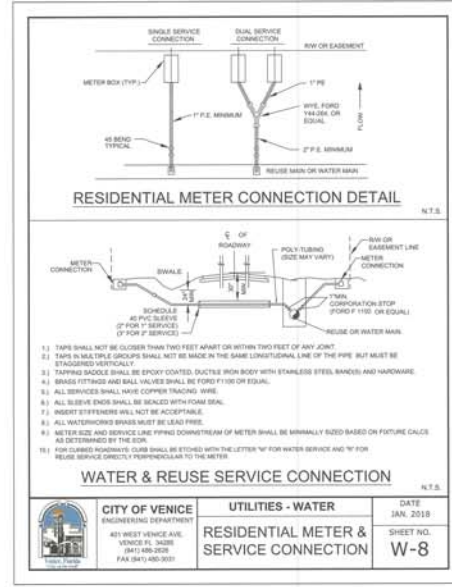
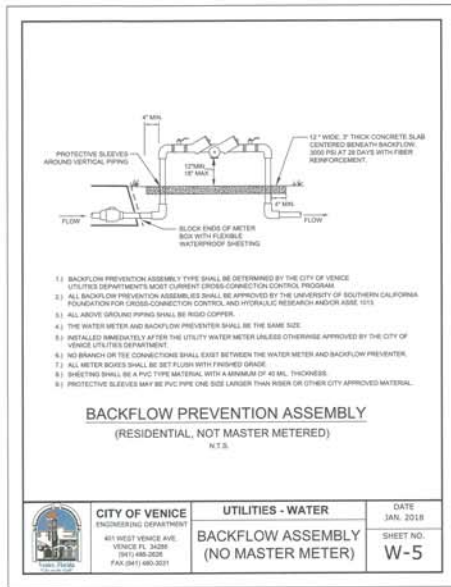
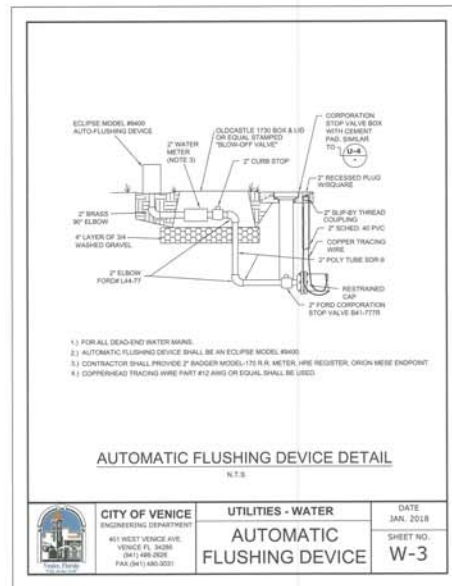
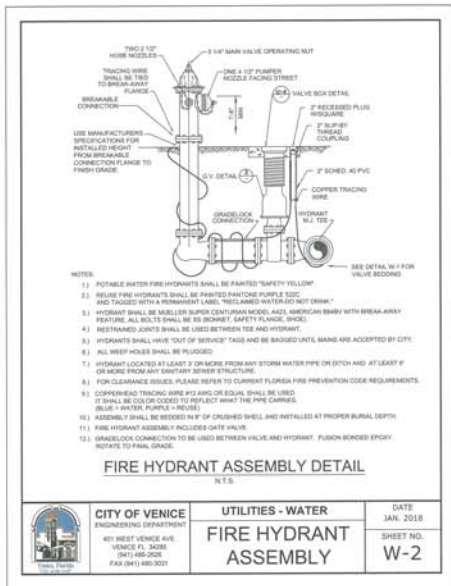
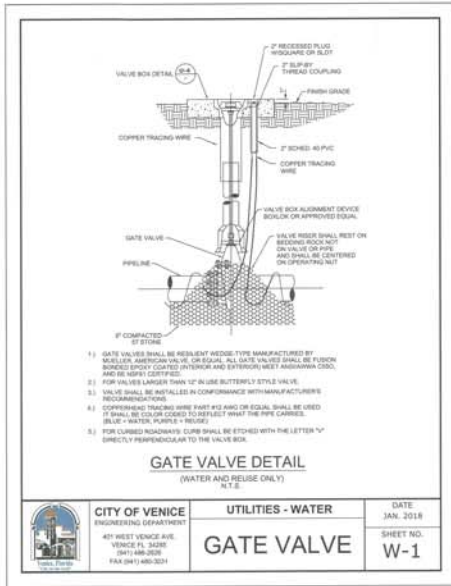
| FITTING       | PIPE SIZE (INCHES) |    |    |     |     |     |     |     |     |  |
|---------------|--------------------|----|----|-----|-----|-----|-----|-----|-----|--|
|               | 4                  | 6  | 8  | 10  | 12  | 16  | 18  | 20  | 24  |  |
| 90 BEND: H    | 23                 | 33 | 43 | 51  | 60  | 76  | 83  | 90  | 104 |  |
| 45 BEND: H    | 10                 | 14 | 18 | 21  | 25  | 31  | 34  | 37  | 43  |  |
| VD            | 6                  | 8  | 11 | 13  | 16  | 20  | 22  | 24  | 28  |  |
| VD            | 22                 | 30 | 40 | 48  | 56  | 72  | 80  | 87  | 102 |  |
| 22.5 BEND: H  | 5                  | 7  | 8  | 10  | 12  | 15  | 17  | 18  | 21  |  |
| VD            | 3                  | 4  | 5  | 6   | 7   | 10  | 11  | 12  | 14  |  |
| VD            | 10                 | 15 | 19 | 23  | 27  | 35  | 38  | 42  | 49  |  |
| 11.25 BEND: H | 2                  | 3  | 4  | 5   | 6   | 7   | 8   | 9   | 10  |  |
| PLUGS:        | 52                 | 73 | 98 | 115 | 136 | 174 | 193 | 211 | 248 |  |

