

The Enclosed Document Is Provided For Your Convenience.

Please Email ALL Questions:
[MailTo:ContractAdministration@TampaGov.net](mailto:ContractAdministration@TampaGov.net)

Please Let Us Know If You Plan To Bid

City of Tampa
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602
(813)274-8456

Benchmark Information: NAVD 1988

TBM #1
Elevation = 16.95'
N: 1304090.83
E: 496788.10
Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #2
Elevation = 17.82'
N: 1304107.17
E: 495108.45
Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #3
Elevation = 16.01'
N: 1304115.51
E: 494091.66
Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #4
Elevation = 17.05'
N: 1303604.27
E: 494097.13
Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #5
Elevation = 14.41'
N: 1302857.39
E: 494085.38
Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #6
Elevation = 16.73'
N: 1302846.23
E: 495090.76
Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #7
Elevation = 18.22'
N: 1303597.14
E: 495102.03
Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #8
Elevation = 16.43'
N: 1302837.45
E: 496189.20
Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #9
Elevation = 16.00'
N: 1302837.45
E: 496189.20
Set PK nail & disk labeled "SurvTech Trav Pt."

Benchmark Information: NAVD 1988

TBM #10
Elevation = 16.78'
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Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #11
Elevation = 15.65'
N: 1302863.31
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TBM #12
Elevation = 18.20'
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TBM #13
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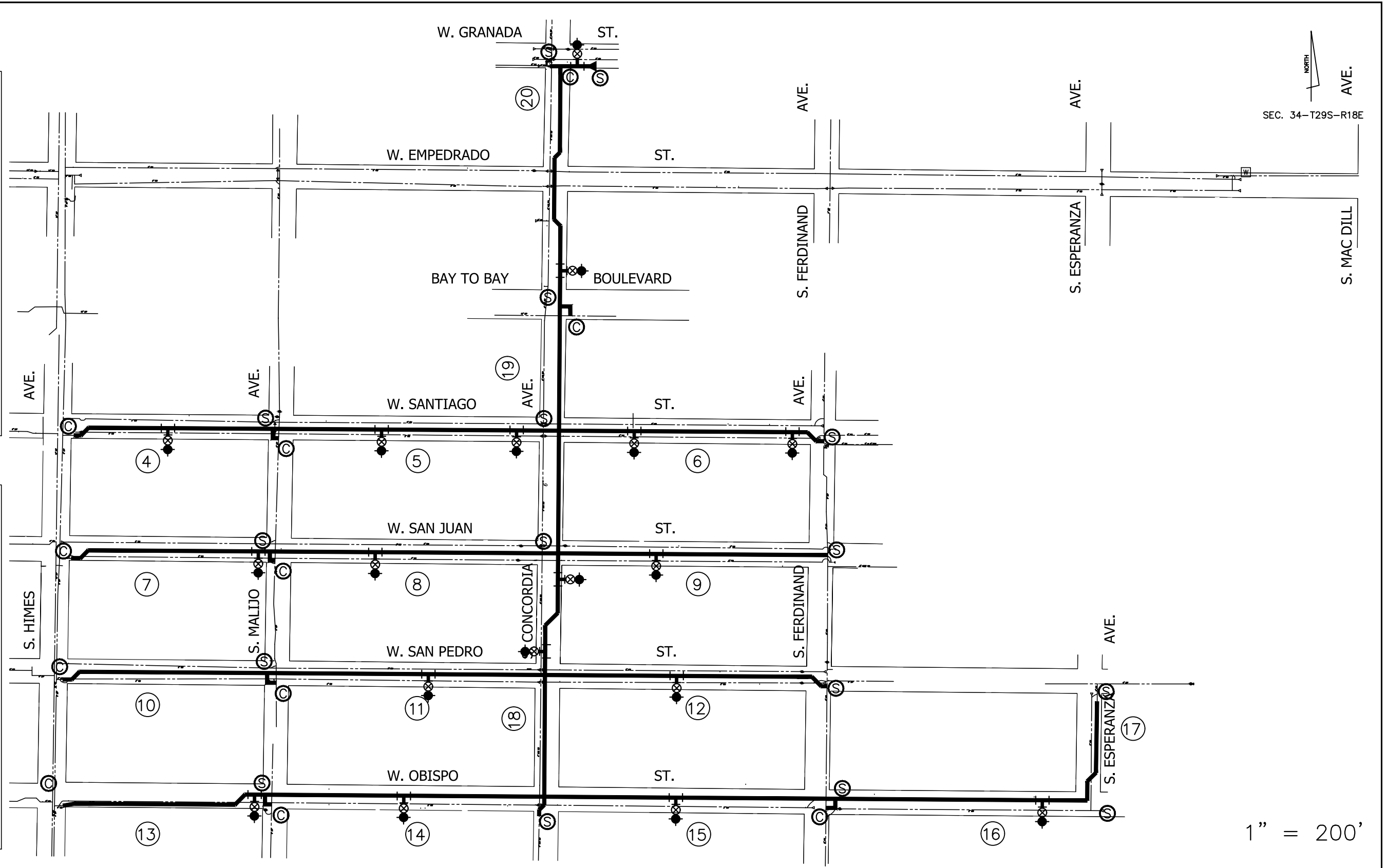
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TBM #15
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N: 1303097.29
E: 494123.96
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TBM #16
Elevation = 17.12'
N: 1303602.89
E: 494552.28
Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #17
Elevation = 16.37'
N: 1303882.77
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Set PK nail & disk labeled "SurvTech Trav Pt."

TBM #18
Elevation = 17.94'
N: 1304094.93
E: 496365.59
Set PK nail & disk labeled "SurvTech Trav Pt."



RORY A JONES, P.E.
CITY OF TAMPA WATER DEPT.
306 E. JACKSON ST., 5E
TAMPA, FLA. 33602
P.E. #79453

Approved
Date

Des: ABA
Dwn: PF
Ckd: JA

KEY SHEET & TBM LOCATIONS
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
2 OF 29

CITY OF TAMPA NOTES

GENERAL

1. ALL WATER WORK FOR THE CITY OF TAMPA (CITY) SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT'S SPECIFICATIONS, CONSTRUCTION DETAILS, AND THE TAMPA WATER DEPARTMENT TECHNICAL MANUAL (LATEST EDITION). IN THE EVENT OF A DISCREPANCY, THE MOST STRINGENT CRITERIA SHALL APPLY.
2. WATER MAIN TAPS SHALL BE PERFORMED BY THE CITY WATER DEPARTMENT ONLY. CONTRACTOR SHALL EXCAVATE, INSTALL TAPPING SLEEVE AND VALVE, CONDUCT PRESSURE TEST (WITNESSED BY INSPECTOR) AND COORDINATE PERFORMANCE OF TAP WITH THE CITY INSPECTOR. CONTRACTOR SHALL PROVIDE NOTICE TO THE CITY INSPECTOR AT A MINIMUM OF 5 WORKING DAYS NOTICE PRIOR TO NECESSARY WORK.
3. NORMAL WORKING HOURS SHALL BE WEEKDAYS FROM 7:30 AM TO 4:00 PM UNLESS OTHERWISE APPROVED BY THE ENGINEER/INSPECTOR.
4. ELEVATION INFORMATION SHOWN ON THESE PLANS IS REFERENCED TO N.A.V.D. 1988 UNLESS OTHERWISE STATED.
5. CONSTRUCTION OF WATER FACILITIES SHALL BE COORDINATED WITH THE WATER DEPARTMENT PRIOR TO THE START OF THE CONSTRUCTION. CONTRACTOR TO CONTACT CITY OF TAMPA CONTRACT ADMINISTRATION DEPARTMENT @ 813-635-3432 TO COORDINATE/SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE CITY FOR REVIEW OF INSTALLATION TECHNIQUES AND PROCEDURES A MINIMUM OF 10 WORKING DAYS PRIOR TO THE PLANNED CONSTRUCTION.
6. EXISTING UTILITIES, BUILDINGS, GROUND ELEVATIONS, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. ALL CONDITIONS, DIMENSIONS, AND QUANTITIES AFFECTING REQUIRED WORK SHALL BE VERIFIED BY CONTRACTOR BEFORE BEGINNING WORK OR ORDERING MATERIALS.
7. VALVES ON EXISTING PUBLIC WATER MAINS TO BE OPERATED BY CITY PERSONNEL ONLY.
8. ALL PROPOSED WATER LINES SHALL BE MANUFACTURED, INSTALLED, AND TESTED PER THE STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA) AND BY F.A.C.-62-555.
9. SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE CITY FOR ALL PROPOSED ITEMS. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE HIGH QUALITY PDF DOCUMENTS.
10. THE CONTRACTOR IS RESPONSIBLE FOR RESTRAINING ALL EXISTING PIPE NECESSARY TO MAINTAIN A SAFE CONSTRUCTION AREA AND PERFORM THE WORK SHOWN IN THE PLANS. EXISTING PIPE REQUIRING RESTRAINTS SHALL UTILIZE EXTERIOR BELL RESTRAINTS.
11. THE CONTRACTOR SHALL DEWATER ANY EXCAVATION OR TRENCH TO MAINTAIN A SAFE WORK ENVIRONMENT AND TO ABIDE BY AWWA INSTALLATION STANDARDS. DEWATERING IS AT THE EXPENCE OF THE CONTRACTOR.

PERMITS

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHT-OF-WAY PERMITS AND ROADWAY CLOSURES ASSOCIATED WITH THE WORK SHOWN IN THE PLANS.
2. IN ORDER TO OBTAIN ROADWAY CLOSURES OR RIGHT-OF-WAY PERMITS, AT MINIMUM, THE CONTRACTOR MUST SUBMIT DETAILED MAINTENANCE OF TRAFFIC (MOT) PLANS ALONG WITH APPLICATIONS TO THE APPROPRIATE AGENCY. THE MOT(S) SHALL CONFORM TO APPLICABLE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) DRAWINGS (MOST CURRENT EDITION). THE GOVERNING AGENCIES MAY REQUIRE ADDITIONAL INFORMATION AND DICTATE SPECIFIC WORK TIME DURING NON-PEAK TRAFFIC HOURS.

PIPE CLEARANCES

1. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES AND SHALL MAINTAIN A MINIMUM OF THREE (3) FEET HORIZONTAL SEPARATION FROM OTHER UTILITIES, EXCEPT STORM, SANITARY, AND GAS, WHICH SHALL MAINTAIN TEN (10) FEET HORIZONTAL SEPARATION, UNLESS OTHERWISE NOTED.
2. WATER MAIN SHALL CROSS ABOVE OTHER PIPES. WHEN WATER MUST BE BELOW, PROVIDE 12" MINIMUM VERTICAL SEPARATION UNLESS OTHERWISE NOTED.
3. CENTER ONE FULL JOINT OF PIPE UNDER/OVER ALL SANITARY, STORM, OR RECLAIMED PIPE CROSSINGS.

| INDEX | |
|-------------|-----------------------------------------------|
| DESCRIPTION | |
| 1 | COVER SHEET |
| 2 | KEY SHEET & TBM LOCATIONS |
| 3 | INDEX & GENERAL NOTES |
| 4-6 | W. SANTIAGO STREET- PLAN AND PROFILE SHEETS |
| 7-9 | W. SAN JUAN STREET- PLAN AND PROFILE SHEETS |
| 10-12 | W. SAN PEDRO STREET- PLAN AND PROFILE SHEETS |
| 13-16 | W. OBISPO STREET- PLAN AND PROFILE SHEETS |
| 17 | S. ESPERANZA AVENUE - PLAN AND PROFILE SHEET |
| 18-20 | S. CONCORDIA AVENUE - PLAN AND PROFILE SHEETS |
| 21-29 | DETAILS |

MATERIAL

1. ALL VALVES SHALL BE RIGHT HAND OPEN.
2. POLYWRAP ALL DUCTILE IRON PIPE (D.I.P) FITTINGS AND APPURTENANCES.
3. ALL HARDWARE SHALL BE 304 STAINLESS STEEL, UNLESS OTHERWISE NOTED.
4. ALL BELOW GROUND BENDS SHALL BE MECHANICAL JOINT (MJ).
5. RESTRAIN ALL JOINTS AND FITTINGS PER CONSTRUCTION PLANS AND DETAILS..
6. CONCRETE THRUST BLOCKS SHALL NOT BE USED TO PROVIDE THRUST RESTRAINT. RESTRAINT OF PUSH-ON DIP (OTHER THAN FOR FITTINGS & VALVES) SHALL BE WITH APPROVED PUSH-ON "GRIPPER-TYPE" RESTRAINTS. FITTINGS AND VALVES SHALL BE CONNECTED TO PIPE WITH MEGALUGS, OR APPROVED EQUAL.
7. ALL POTABLE WATER SERVICE LATERAL, AIR RELEASE VALVES, AND TEMPORARY SAMPLE POINTS SHALL BE CONSTRUCTED OF BLUE SDR-9 HIGH DENSITY POLYETHYLENE (HDPE) TUBING. ALL HDPE TUBING SHALL BE INSTALLED WITHIN A CASING AS DEFINED IN THE SPECIFICATIONS AND DETAILS.

TESTING

1. ALL COMPONENTS OF THE WATER SYSTEM, INCLUDING FITTINGS, HYDRANTS, CONNECTIONS, AND VALVES SHALL BE PROPERLY PRESSURE TESTED, WITNESSED AND ACCEPTED BY THE CITY. PRESSURE TESTS TO BE PERFORMED IN ACCORDANCE WITH WATER DEPARTMENT SPECIFICATIONS. CONTRACTOR TO NOTIFY THE ASSIGNED CITY INSPECTOR A MINIMUM OF THREE (3) WORKING DAYS IN ADVANCE OF PERFORMING TESTS. CONTRACTOR SHALL PRESSURE TEST WATER MAINS AT A MINIMUM OF 150 PSI FOR A PERIOD OF 2 HOURS IN ACCORDANCE WITH AWWA C600-87 STANDARDS. THE CONTRACTOR SHALL MAKE ALL NECESSARY APPLICATIONS AND ARRANGEMENTS.
2. ALL SAMPLE, PRESSURE TEST, AND CHLORINATION POINT PIPING SHALL BE COMPLETELY REMOVED PRIOR TO FINAL ACCEPTANCE. THE CORPORATION STOP SHALL BE CLOSED AND PLUGGED AT THE MAIN.
3. CONTRACTOR SHALL PERFORM CHLORINATION AND HIRE INDEPENDENT FIRMS TO CONDUCT BACTERIOLOGICAL TESTING AS DEFINED IN F.A.C. 62-555.340. CONTRACTOR TO SUPPLY THE CITY WITH AS-BUILTS AND SAMPLE RESULTS NECESSARY TO OBTAIN DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) CLEARANCES BEFORE PLACING METERS OR PIPELINES IN SERVICE.

RESTORATION

1. ROADWAY RESTORATION SHALL BE IN CONFORMANCE WITH CORRESPONDING JURISDICTION'S LATEST STANDARDS.
2. DISTURBANCE TO ANY PROPERTY, PUBLIC OR PRIVATE, SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.

PROJECT SPECIFIC NOTES:

1. THE ROOSEVELT ELEMENTARY SCHOOL AND THE HILLSBOROUGH COUNTY SCHOOL BOARD SHALL BE NOTIFIED A MINIMUM OF 3 WEEKS IN ADVANCE OF PERFORMING ALL WORK AFFECTING THE SCHOOL INCLUDING WATER MAIN INSTALL, ROAD WORK AND ANY LANE CLOSURE OR DETOUR. CONTACT SCHOOL FOR ACCESS TO THE GATED PORTION OF W. OBISPO. ACCESS POINTS TO THE SCHOOL SHALL NOT BE RESTRICTED DURING ANY SCHEDULED EVENT.
PRINCIPAL: CHRISTINA DICKENS AT 813-272-3090 OR CHRISTINA.DICKENS@SDHC.K12.FL.US
COUNTY REPRESENTATIVE: LORRAINE DUFFY SUAREZ AT 813- 272-4685 OR LORRAINE.DUFFY-SUAREZ@SDHC.K12.FL.US
2. ALL ASPHALT OPEN CUTS WITHIN CITY RIGHT-OF-WAY SHALL BE FULLY MILLED & OVERLAYED (FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT) PER TYPICAL PAVING SECTION SHOWN ON PAGE 29



RORY A JONES, P.E.
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306 E. JACKSON ST., 5E
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Des: ABA

Dwn: PF

Ckd: JA

*INDEX & GENERAL NOTES
PALMA CEIA PHASE II*

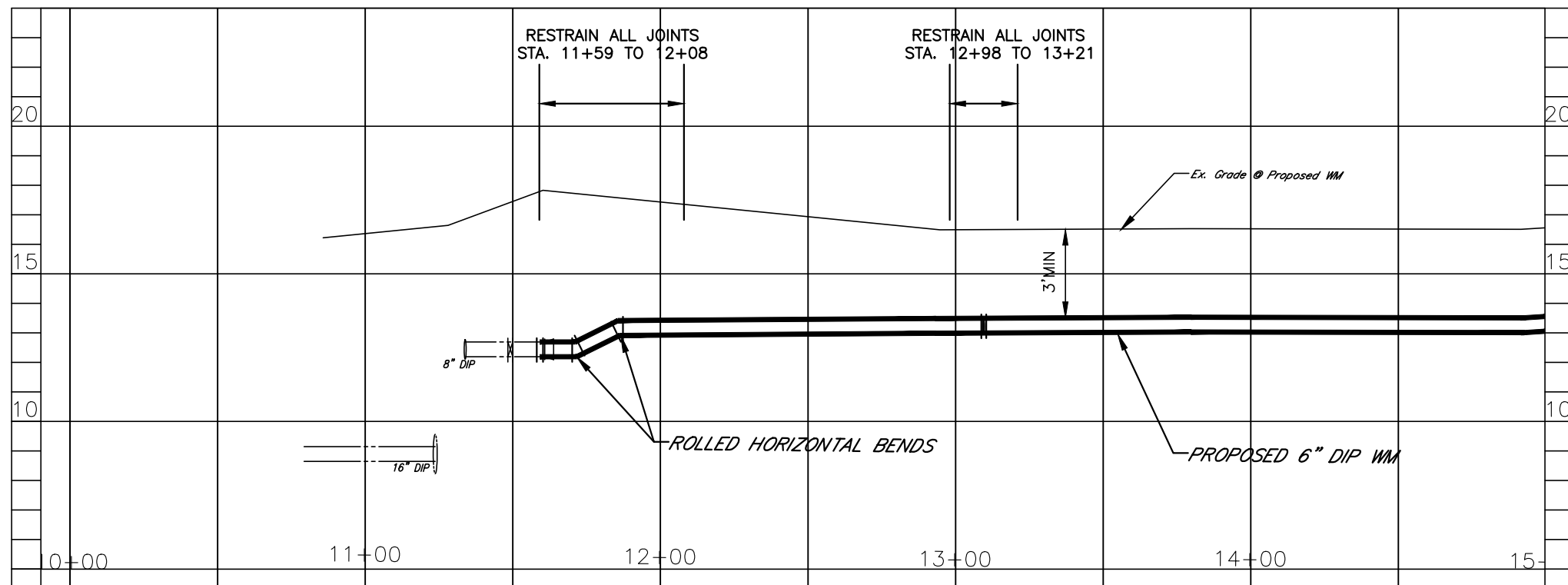
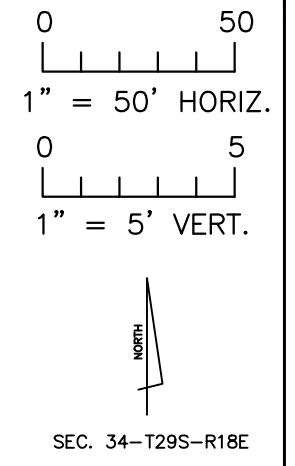
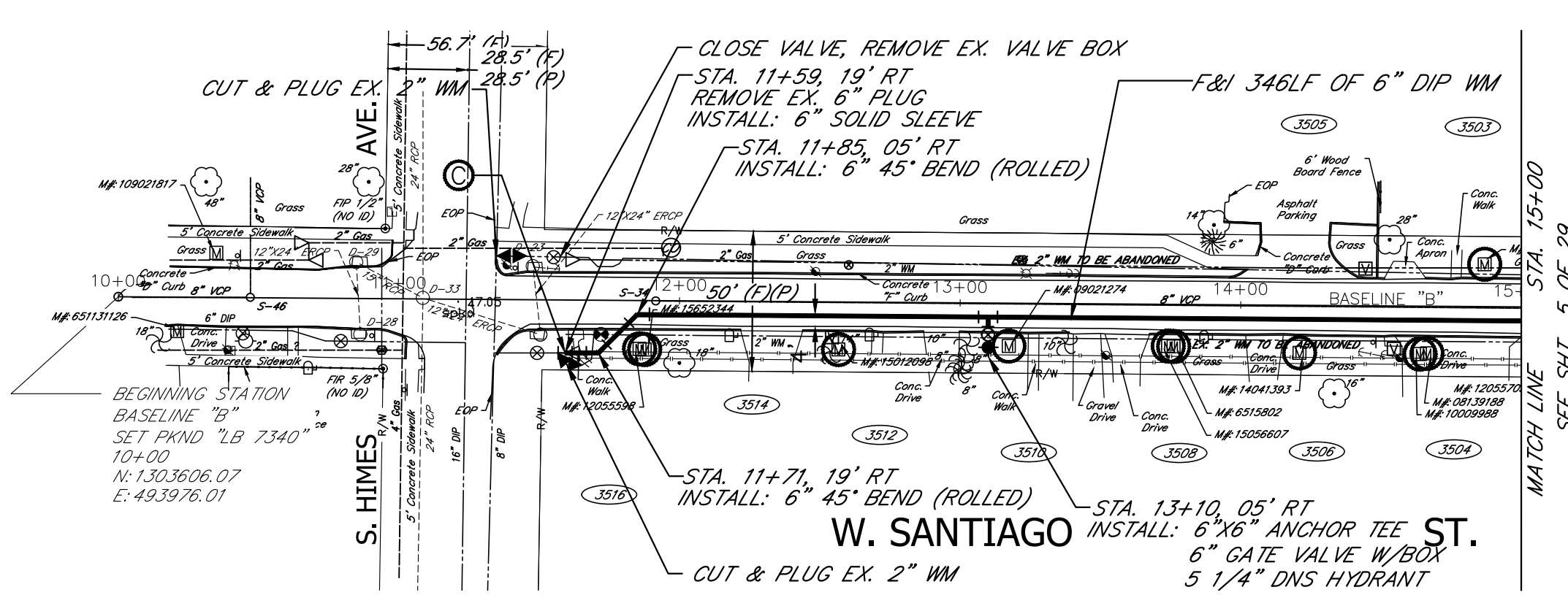
Atlas Page

K09-1

k10-4

W.O. 8401

3 OF 29



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 CITY OF TAMPA WATER DEPT.
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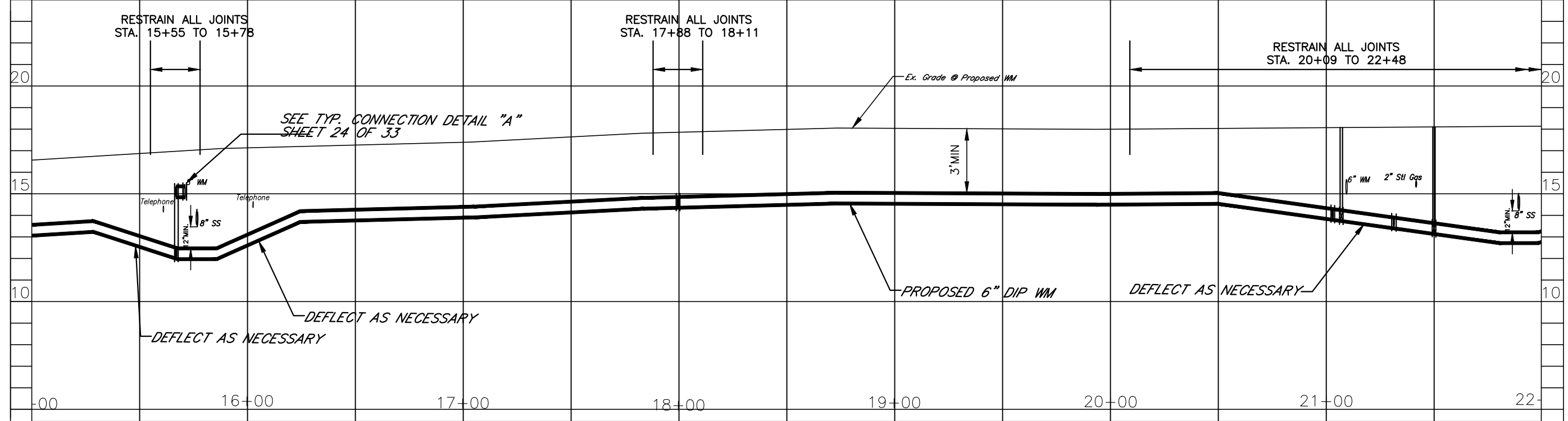
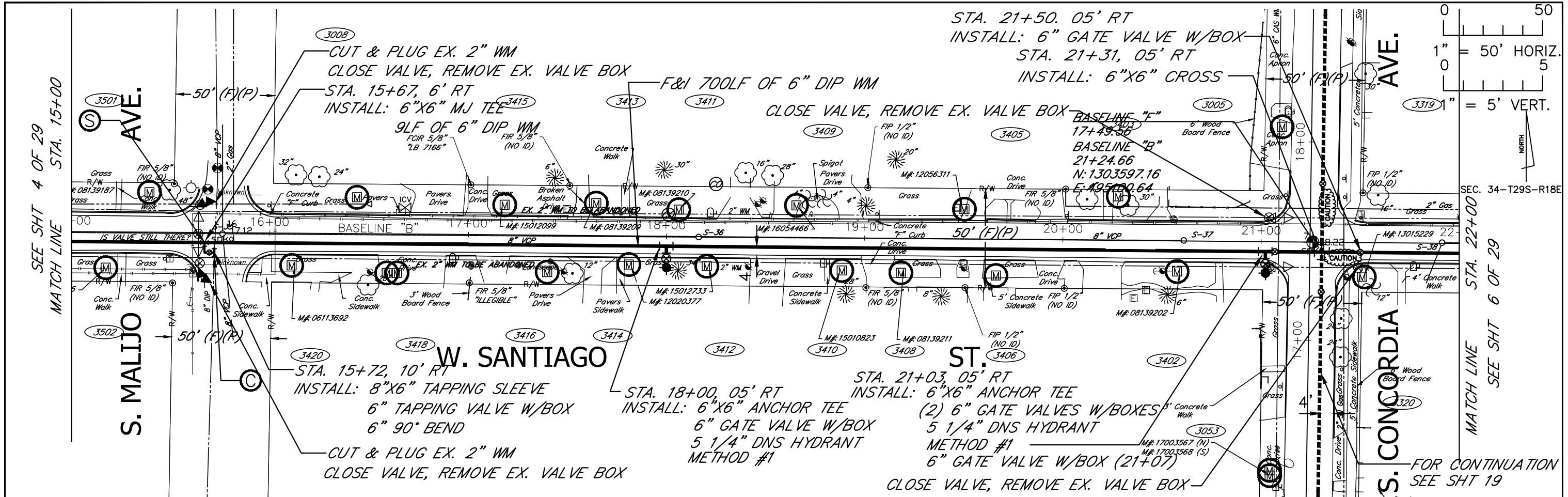
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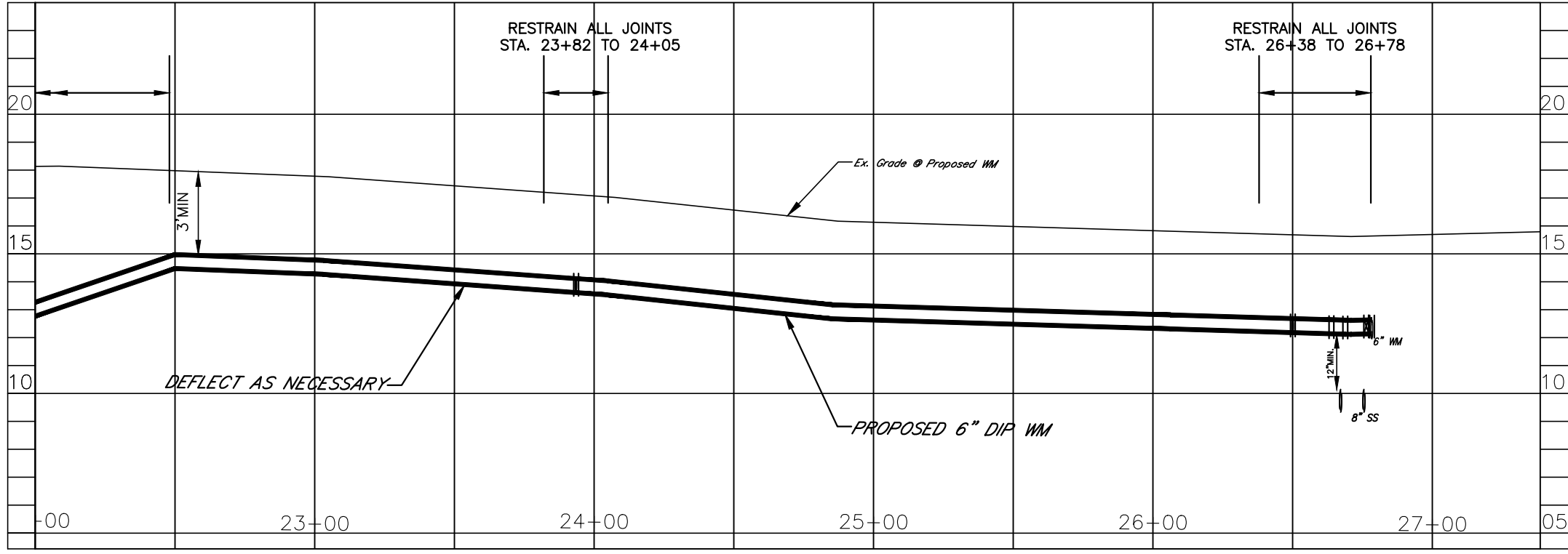
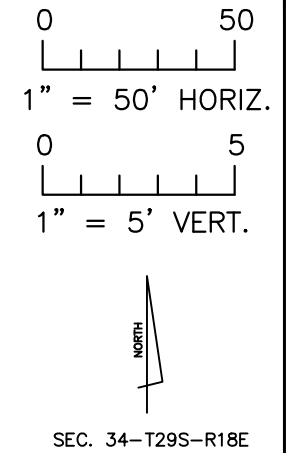
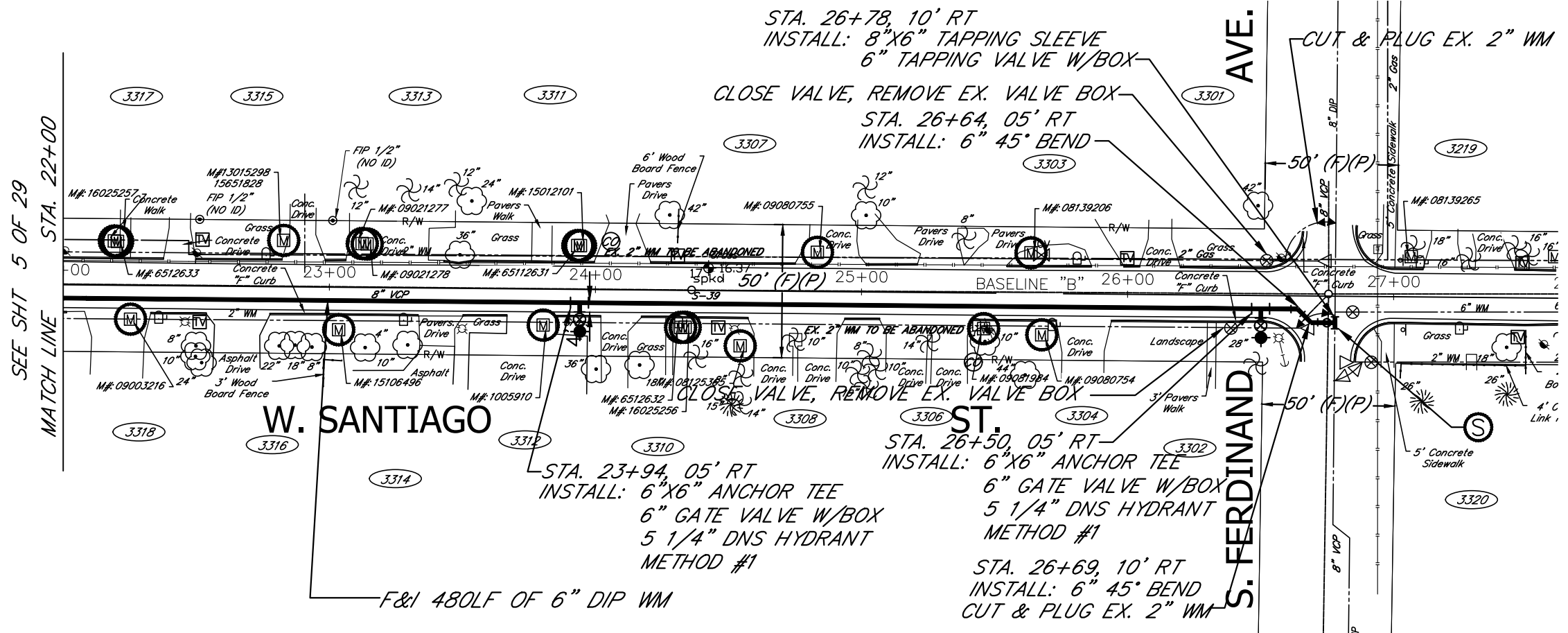
W. Santiago Street
 PALMA CEIA PHASE II

Atlas Page
 K09-1
 k10-4

W.O. 8401
 ASBUILT FILE NUMBER
 4 OF 29



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| | RORY A JONES, P.E. CITY OF TAMPA WATER DEPT. 306 E. JACKSON ST., 5E TAMPA, FLA. 33602 P.E. #79453 | Approved Date | Des: ABA | W. Santiago Street PALMA CEIA PHASE II | Atlas Page | W.O. 8401 |
| | | | Dwn: PF | | K09-1 | ASBUILT FILE NUMBER |
| | | | Ckd: JA | | k10-4 | 5 OF 29 |



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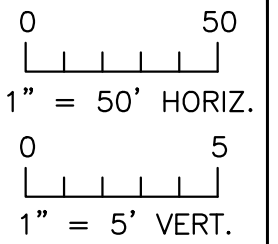
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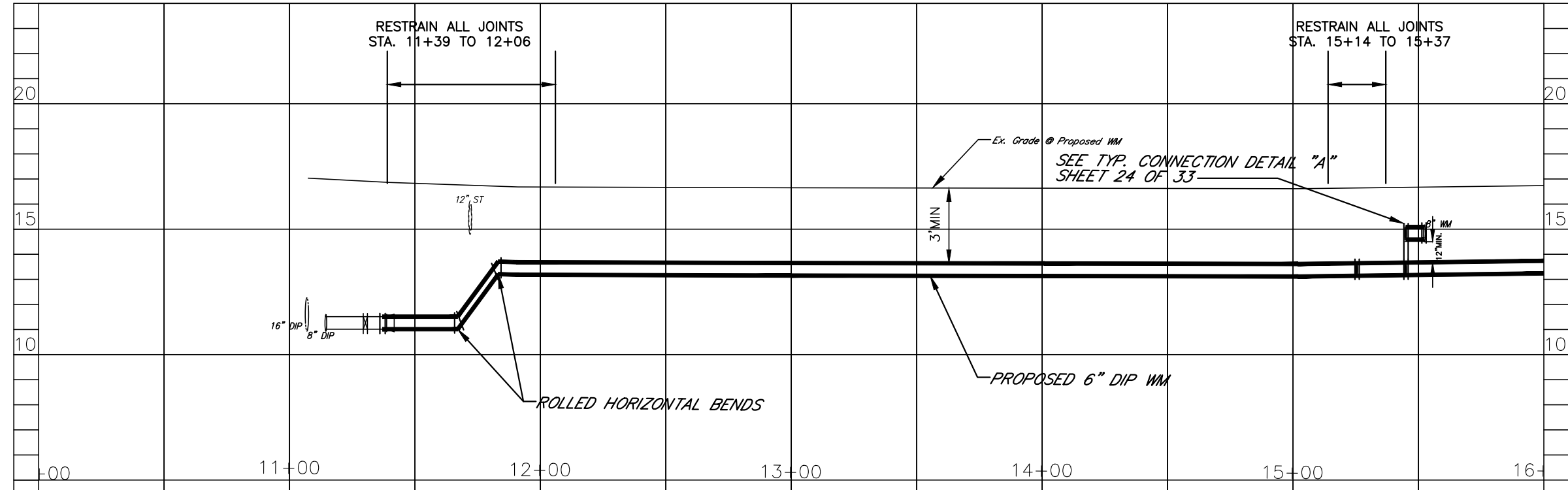
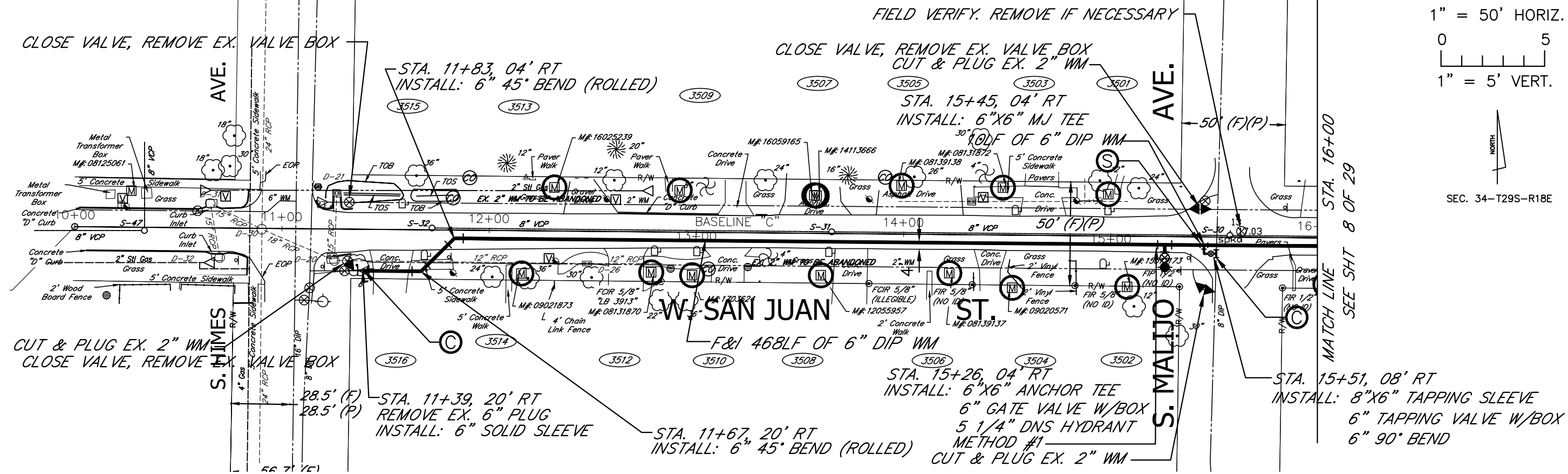
W. Santiago Street
 PALMA CEIA PHASE II