ABBREVIATIONS: H=HORIZONTAL, V=VERTICAL, VD=VERTICAL DOWN.

- FOR TEE OR REDUCER FITTINGS (SUBMIT RESTRAINED JOINT LENGTH CALCULATIONS TO CITY ENGINEER FOR REVIEW AND APPROVAL USING THE ASSUMPTIONS LISTED ABOVE)
- RESTRAINED JOINT LENGTH FOR WATER AND REUSE MAINS BASED ON TEST PRESSURE OF 100 PSI. RESTRAINED JOINT LENGTHS FOR SEWER (SEWER MAINS BASED ON TEST PRESSURE OF 100 PSI) CALCULATIONS WERE MADE USING E844 IRON SOFTWARE (AVAILABLE AT WWW.E844.COM) AND THE FOLLOWING ASSUMPTIONS: GRANULAR MATERIAL, JOINT SOIL TYPE, TRENCH TYPE 3, BURIED DEPTH OF 3 FT, AND SAFETY FACTOR OF 2 TO 1. IF FIELD CONDITIONS DIFFER FROM ABOVE ASSUMPTIONS FOR SOIL, PROVIDE CALCULATIONS BASED ON ACTUAL CONDITIONS
- RESTRAINED JOINT SHALL BE USED ON ALL JOINTS FROM ANY MAIN TEE TO ANY FIRE HYDRANT ASSEMBLY
- THRUST BLOCKS WILL NOT BE ACCEPTED, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER

**PRESSURE MAIN RESTRAINED JOINT TABLE**  
N.T.S.

|   |                               |                         |
|---|-------------------------------|-------------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 34288<br>(941) 498-2628<br>FAX (941) 498-3031 | <b>UTILITIES - GENERAL</b>    | DATE<br>JAN. 2018       |
|   | <b>RESTRAINED JOINT TABLE</b> | SHEET NO.<br><b>U-7</b> |