Atlas Page
 K09-1
 k10-4

W.O. 8401
 ASBUILT FILE NUMBER
 6 OF 29



NORTH
SEC. 34-T29S-R18E



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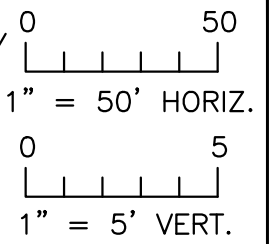
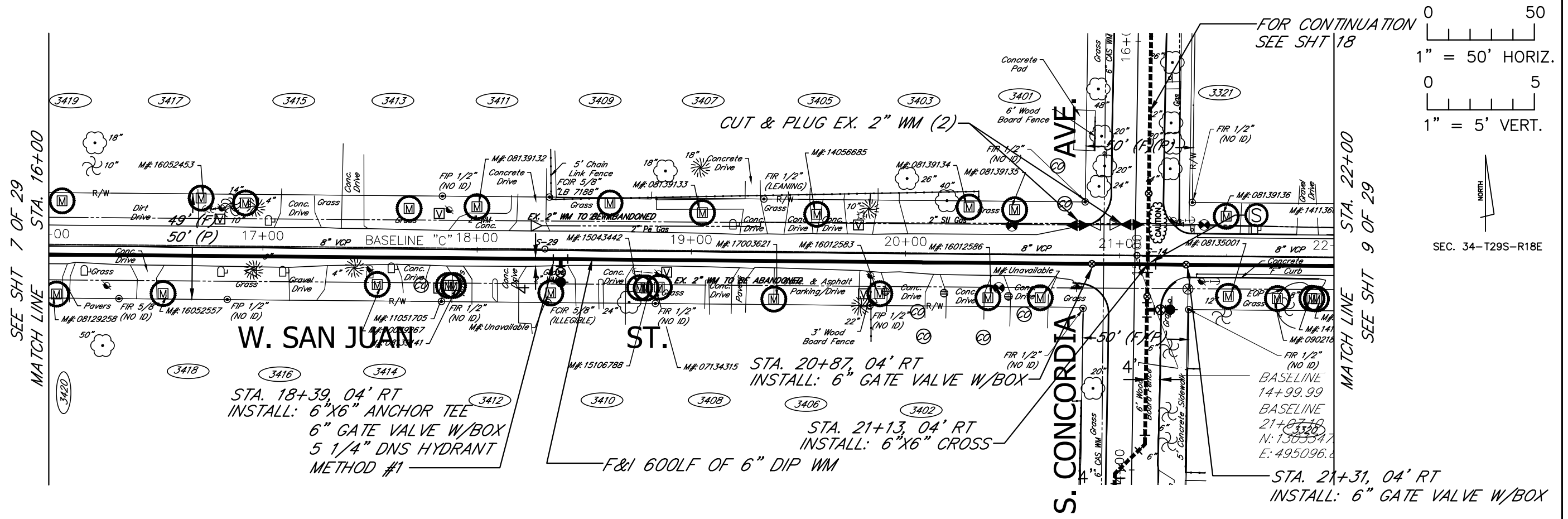
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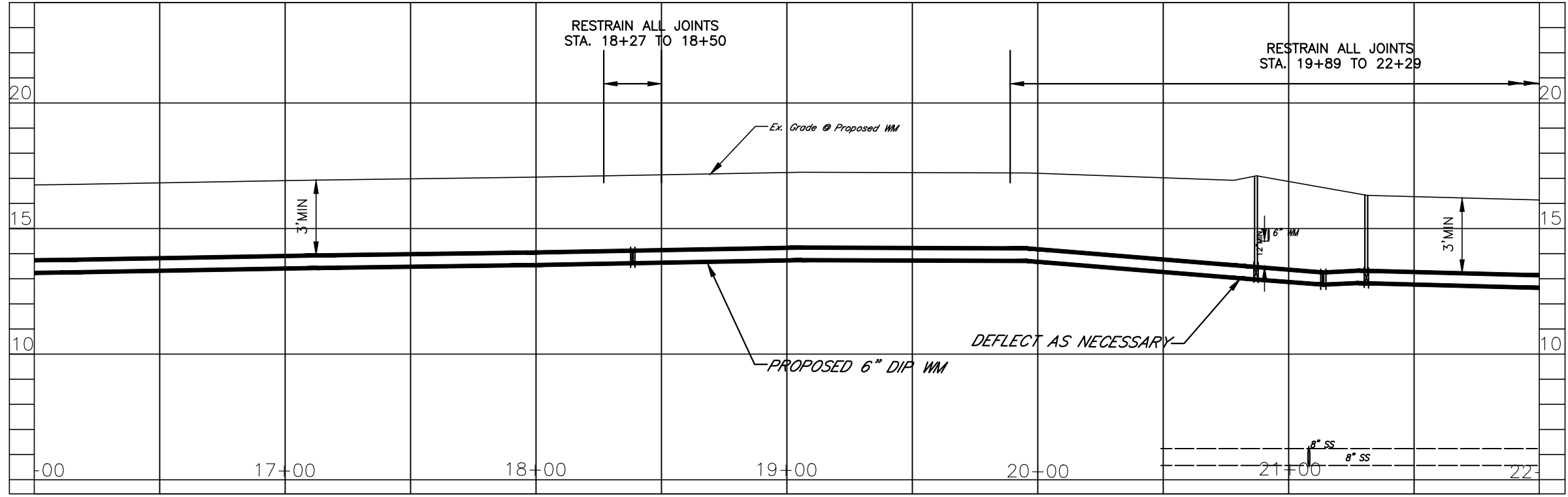
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PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
ASBUILT FILE NUMBER
7 OF 29



SEC. 34-T29S-R18E



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 306 E. JACKSON ST., 5E
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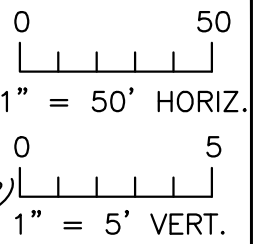
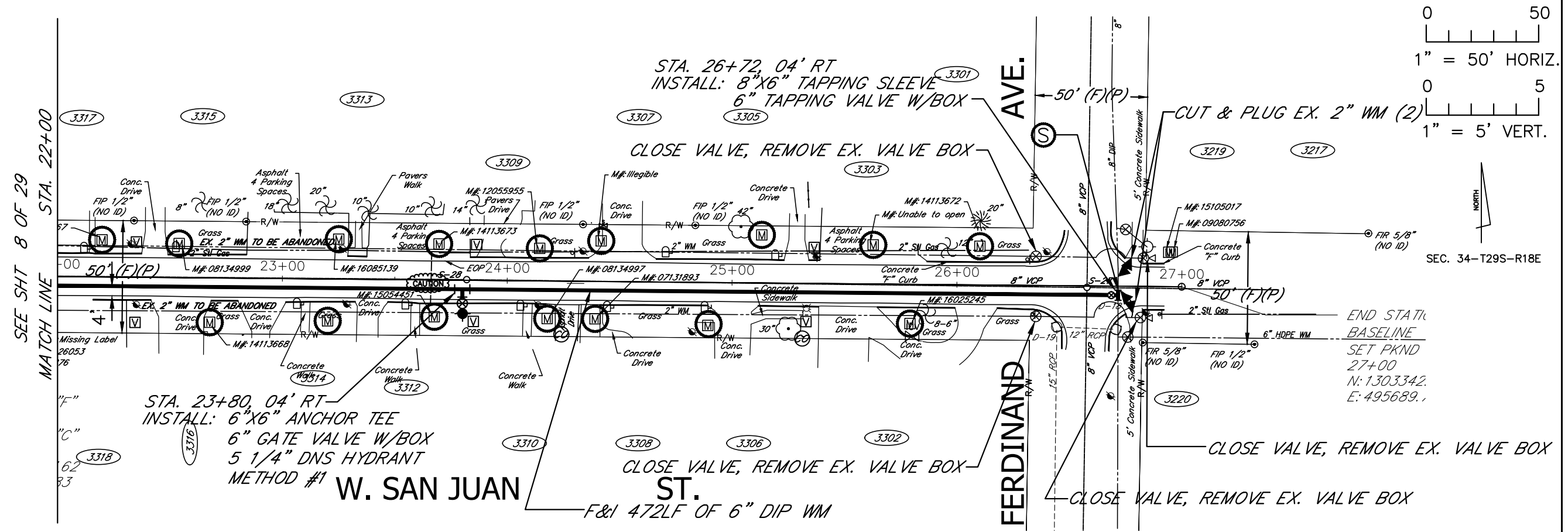
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W. San Juan Street
 PALMA CEIA PHASE II

Atlas Page
 K09-1
 k10-4

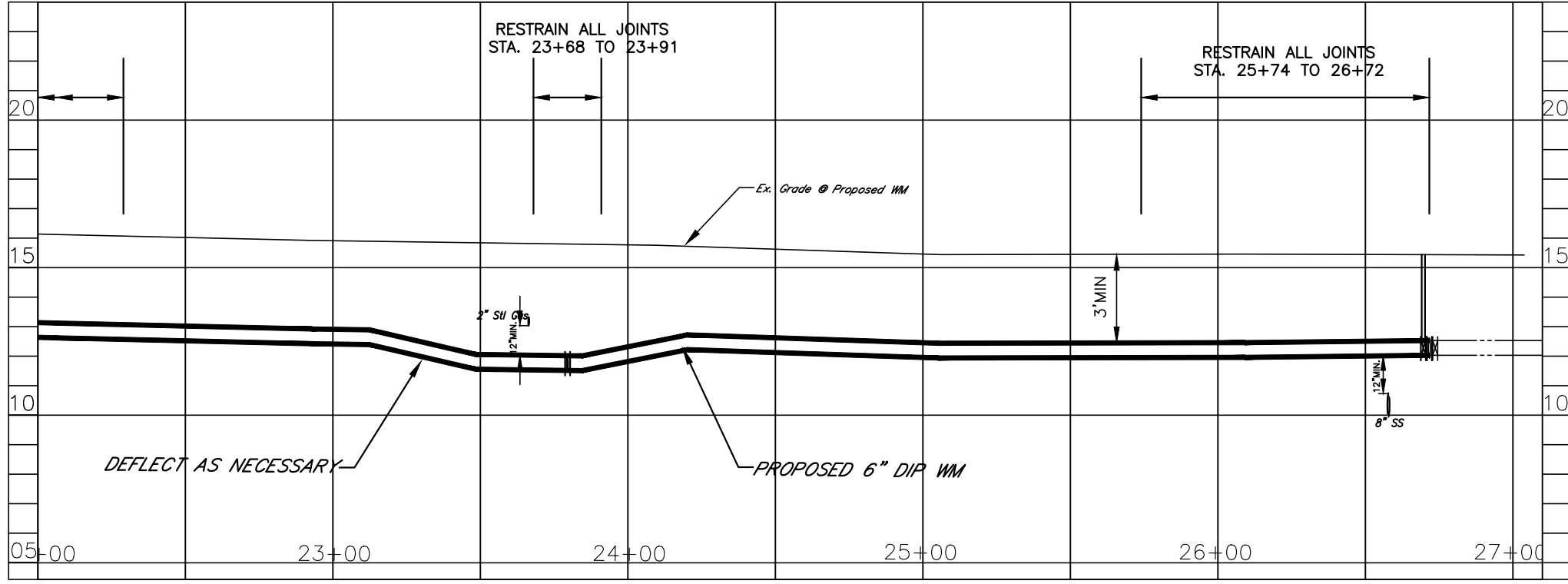
W.O. 8401
 ASBUILT FILE NUMBER
 8 OF 29



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SEC. 34-T29S-R18E

END STATION
BASELINE
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27+00
N: 1303342.
E: 495689.



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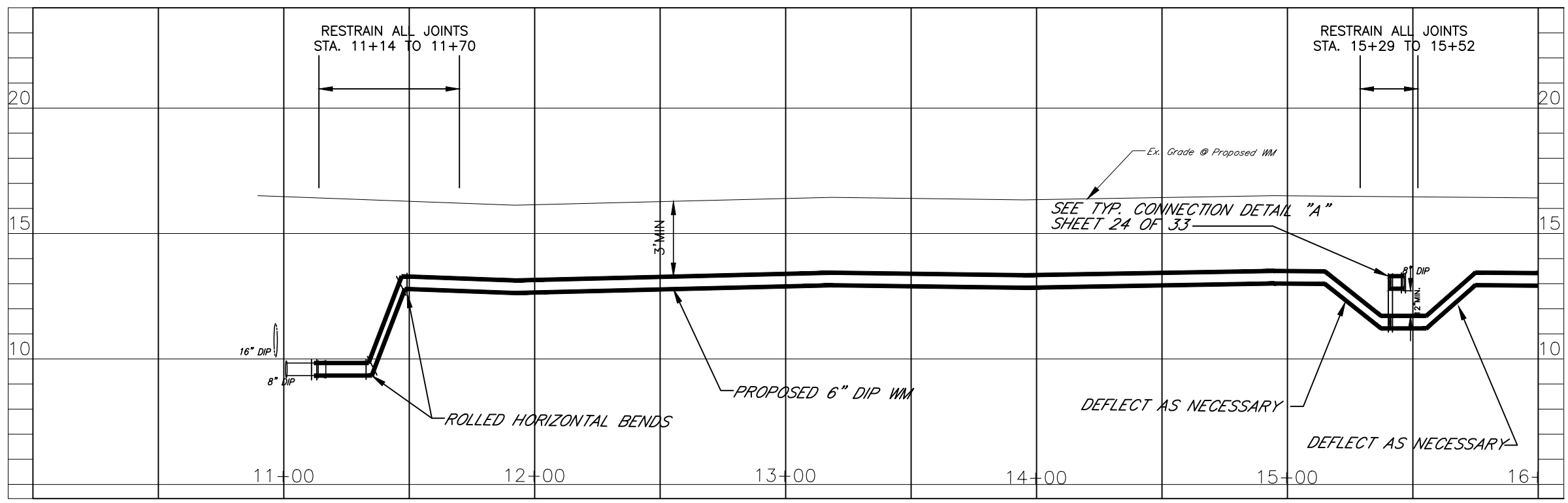
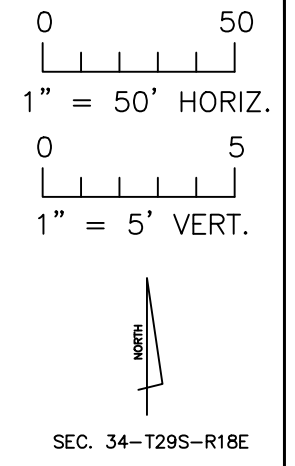
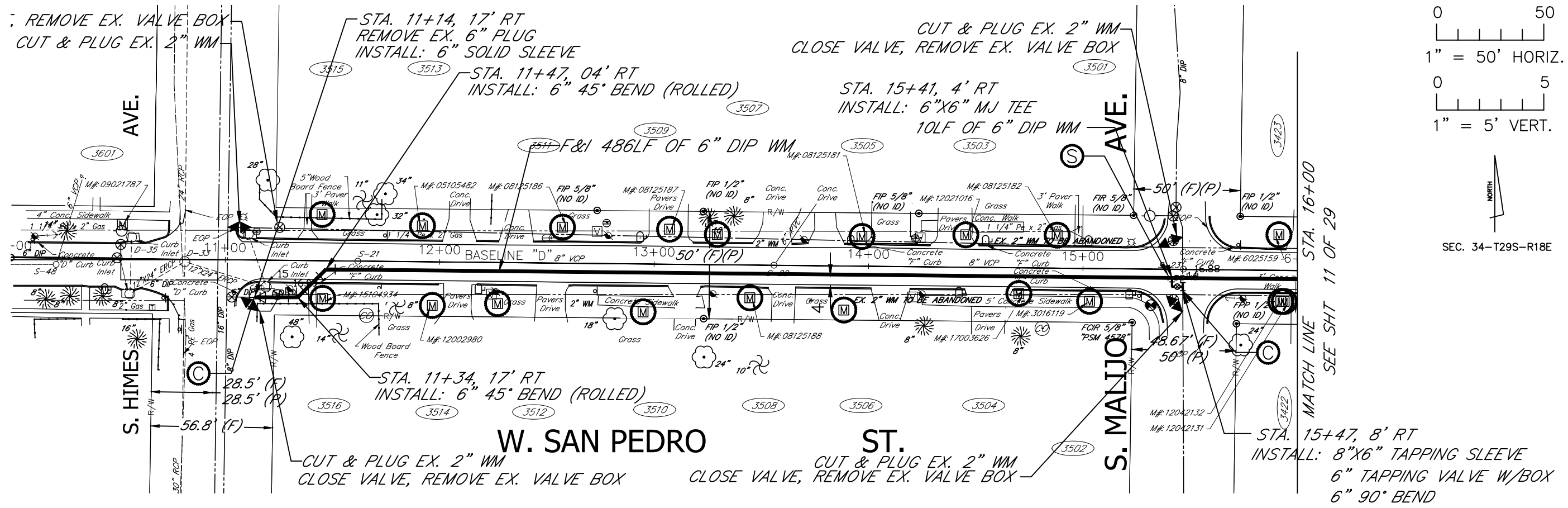
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Dwn: PF
Ckd: JA

W. San Juan Street
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
ASBUILT FILE NUMBER
9 OF 29



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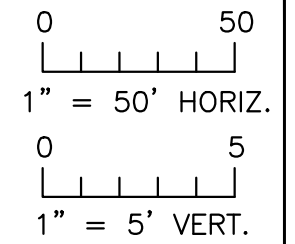
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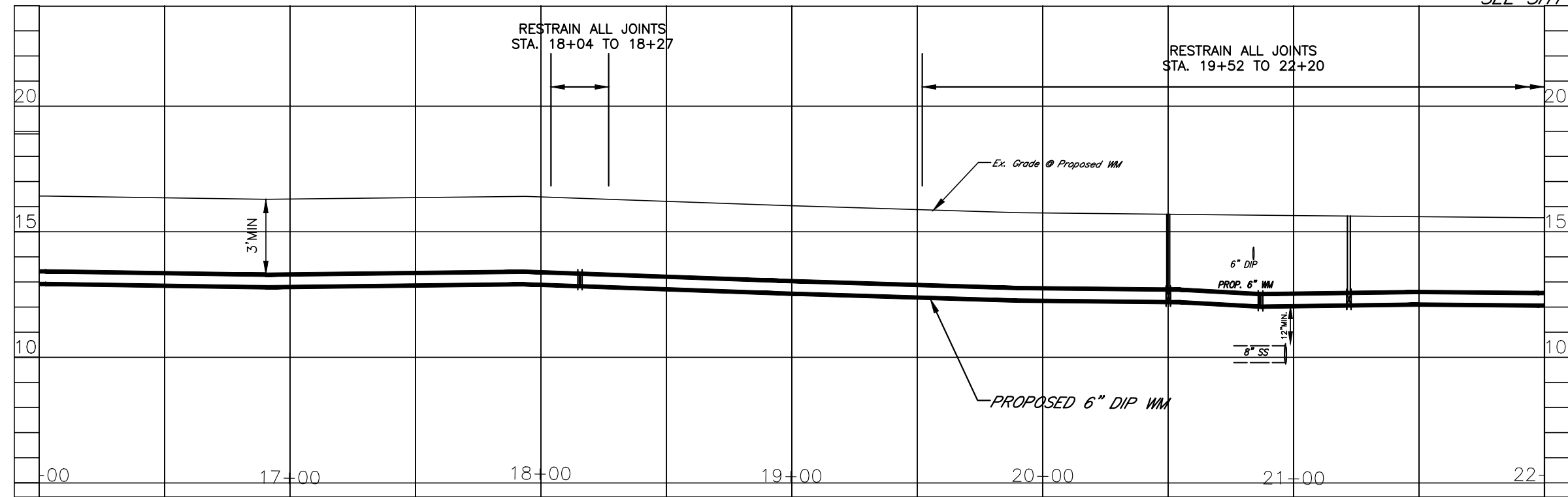
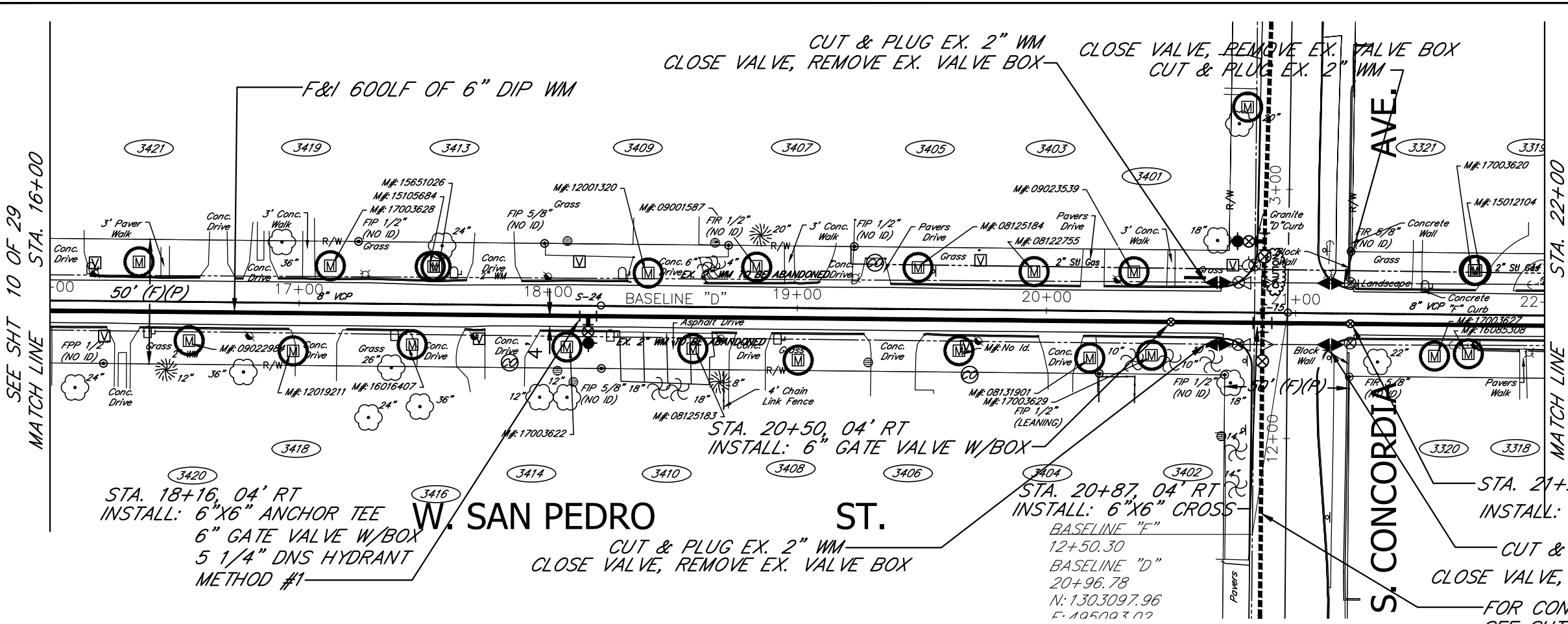
Atlas Page
 K09-1
 k10-4

W.O. 8401
 ASBUILT FILE NUMBER
 10 OF 29



SEE SHT 10 OF 29
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STA. 22+00
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306 E. JACKSON ST., 5E
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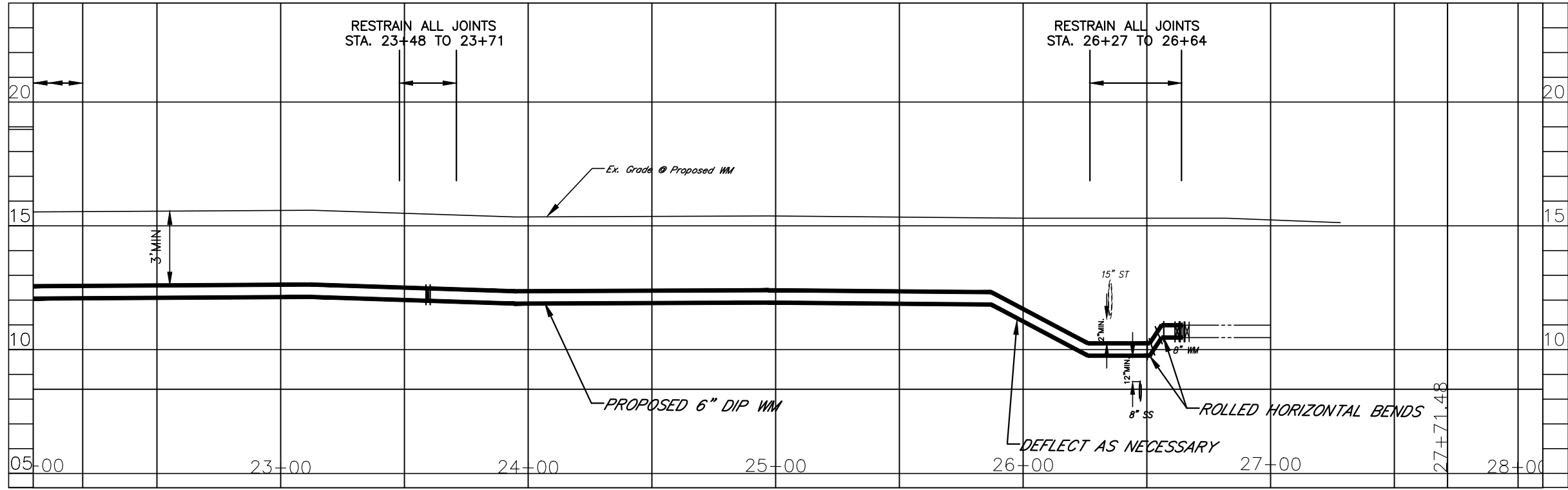
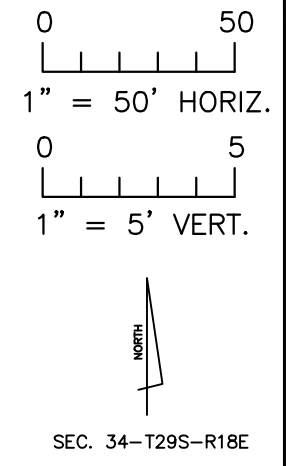
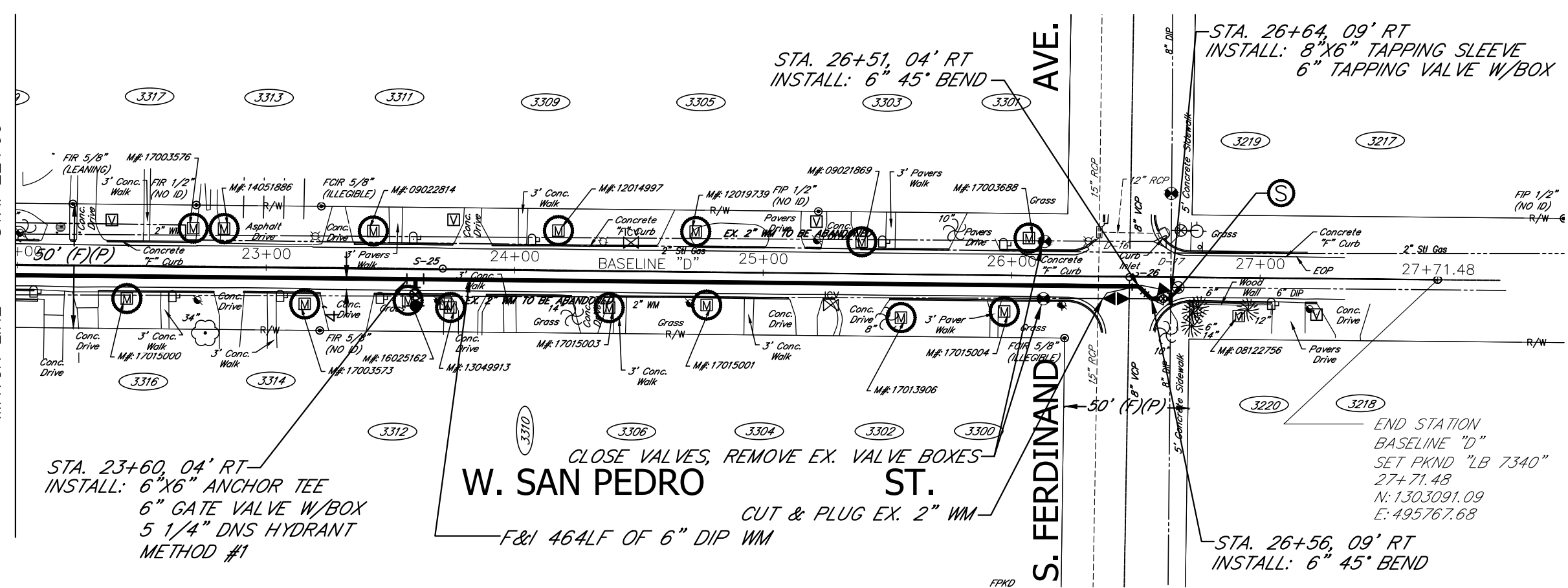
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Ckd: JA
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W. San Pedro Street
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
ASBUILT FILE NUMBER
11 OF 29

SEE SHT 11 OF 29
MATCH LINE STA. 22+00



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306 E. JACKSON ST., 5E
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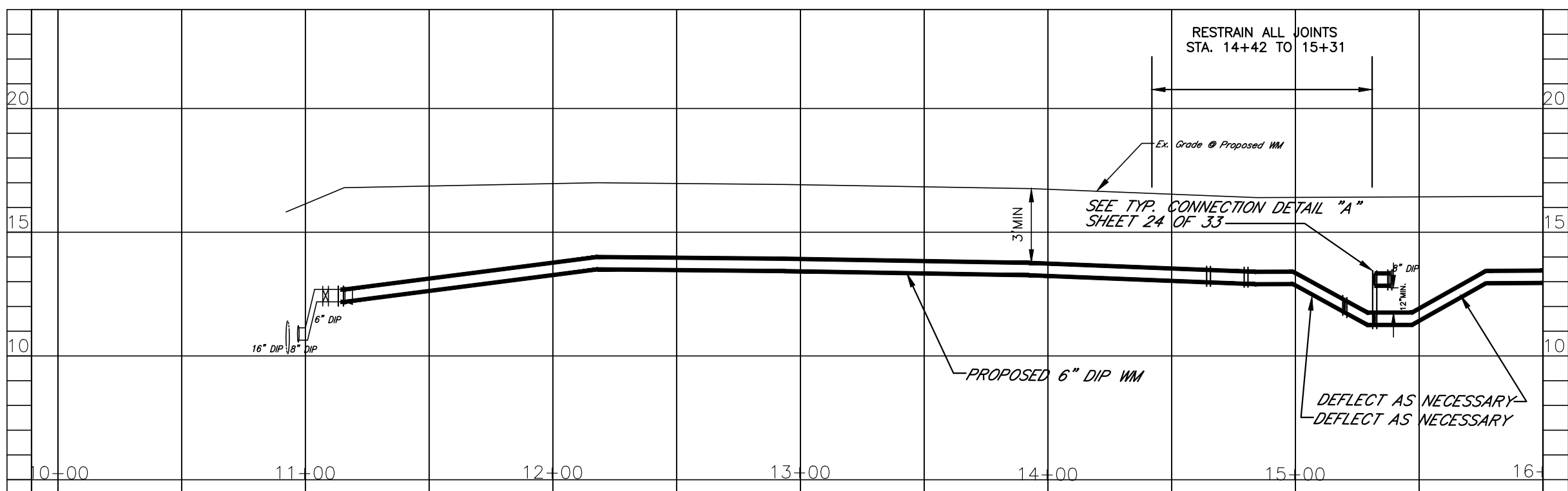
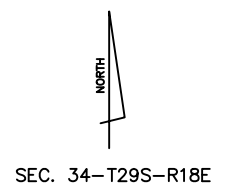
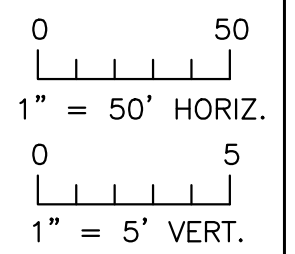
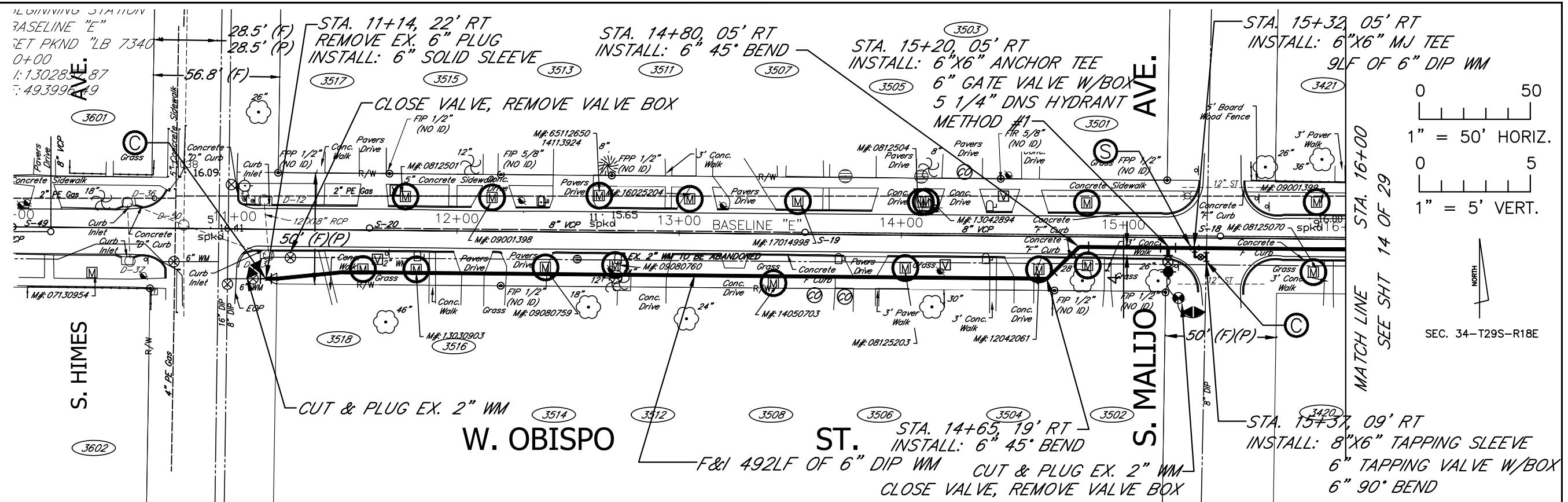
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W. San Pedro Street
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
ASBUILT FILE NUMBER
12 OF 29



RORY A JONES, P.E.
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 306 E. JACKSON ST., 5E
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 P.E. #79453