RECORD DRAWINGS  
May 30, 2019  
APPROVED

|  |   |                   |
|--|---|-------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 33598<br>PH: (813) 486-2028<br>FAX: (813) 486-3031 | UTILITIES - WATER                                 | DATE<br>JAN. 2018 |
|  | <b>RESIDENTIAL METER &amp; SERVICE CONNECTION</b> | SHEET NO.<br>W-8  |

|  |                   |                   |
|--|-------------------|-------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 33598<br>PH: (813) 486-2028<br>FAX: (813) 486-3031 | UTILITIES - WATER | DATE<br>JAN. 2018 |
| <b>RESIDENTIAL WATER &amp; FIRE METER</b>  | SHEET NO.<br>W-6  |                   |

|  |                   |                   |
|--|-------------------|-------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 33598<br>PH: (813) 486-2028<br>FAX: (813) 486-3031 | UTILITIES - WATER | DATE<br>JAN. 2018 |
| <b>BACKFLOW ASSEMBLY (NO MASTER METER)</b>   | SHEET NO.<br>W-5  |                   |

|  |                   |                   |
|--|-------------------|-------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 33598<br>PH: (813) 486-2028<br>FAX: (813) 486-3031 | UTILITIES - WATER | DATE<br>JAN. 2018 |
| <b>AUTOMATIC FLUSHING DEVICE</b>   | SHEET NO.<br>W-3  |                   |

|  |                   |                   |
|--|-------------------|-------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 33598<br>PH: (813) 486-2028<br>FAX: (813) 486-3031 | UTILITIES - WATER | DATE<br>JAN. 2018 |
| <b>FIRE HYDRANT ASSEMBLY</b>   | SHEET NO.<br>W-2  |                   |

|  |                   |                   |
|--|-------------------|-------------------|
| <b>CITY OF VENICE</b><br>ENGINEERING DEPARTMENT<br>401 WEST VENICE AVE.<br>VENICE, FL 33598<br>PH: (813) 486-2028<br>FAX: (813) 486-3031 | UTILITIES - WATER | DATE<br>JAN. 2018 |
| <b>GATE VALVE</b>  | SHEET NO.<br>W-1  |                   |