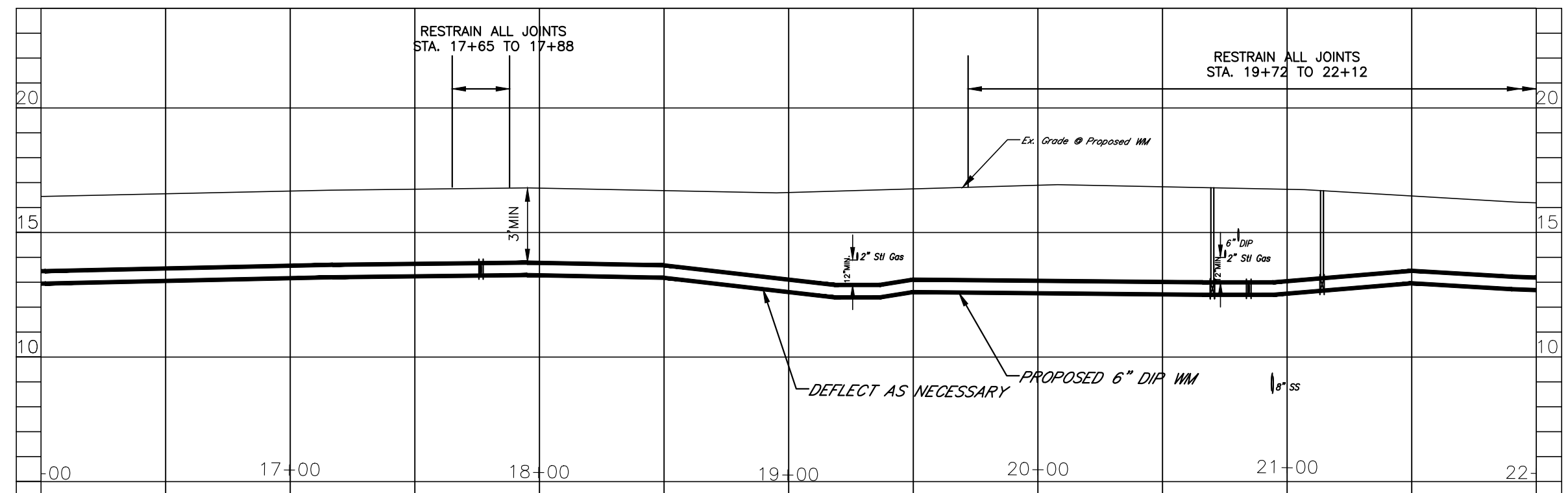
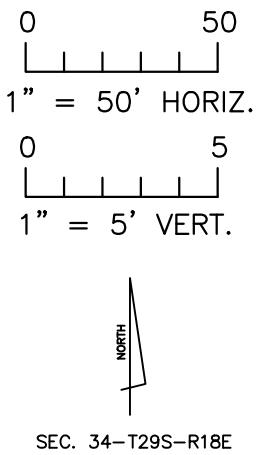
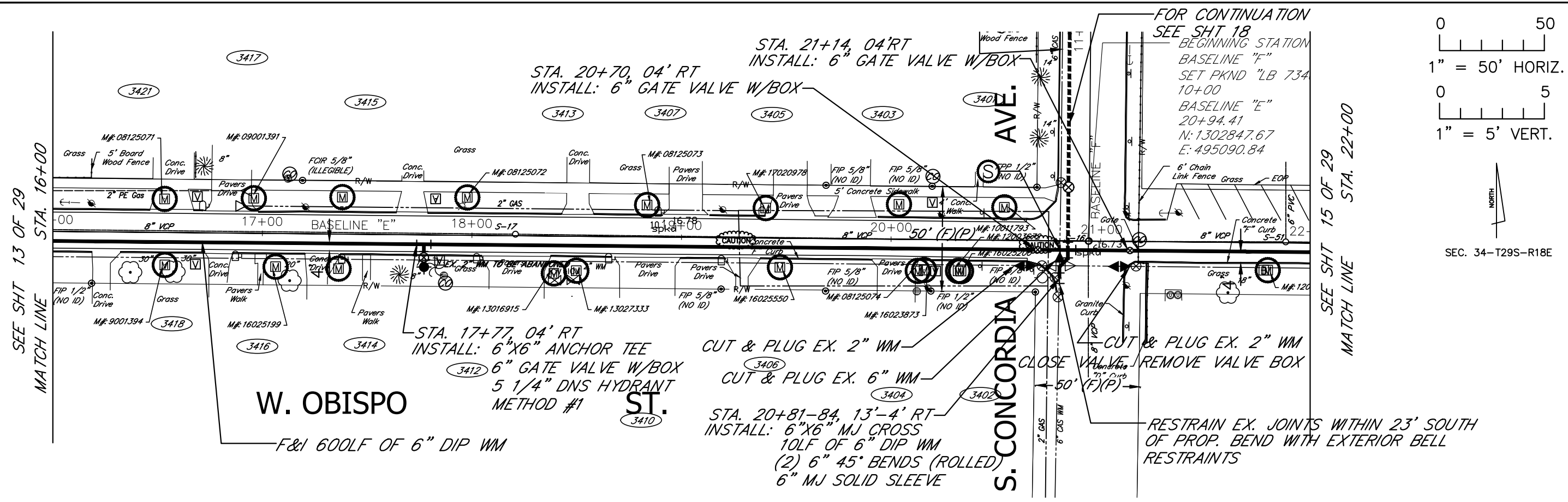
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 Dwn: PF
 Ckd: JA

W. Obispo Street
 PALMA CEIA PHASE II

Atlas Page
 K09-1
 k10-4

W.O. 8401
 ASBUILT FILE NUMBER
 13 OF 29



RORY A JONES, P.E.
 CITY OF TAMPA WATER DEPT.
 306 E. JACKSON ST., 5E
 TAMPA, FLA. 33602
 P.E. #79453

Approved
 Date

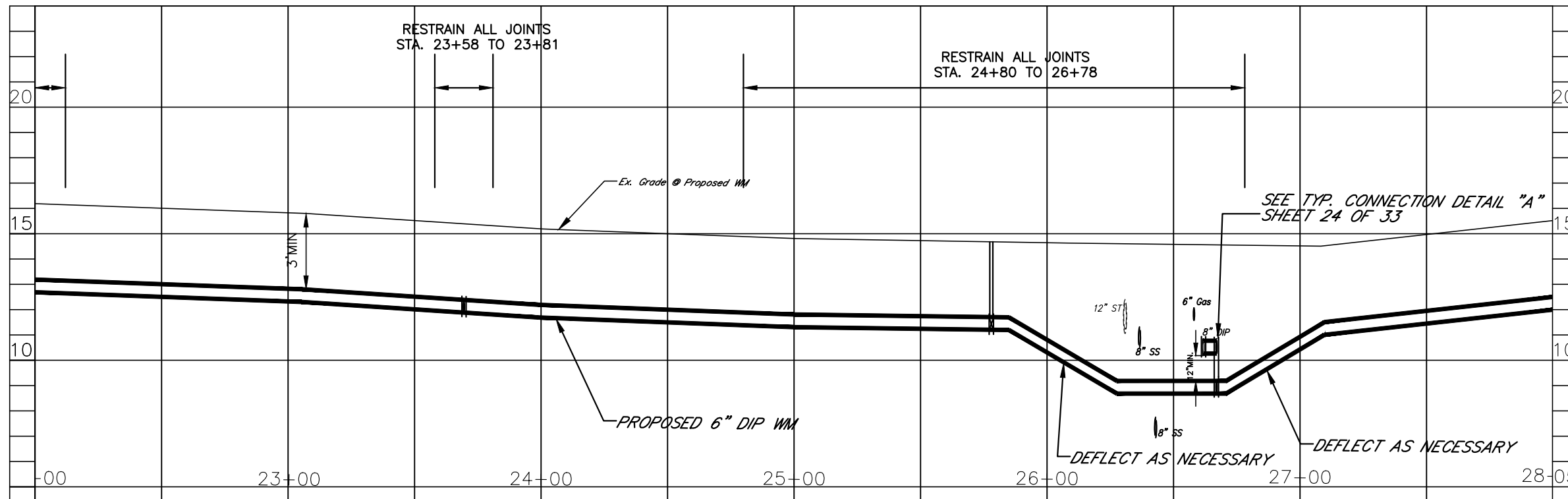
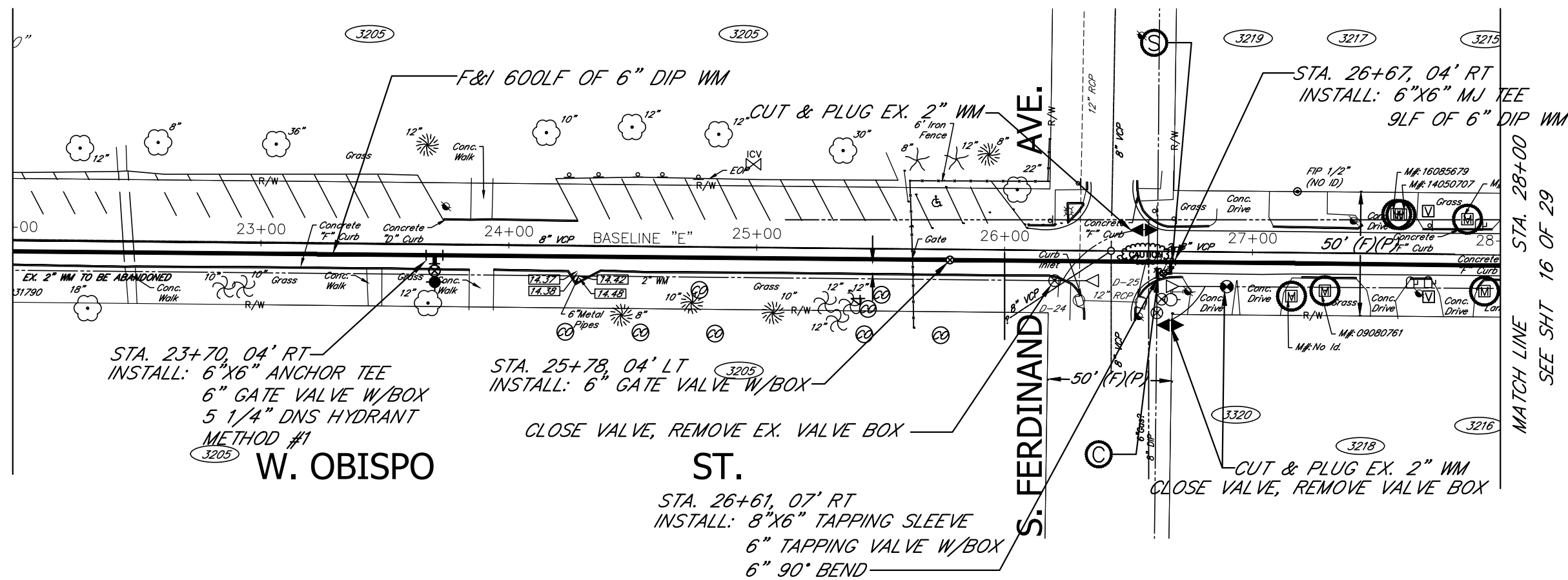
Des: ABA
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W. Obispo Street
 PALMA CEIA PHASE II

Atlas Page
 K09-1
 k10-4

W.O. 8401
 ASBUILT FILE NUMBER
 14 OF 29

SEE SHT 14 OF 29
MATCH LINE STA. 22+00



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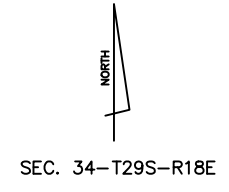
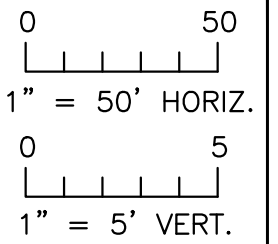
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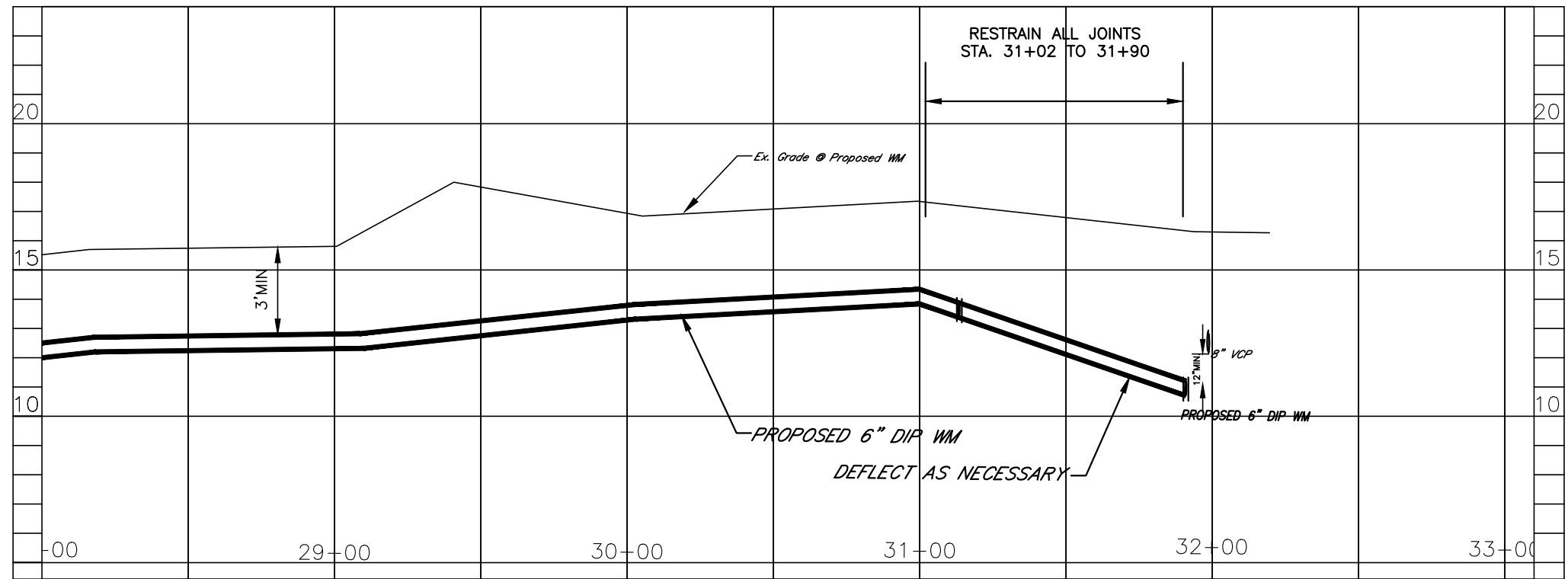
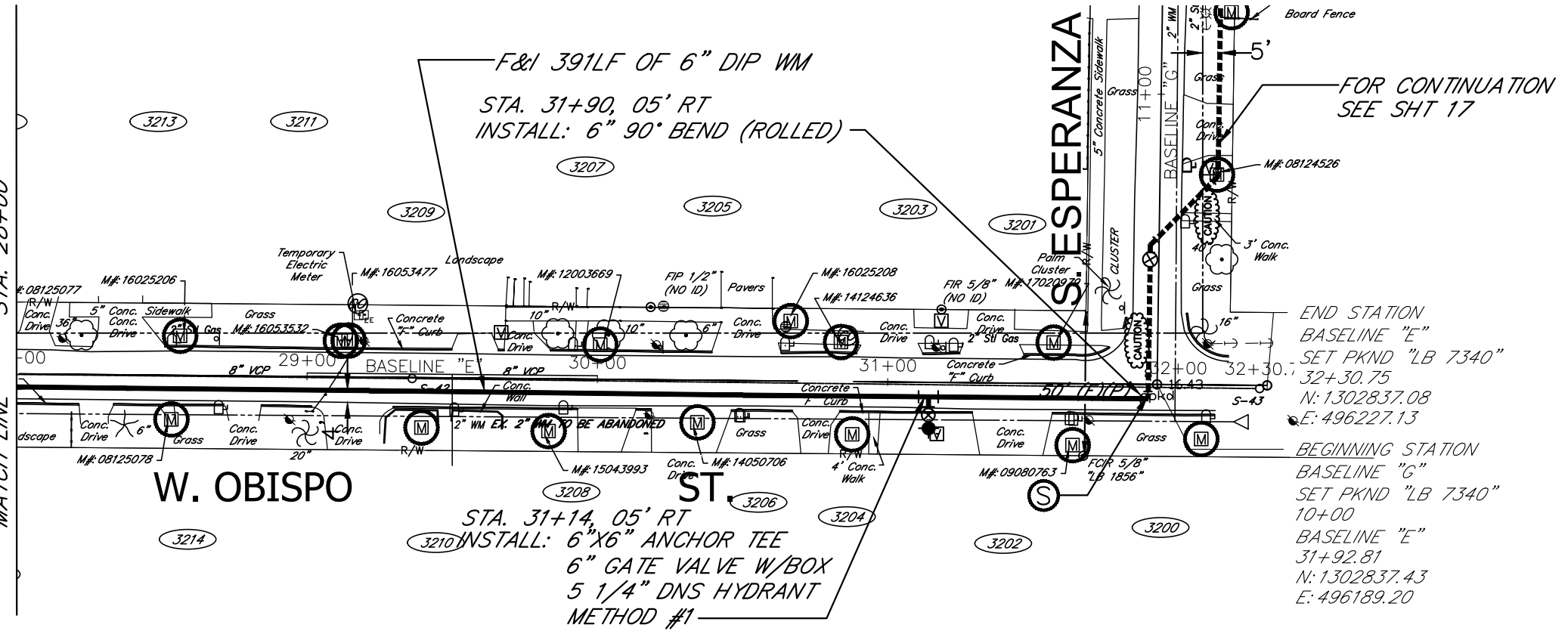
W. Obispo Street
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
ASBUILT FILE NUMBER
15 OF 29



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STA. 28+00



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P.E. #79453

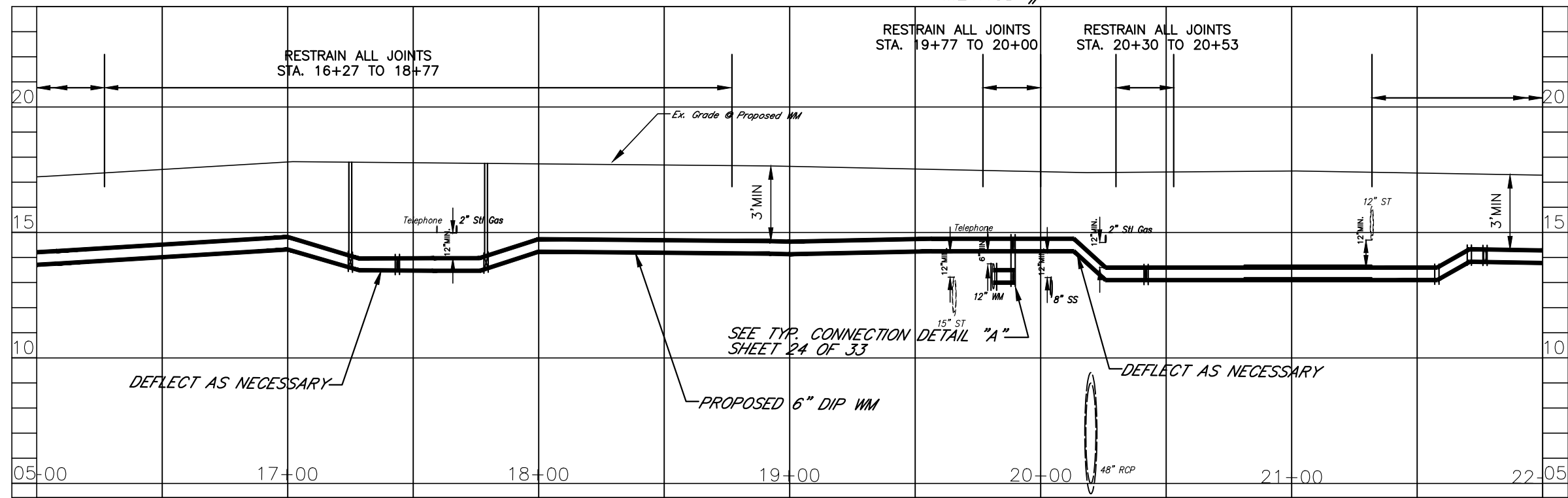
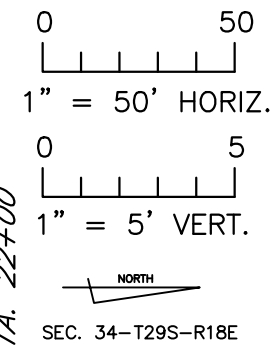
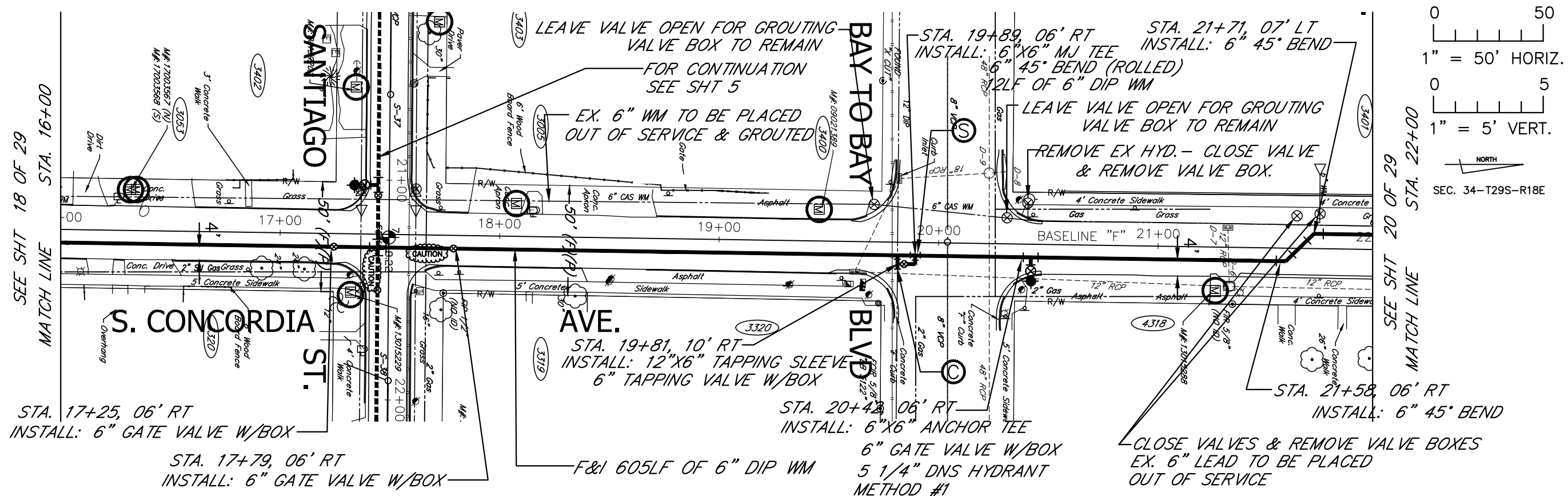
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W. Obispo Street
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
ASBUILT FILE NUMBER
16 OF 29



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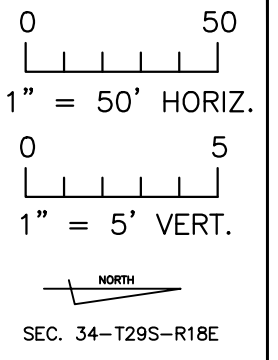
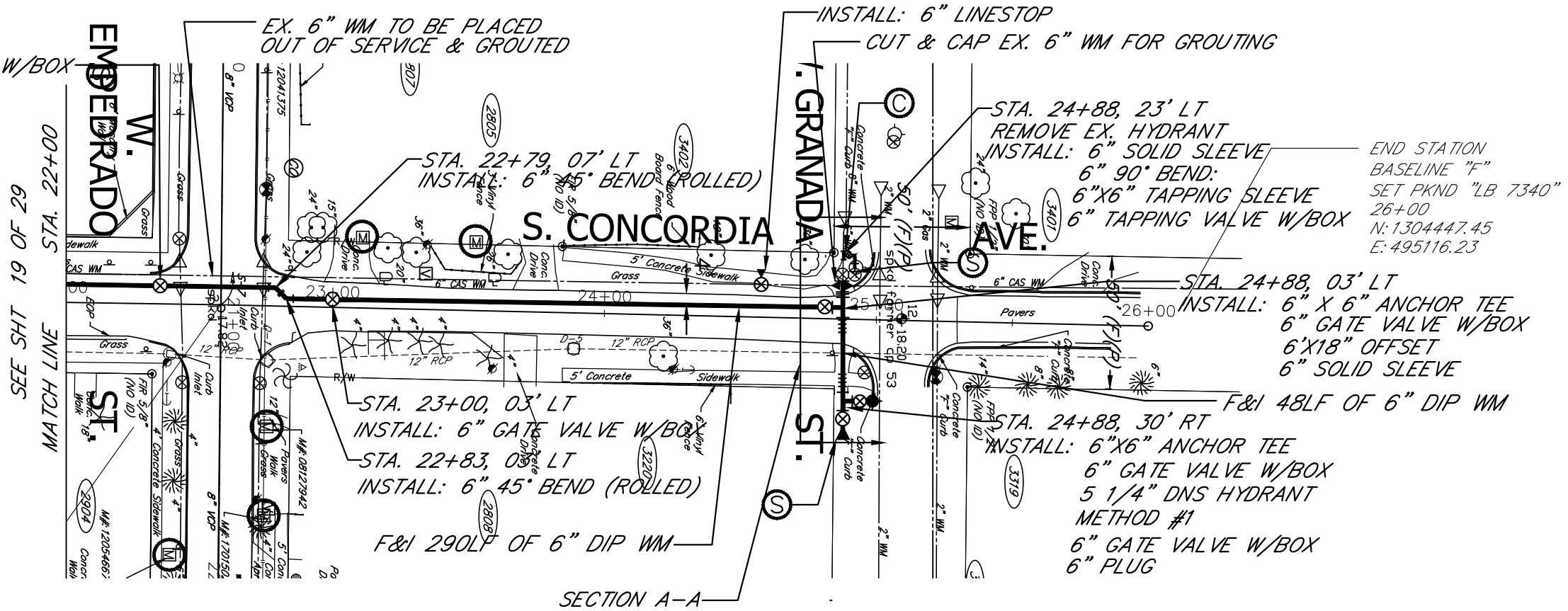
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S. Concordia Avenue
 PALMA CEIA PHASE II

Atlas Page
 K09-1
 k10-4

W.O. 8401
 ASBUILT FILE NUMBER
 19 OF 29

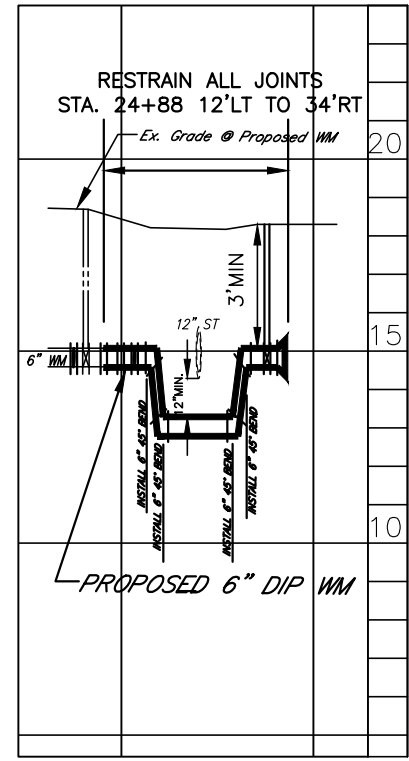
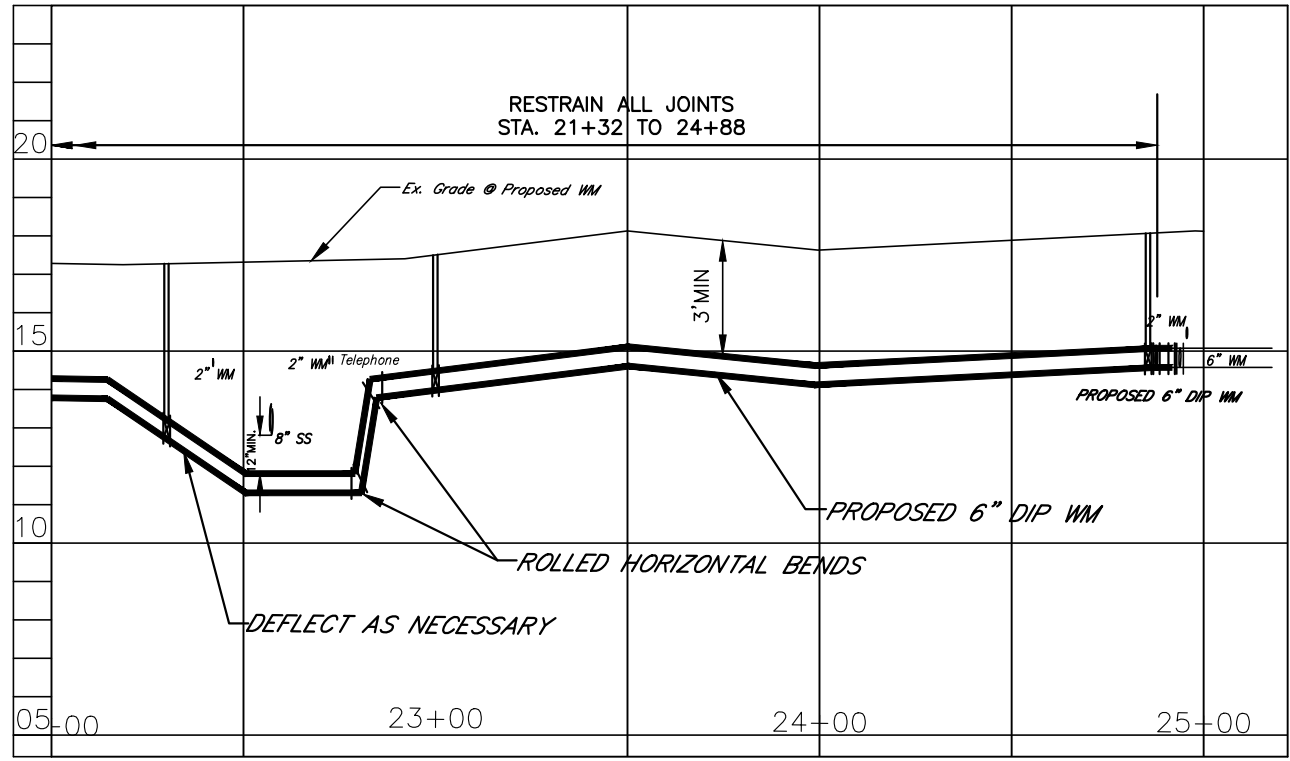
STA. 22+30, 07' LT
INSTALL: 6" GATE VALVE W/BOX



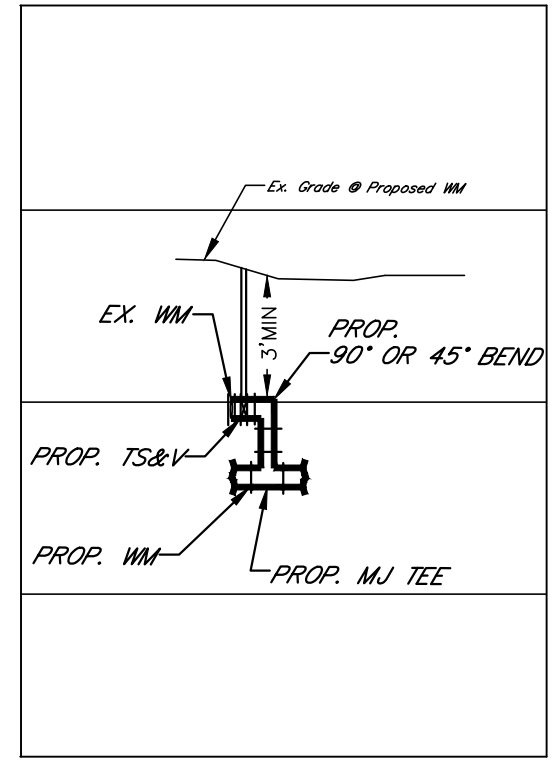
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MATCH LINE STA. 22+00

SECTION A-A



SECTION A-A
STA. 24+88
LOOKING NORTH ON CONCORDIA AVE.



TYP. CONNECTION DETAIL "A"
N.T.S.



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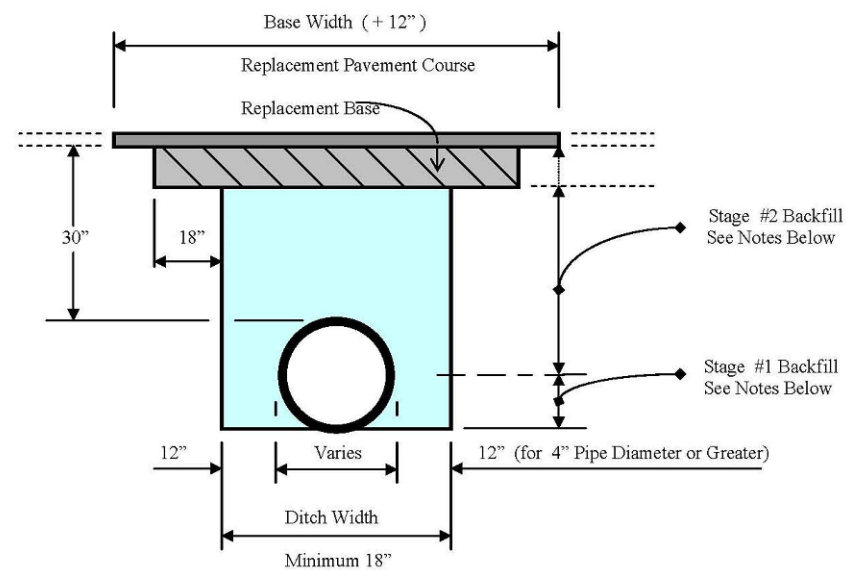
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PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
ASBUILT FILE NUMBER
20 OF 29



FLEXIBLE PAVEMENT NOTES:

PAVEMENT SHALL BE MECHANICALLY SAWED.

PAVEMENT, BASE, AND BACKFILL MATERIAL SHALL BE PLACED IN ACCORDANCE WITH CITY OF TAMPA PAVEMENT RESTORATION REQUIREMENTS, LATEST STANDARD SPECIFICATIONS.

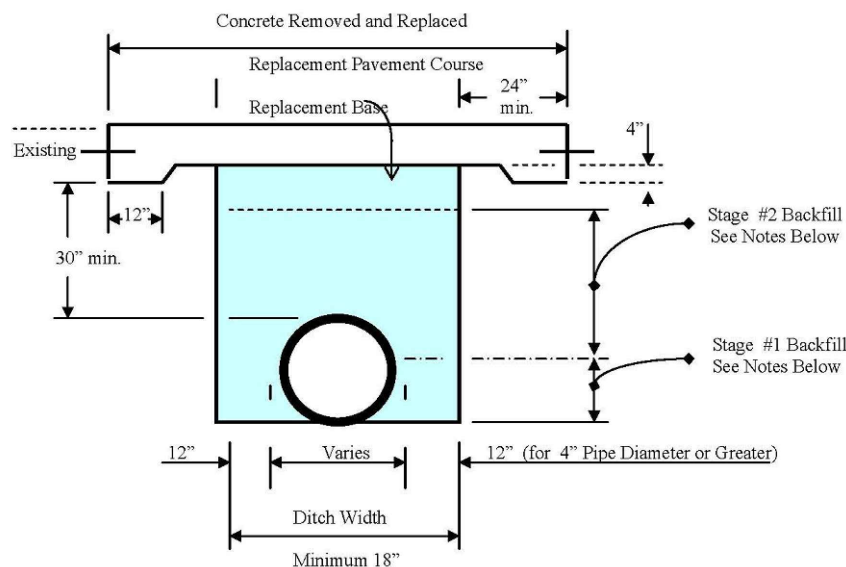
IN STAGE #1, CONSTRUCT COMPACTED FILL BENEATH THE HAUNCHES OF THE PIPE, USING MECHANICAL TAMPS SUITABLE FOR THIS PURPOSE. THIS COMPACTION APPLIES TO THE MATERIAL PLACED BENEATH THE HAUNCHES OF THE PIPE AND ABOVE ANY BEDDING.

IN STAGE #2, CONSTRUCT COMPACTED FILL ALONG SIDES OF THE PIPE AND UP TO THE BOTTOM OF THE BASE. COMPACT MATERIAL USING MECHANICAL TAMPS SUITABLE TO ACHIEVE DENSITY MEETING 98% OF AASHTO T-180, LIFTS NOT TO EXCEED 12" COMPACTED.

IF MECHANICAL COMPACTION IS DIFFICULT TO ACHIEVE, THEN FLOWABLE FILL MAY BE USED. IN STAGE #1, PLACE FLOWABLE FILL MIDWAY UP ON BOTH SIDES OF THE UTILITY. ALLOW TO HARDEN BEFORE PLACING STAGE #2. IF A METHOD IS PROVIDED TO PREVENT FLOATATION FROM OCCURRING, STAGE #1 AND #2 CAN BE COMBINED, IF APPROVED BY THE ENGINEER.