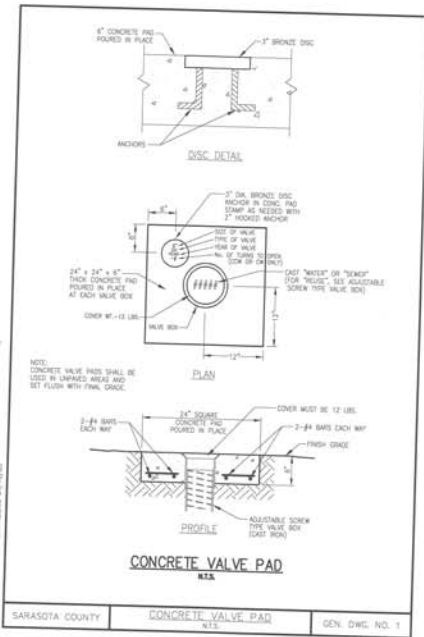
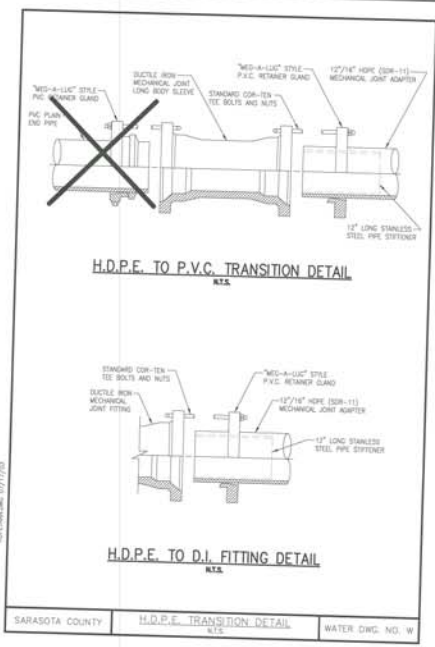
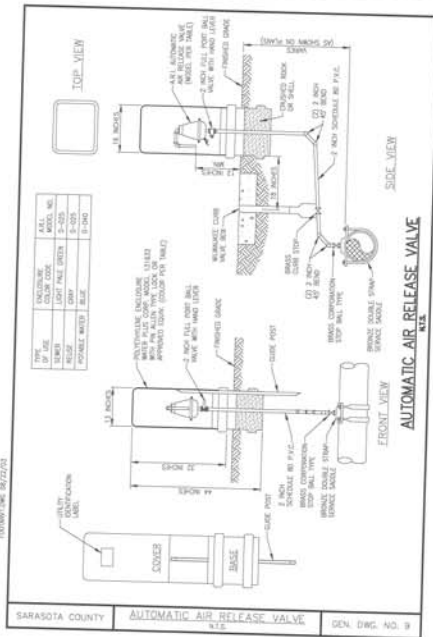
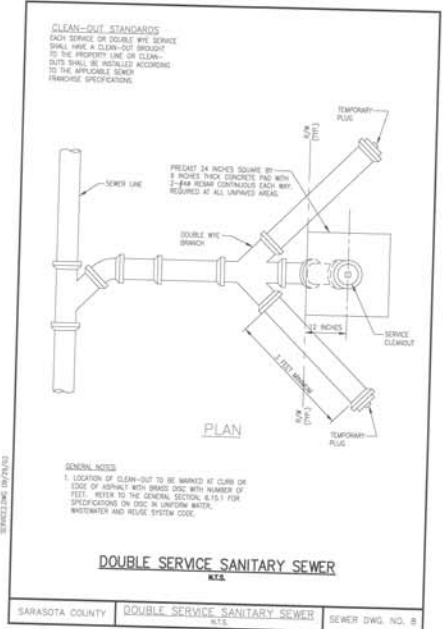
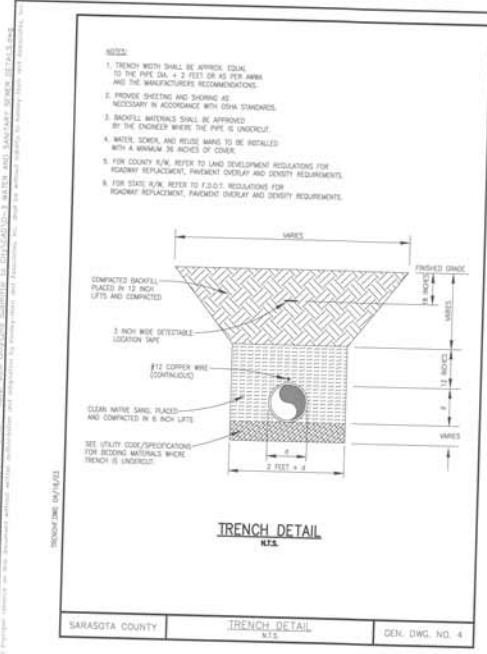
WMA PROJECT: CHB119141  
 SCALE: AS SHOWN  
 DESIGNED BY: TMAJ  
 DRAWN BY: JLL  
 CHECKED BY: TMAJ

**RECORD DRAWING**  
**WATER DISTRIBUTION DETAILS**  
**WOODS AT VENICE**  
 PREPARED FOR:  
**BORDER ROAD INVESTMENTS, LLC**  
 CITY OF VENICE, FLORIDA

SHEET NUMBER  
**D-2**

LICENSED PROFESSIONAL  
**Kimley»Horn**  
 6500 BALDWIN BOULEVARD, SUITE 200, SACRAMENTO, CA 95826  
 PHONE: (916) 374-7600  
 WWW.KIMLEY-HORN.COM CA 00556664





**RESTRAINED JOINT PIPE TABLE FOR PVC PIPE**

IN LIEU OF CONCRETE Poured THROUST BLOOMING AND/OR WHERE CALLED FOR IN THE CONTRACT DOCUMENTS THE CONTRACTOR SHALL USE THE TABLE BELOW TO DETERMINE THE LENGTH OF PIPE IN FEET FROM EACH BEND, REDUCER, VALVE, TEE, DEAD END OR FITTING THAT SHALL BE RESTRAINED.