NOTE: SPECIFICATION STANDARDS AND REQUIREMENTS NOT ILLUSTRATED SHALL MEET LATEST FDOT STANDARD SPECIFICATIONS.

| | | | | |
|------------------------|-----------------------|---------------------------|-------------------------------------------------|-------|
| TAMPA WATER DEPARTMENT | APPROVED Aug. 2017 | REVISED _____ _____ | STANDARD DETAILS FOR RESTORATION WITHIN ROADWAY | 2.00A |
|------------------------|-----------------------|---------------------------|-------------------------------------------------|-------|



RIGID PAVEMENT NOTES:

PAVEMENT SHALL BE MECHANICALLY SAWED AND RESTORED TO CONFORM WITH EXISTING PAVEMENT JOINTS.

HIGH EARLY STRENGTH CEMENT CONCRETE (3000 PSI) MEETING WITH REQUIREMENTS OF FDOT STANDARD SPECIFICATION 346, LATEST EDITION SHALL BE USED FOR RIGID PAVEMENT REPLACEMENT.

PAVEMENT, BASE, AND BACKFILL MATERIAL SHALL BE PLACED IN ACCORDANCE WITH CITY OF TAMPA PAVEMENT RESTORATION REQUIREMENTS, LATEST STANDARD SPECIFICATIONS.

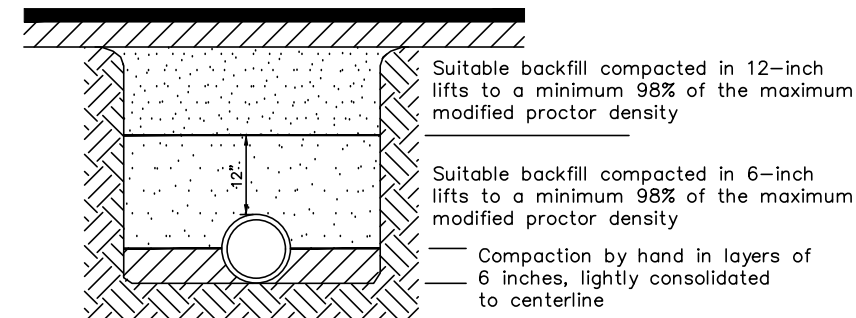
IN STAGE #1, CONSTRUCT COMPACTED FILL BENEATH THE HAUNCHES OF THE PIPE, USING MECHANICAL TAMPS SUITABLE FOR THIS PURPOSE. THIS COMPACTION APPLIES TO THE MATERIAL PLACED BENEATH THE HAUNCHES OF THE PIPE AND ABOVE ANY BEDDING.

IN STAGE #2, CONSTRUCT COMPACTED FILL ALONG SIDES OF THE PIPE AND UP TO THE BOTTOM OF THE BASE. COMPACT MATERIAL USING MECHANICAL TAMPS SUITABLE TO ACHIEVE DENSITY MEETING 98% OF AASHTO T-180, LIFTS NOT TO EXCEED 12" COMPACTED.

IF MECHANICAL COMPACTION IS DIFFICULT TO ACHIEVE, THEN FLOWABLE FILL MAY BE USED. IN STAGE #1, PLACE FLOWABLE FILL MIDWAY UP ON BOTH SIDES OF THE UTILITY. ALLOW TO HARDEN BEFORE PLACING STAGE #2. IF A METHOD IS PROVIDED TO PREVENT FLOATATION FROM OCCURRING, STAGE #1 AND #2 CAN BE COMBINED, IF APPROVED BY THE ENGINEER.

NOTE: SPECIFICATION STANDARDS AND REQUIREMENTS NOT ILLUSTRATED SHALL MEET LATEST FDOT STANDARD SPECIFICATIONS.

| | | | | |
|------------------------|-----------------------|---------------------------|-------------------------------------------------|-------|
| TAMPA WATER DEPARTMENT | APPROVED Aug. 2017 | REVISED _____ _____ | STANDARD DETAILS FOR RESTORATION WITHIN ROADWAY | 2.00B |
|------------------------|-----------------------|---------------------------|-------------------------------------------------|-------|



NOTES:

1. Type 2 trench is defined as a flat-bottom trench. Lightly consolidate backfill to centerline of pipe.
2. This standard shall be utilized in the absence of specific standards. The standard of the agency controlling the Right-of-Way shall govern unless otherwise directed by the Engineer.
3. Suitable backfill shall be defined as material free from cinders, ashes, refuse, clay, organic matter, boulders, rocks or stones, or other material that in the opinion of the Engineer is unsuitable.
4. Non-pervious areas shall mean any concrete or asphalt curb, sidewalk, trail, driveway, or roadway.

| | | | | |
|------------------------|-----------------------|---------------------------|-----------------------------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Feb. 2014 | REVISED _____ _____ | TRENCHING, BEDDING AND BACKFILL DETAIL FOR NON-PERVIOUS (paved) AREAS | 2.01 |
|------------------------|-----------------------|---------------------------|-----------------------------------------------------------------------|------|



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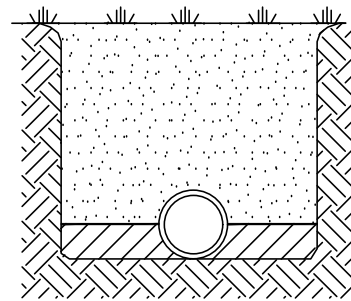
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DETAILS
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
21 OF 29



Suitable backfill compacted in 12-inch lifts to a minimum 95% of the maximum modified proctor density

Compaction by hand in layers of 6 inches, lightly consolidated to centerline

NOTES:

1. Type 2 trench is defined as a flat-bottom trench. Lightly consolidate backfill to centerline of pipe.
2. This standard shall be utilized in the absence of specific standards. The standard of the agency controlling the Right-of-Way shall govern unless otherwise directed by the Engineer.
3. Suitable backfill shall be defined as material free from cinders, ashes, refuse, clay, organic matter, boulders, rocks or stones, or other material that in the opinion of the Engineer is unsuitable.
4. Non-paved area is a pervious area. If any part of the trench is within a concrete or asphalt curb, sidewalk, driveway, or roadway, then Standard Detail 2.01 applies.

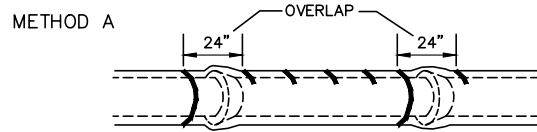
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Sept. 2011

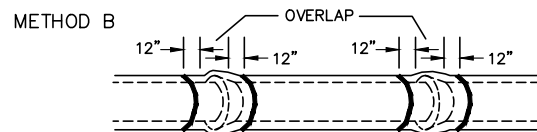
REVISED
JRD 9/2011

TRENCHING, BEDDING AND BACKFILL DETAIL FOR PERVIOUS (non-paved) AREAS

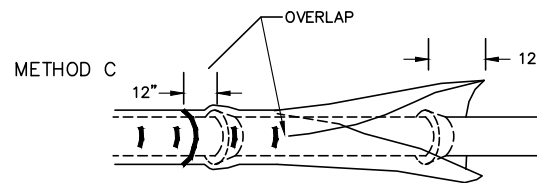
2.02



Polyethylene tube is cut into lengths approximately two feet longer than the pipe section and placed around it. After the pipe joint is assembled, the polyethylene tube is made to overlap the joint and the overlap secured in place. Since the tube is considerably larger than the barrel of pipe, it is made to fit snugly by folding over at the top and securing with tape every 24" along the pipe section.



Polyethylene tube is cut one foot shorter than the length of the pipe section. After placement of the pipe, it is folded and secured snugly overall. A three foot length of polyethylene tube placed over the end of the preceding section is then pulled in place over the joint after assembly and secured.



Polyethylene sheet is cut to a length two feet longer than the pipe section. The sheet is wrapped around the pipe so that it overlaps circumferentially over the top quadrant of the pipe, then secured. After joint assembly, the surplus length of polyethylene film is secured around the joint, providing an overlap of each joint. Tape at each joint and at 3' intervals in between.

- NOTES:
1. Use blue polyethylene film and tape only.
 2. Polyethylene film shall be a minimum of 8 mil. thickness.
 3. Spiral Wrap not required with polywrap.

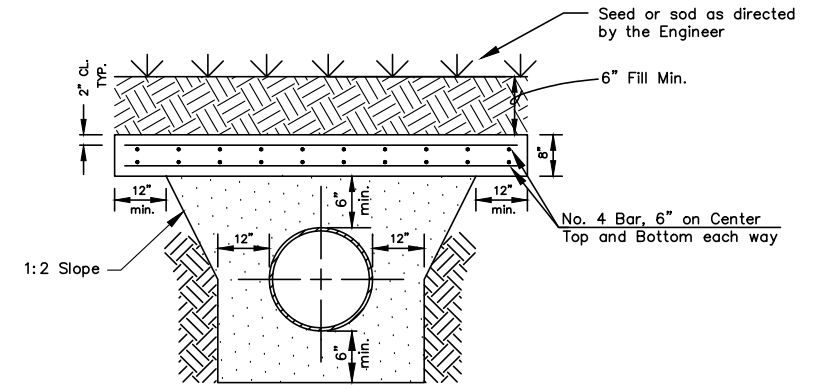
TAMPA WATER DEPARTMENT

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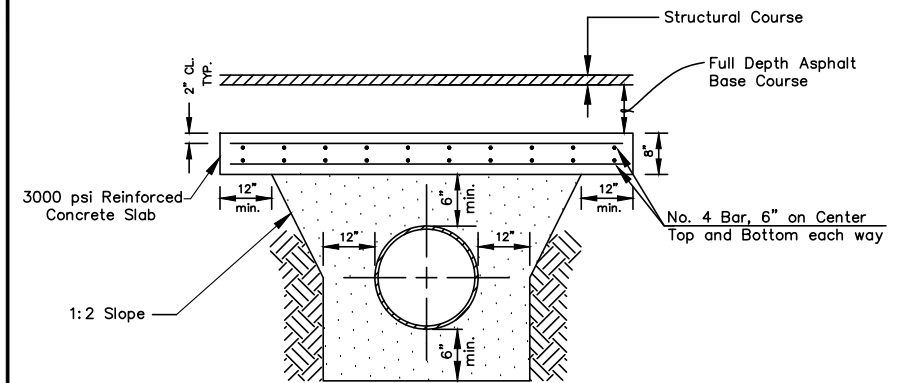
REVISED
JRD 4/09
JRD 9/2011

POLYETHYLENE ENCASEMENT INSTALLATION DETAIL

2.05



GRASSED SECTION



ROADWAY SECTION

NOTES:

1. Structural course and base course requirement shall be established by the agency having jurisdiction.
2. Shock pads for mains too shallow for the above configuration shall be designed on a case-by-case basis.

TAMPA WATER DEPARTMENT

APPROVED
Sept. 2011

REVISED

REINFORCED CONCRETE SHOCK PAD (FOR COVER LESS THAN 2.5')

2.06



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DETAILS
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
22 OF 29

ELEVATION

SECTION A-A

SECTION B - B

Notes:

- Reinforcing to be standard 60 ksi deformed bar.
- Concrete $f'c=3000$ psi
- Precast thrust blocking to be used only on fire hydrants and 8" or smaller fittings, if allowed by the Engineer.
- A 12"x18" spacer block shall be placed between the precast thrust block and fitting if so directed by the Engineer.

| | | | | |
|------------------------|-------------------------|---------|-------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED April, 2009 | REVISED | PRECAST CONCRETE THRUST BLOCK | 2.10 |
|------------------------|-------------------------|---------|-------------------------------|------|

RESTRAIN "A" (LF)

| Fitting/OD | 4" | 6" | 8" | 12" | 16" | 20" | 24" | 30" | 36" |
|----------------|----|----|-----|-----|-----|-----|-----|-----|-----|
| 11-1/4" | 3 | 4 | 6 | 8 | 9 | 10 | 12 | 15 | 17 |
| 22-1/2" | 6 | 9 | 12 | 16 | 17 | 21 | 25 | 30 | 35 |
| 45°/Offset | 13 | 18 | 24 | 34 | 36 | 44 | 52 | 62 | 73 |
| 90° | 31 | 44 | 58 | 82 | 87 | 106 | 125 | 151 | 176 |
| Plug/Cap/Valve | 55 | 78 | 102 | 143 | 143 | 174 | 204 | 245 | 285 |

Notes:

- This table is based on:
 - maximum test pressure of 190 psi
 - laying condition type 2 (see Details 2.01 and 2.02)
 - poor soil conditions
 - using D.I.P.
 - 3 feet of cover for 12" and smaller mains;
 - 4 feet of cover for 16" and larger mains
 - Horizontal bends only - Engineer to submit calculations for vertical restraints
- For polywrapped D.I.P., increase the footage to restrain by 25%.
- For PVC pipe, increase the footage to restrain by 20%.
- "Restrained" pipe shall be Manufactured Restrained Joint pipe, push-on joint pipe restrained w/gasket-type "Gripper Restraints", or mechanical joint pipe restrained by Megalug (or approved equivalent).
- Any additional fittings within the restrained section shall be restrained accordingly.

| | | | | |
|------------------------|-------------------------|---------|-----------------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED April, 2009 | REVISED | RESTRAINED JOINT STANDARD FOR BENDS, PLUGS, CAPS & VALVES | 2.11 |
|------------------------|-------------------------|---------|-----------------------------------------------------------|------|

RESTRAIN (LF)

| Fitting Size | Restrained (LF) | | | Unrestrained Straight Run (LF) |
|--------------|-----------------|-------------|-------------|--------------------------------|
| | Tee "A" | Reducer "B" | Reducer "C" | |
| 4x4 | 25 | * | * | * |
| 6x4 | 11 | 40 | 59 | * |
| 6x6 | 48 | * | * | * |
| 8x4 | A.T. | 73 | 142 | * |
| 8x6 | 38 | 43 | 56 | * |
| 8x8 | 72 | * | * | * |
| 12x4 | A.T. | 124 | 364 | * |
| 12x6 | 19 | 104 | 208 | * |
| 12x8 | 57 | 76 | 115 | * |
| 12x12 | 114 | * | * | * |
| 16x6 | A.T. | 121 | 321 | * |
| 16x8 | 27 | 104 | 212 | * |
| 16x12 | 77 | 61 | 82 | * |
| 16x16 | 118 | * | * | * |
| 20x6 | A.T. | 156 | 527 | * |
| 20x8 | 14 | 144 | 369 | * |
| 20x12 | 68 | 109 | 186 | * |
| 20x16 | 111 | 61 | 77 | * |
| 20x20 | 149 | * | * | * |
| 24x6 | A.T. | 189 | 777 | * |
| 24x8 | A.T. | 179 | 560 | * |
| 24x12 | 59 | 150 | 313 | * |
| 24x16 | 104 | 111 | 172 | * |
| 24x20 | 144 | 61 | 74 | * |
| 24x24 | 179 | * | * | * |
| 30x6 | A.T. | 234 | 1227 | * |
| 30x8 | A.T. | 226 | 904 | * |
| 30x12 | 45 | 204 | 542 | * |
| 30x16 | 94 | 173 | 341 | * |
| 30x20 | 135 | 134 | 208 | * |
| 30x24 | 172 | 86 | 110 | * |
| 30x30 | 220 | * | * | * |
| 36x6 | A.T. | 276 | 1784 | * |
| 36x8 | A.T. | 269 | 1328 | * |
| 36x12 | 30 | 251 | 824 | * |
| 36x16 | 83 | 226 | 551 | * |
| 36x20 | 127 | 195 | 373 | * |
| 36x24 | 165 | 156 | 245 | * |
| 36x30 | 215 | 86 | 106 | * |
| 36x36 | 261 | * | * | * |

Notes:

- This table is based on:
 - maximum test pressure of 190 psi
 - laying condition type 2 (see Details 2.01 and 2.02)
 - poor soil conditions
 - using D.I.P.
 - 3 feet of cover for 12" and smaller mains;
 - 4 feet of cover for 16" and larger mains
 - Horizontal bends only - Engineer to submit calculations for vertical restraints
- Restrict For Reducers: If "C" straight run of pipe downstream of reducer not available, then restrain "B" upstream of reducer.
- For polywrapped D.I.P., increase the footage to restrain by 25%.
- For PVC pipe, increase the footage to restrain by 20%.
- "Restrained" pipe shall be Manufactured Restrained Joint pipe, push-on joint pipe restrained w/gasket-type "Gripper Restraints", or mechanical joint pipe restrained by Megalug (or approved equivalent).
- Any additional fittings within the restrained section shall be restrained accordingly.

| | | | | |
|------------------------|-------------------------|---------|-------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept., 2011 | REVISED | RESTRAINED JOINT STANDARD FOR TEES AND REDUCERS | 2.12 |
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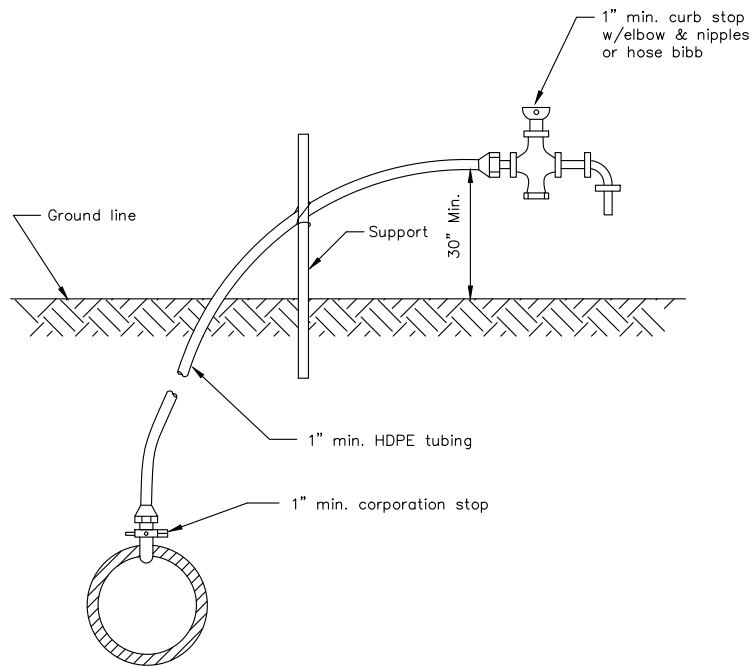
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DETAILS
PALMA CEIA PHASE II