**FORCEMAIN DESIGN CRITERIA**

| NOMINAL PIPE DIA. | HORIZONTAL BENDS |          | REDUCER | IN LINE           |        | TEE |
|-------------------|------------------|----------|---------|-------------------|--------|-----|
|                   | 90° BEND         | 45° BEND |         | VALVE OR DEAD END | BRANCH |     |
| 4                 | 14               | 8        | 4       | 11                | 4      | 3   |
| 6                 | 20               | 8        | 4       | 13                | 5      | 3   |
| 8                 | 28               | 11       | 5       | 17                | 6      | 3   |
| 10                | 35               | 13       | 6       | 21                | 7      | 3   |
| 12                | 41               | 15       | 7       | 25                | 8      | 3   |
| 14                | 48               | 17       | 8       | 30                | 9      | 3   |
| 16                | 55               | 19       | 9       | 35                | 10     | 3   |
| 18                | 62               | 21       | 10      | 40                | 11     | 3   |
| 20                | 70               | 23       | 11      | 45                | 12     | 3   |
| 24                | 83               | 28       | 13      | 55                | 15     | 3   |

| NOMINAL PIPE DIA. | 90° BEND |       | 45° BEND |       | TEE   |       |
|-------------------|----------|-------|----------|-------|-------|-------|
|                   | UPPER    | LOWER | UPPER    | LOWER | UPPER | LOWER |
| 4                 | 15       | 8     | 11       | 4     | 3     | 3     |
| 6                 | 22       | 10    | 14       | 5     | 3     | 3     |
| 8                 | 30       | 13    | 17       | 6     | 3     | 3     |
| 10                | 38       | 16    | 21       | 7     | 3     | 3     |
| 12                | 46       | 19    | 25       | 8     | 3     | 3     |
| 14                | 54       | 21    | 30       | 9     | 3     | 3     |
| 16                | 62       | 23    | 35       | 10    | 3     | 3     |
| 18                | 70       | 25    | 40       | 11    | 3     | 3     |
| 20                | 78       | 28    | 45       | 12    | 3     | 3     |
| 24                | 92       | 35    | 55       | 15    | 3     | 3     |

**NOTES:**

- INDICATED REDUCER SIZE UTILIZING 4" PIPE SIZE FOR SMALL SIZE LENGTH SHOWN IS FOR LARGEST PIPE DIAMETER TO BE RESTRAINED.
- RESTRAIN MINIMUM ONE FULL LENGTH OF PIPE ON ALL SIDES OF FITTING REGARDLESS OF LENGTH INDICATED ON TABLES.
- LENGTH OF PIPE IS ASSUMED TO BE 18 FT.
- CONTRACTOR SHALL BE GUIDED BY THIS TABLE. RESTRAINED JOINT LENGTHS WILL VARY IF THE DESIGN CRITERIA VARY FROM THAT ASSUMED.

RECORD DRAWINGS  
May 30, 2019  
APPROVED

**WOODS AT VENICE**  
PREPARED FOR  
**BORDER ROAD INVESTMENTS, LLC**  
FLORIDA  
CITY OF VENICE

**Kimley»Horn**  
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236  
PHONE: 941-579-7600  
WWW.KIMLEY-HORN.COM CA 0000088

PROJECT: 048119141  
DATE: MAY 2019  
SCALE: AS SHOWN  
DESIGNED BY: JMM  
DRAWN BY: JLL  
CHECKED BY: TMS

ISSUED PROFESSIONAL  
SARASOTA COUNTY  
H.D.P.E. TRANSITION DETAIL  
K1A  
WATER DWG. NO. W

RECORDING: \_\_\_\_\_  
DATE: \_\_\_\_\_

SHEET NUMBER  
**D-3**