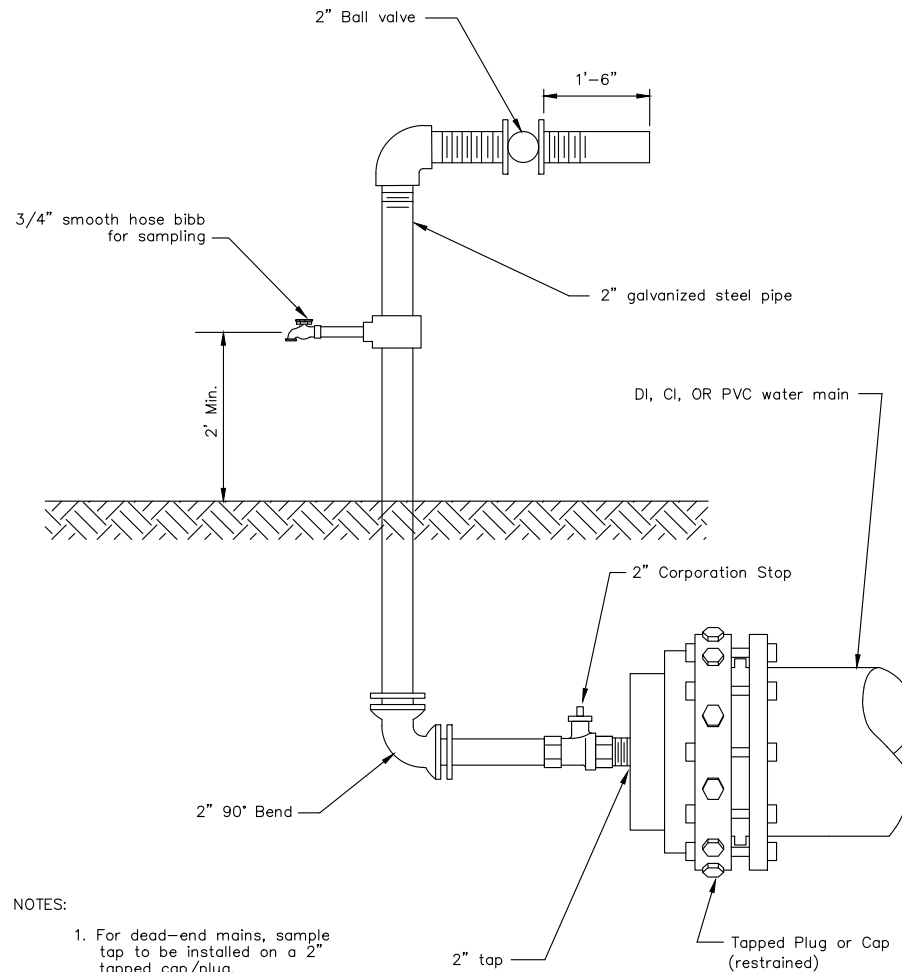
Atlas Page
K09-1
k10-4

W.O. 8401
23 OF 29



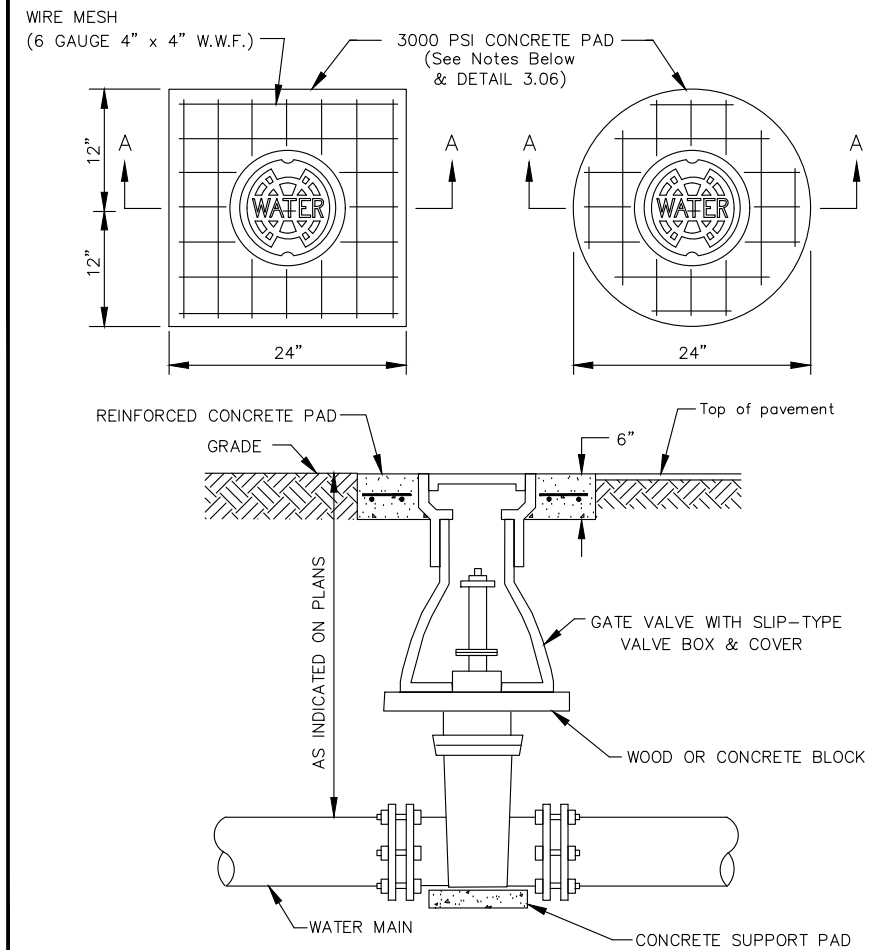
- Notes:
1. Water outlet shall be held up off the ground so as not to interfere with the sampling process.
 2. Corporation stop to be removed and brass plug installed in tapped main after operation.

| | | | | |
|------------------------|------------------------|------------------------------------|------------------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED _____ _____ _____ | TEMPORARY SAMPLE TAP INSTALLATION w/DI, CI, OR PVC PIPE | 2.18 |
|------------------------|------------------------|------------------------------------|------------------------------------------------------------|------|



- NOTES:
1. For dead-end mains, sample tap to be installed on a 2" tapped cap/plug.
 2. Flushing/sampling arrangement to be removed after disinfection of main line.
 3. After operation complete, install brass plug at corporation stop.

| | | | | |
|------------------------|------------------------|------------------------------------|-------------------------------------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED _____ _____ _____ | TEMPORARY SAMPLE TAP INSTALLATION FOR END OF LINE W/DI, CI, OR PVC PIPE | 2.19 |
|------------------------|------------------------|------------------------------------|-------------------------------------------------------------------------------|------|



- Notes:
1. Circular or square concrete pad required for all valve box installations.
 2. Cast iron valve boxes shall be firmly supported and centered and plumb over the operating nut of the valve. Valve box cover shall be flush with the surface of the finished pavement, or grade or at such other level as may be directed by the Department.
 3. "Blue" Water Valve locate markers (curb markers) required for all valve installations.
 4. Embed bronze valve info disk into concrete valve box collar, per Detail 3.06.

| | | | | |
|------------------------|------------------------|------------------------------------|--------------------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2015 | REVISED _____ _____ _____ | VALVE INSTALLATION W/VALVE BOX & PAD FOR DI OR CI PIPE | 3.01 |
|------------------------|------------------------|------------------------------------|--------------------------------------------------------------|------|



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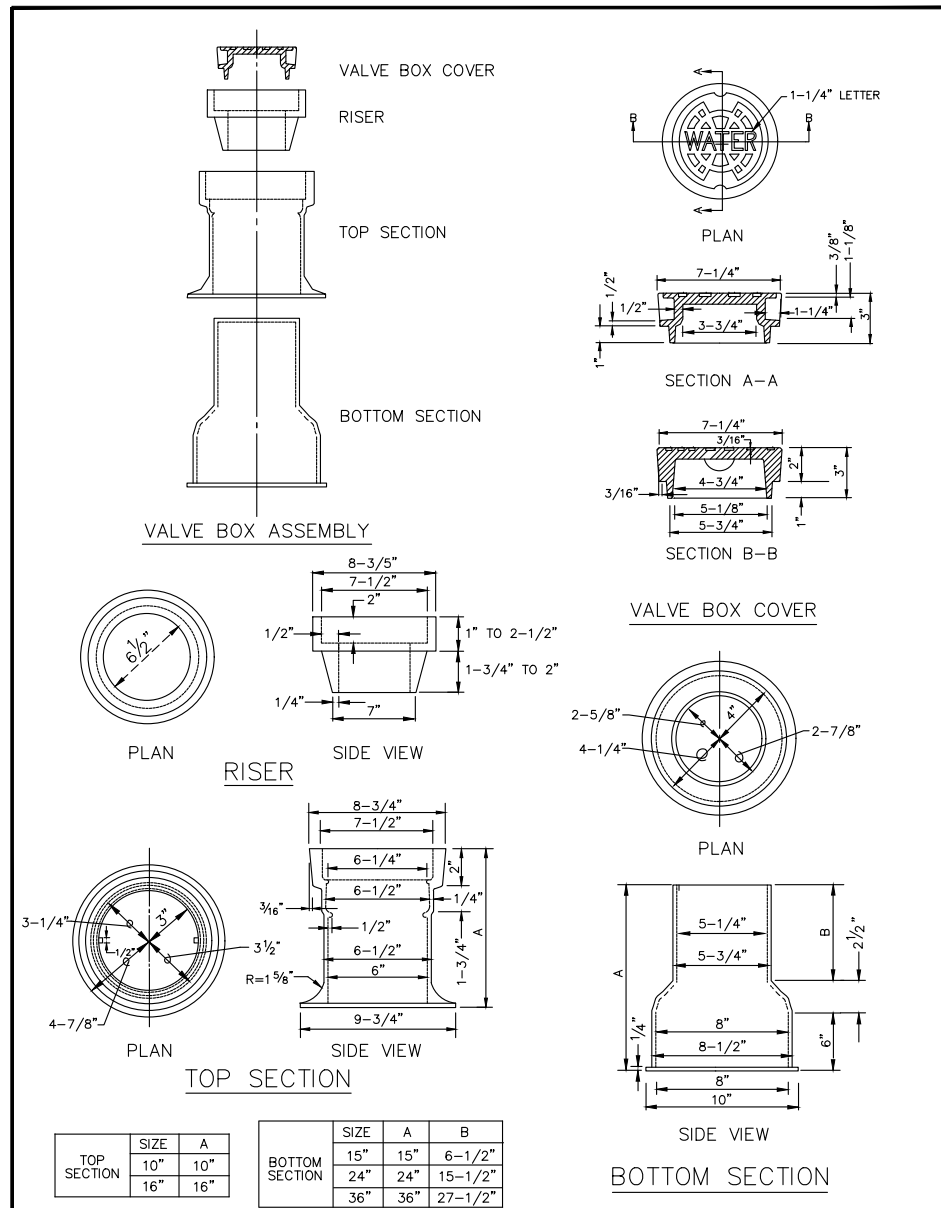
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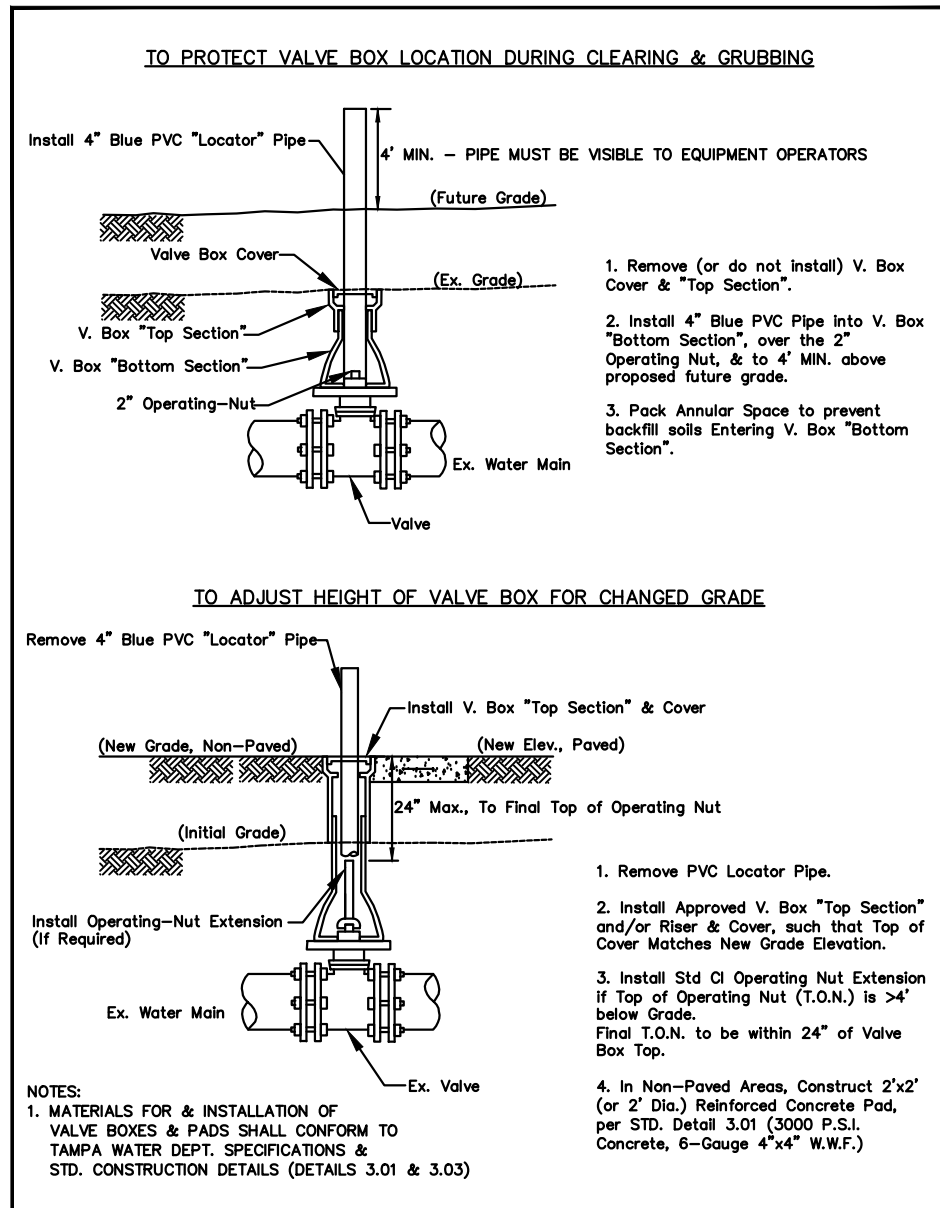
DETAILS
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

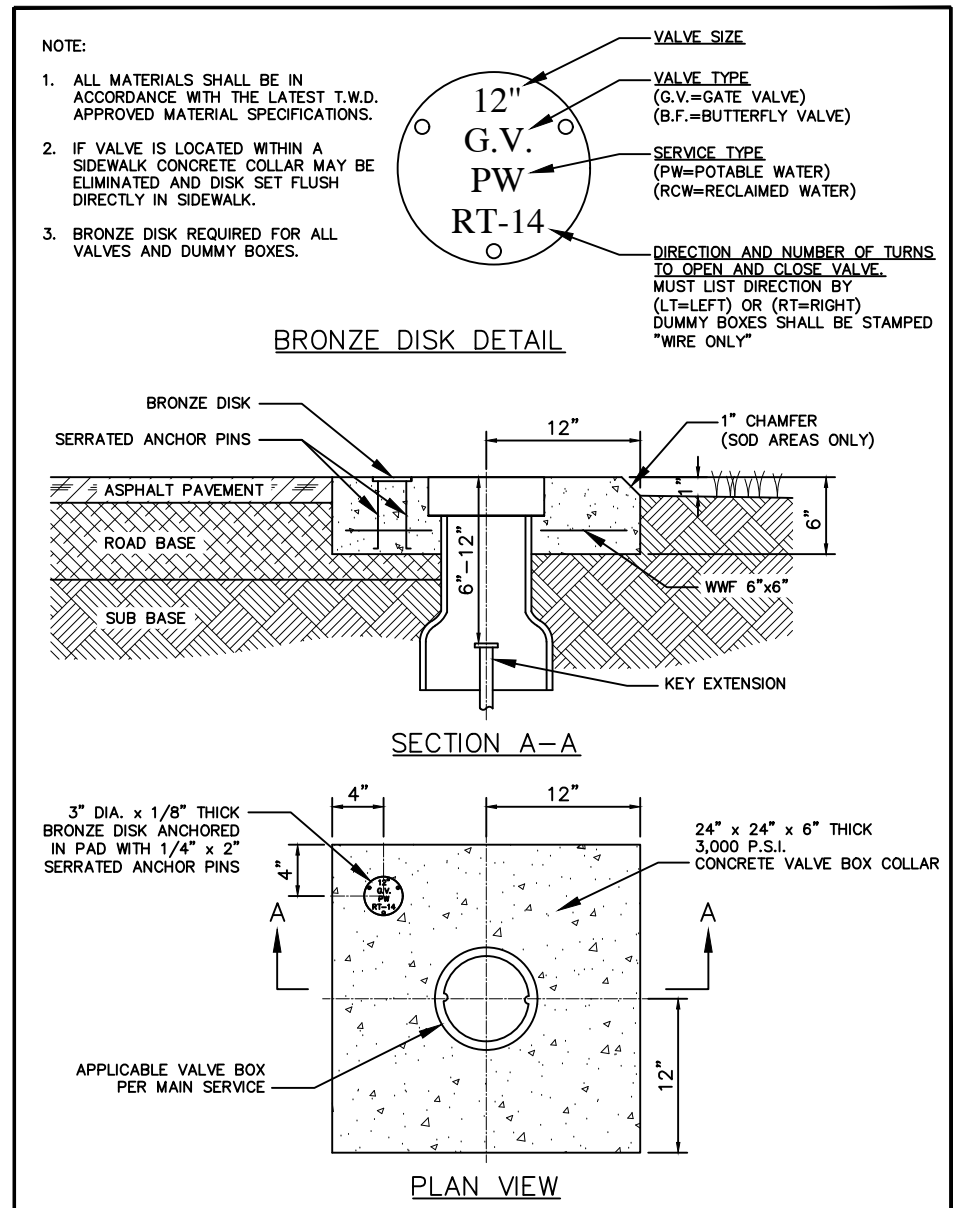
W.O. 8401
24 OF 29



| | | | | |
|------------------------|------------------------|---------|----------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED | VALVE BOX, SLIP-TYPE | 3.04 |
|------------------------|------------------------|---------|----------------------|------|



| | | | | |
|------------------------|-----------------|---------------------|-------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED RNM | REVISED Jan 2017 | VALVE BOX (V. BOX) ADJUSTMENTS FOR GRADE CHANGE | 3.05 |
|------------------------|-----------------|---------------------|-------------------------------------------------|------|



| | | | | |
|------------------------|-----------------|-----------------------|----------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED RNM | REVISED SEPT. 2018 | CONCRETE VALVE BOX COLLAR DETAIL | 3.06 |
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RORY A JONES, P.E.
CITY OF TAMPA WATER DEPT.
306 E. JACKSON ST., 5E
TAMPA, FLA. 33602
P.E. #79453

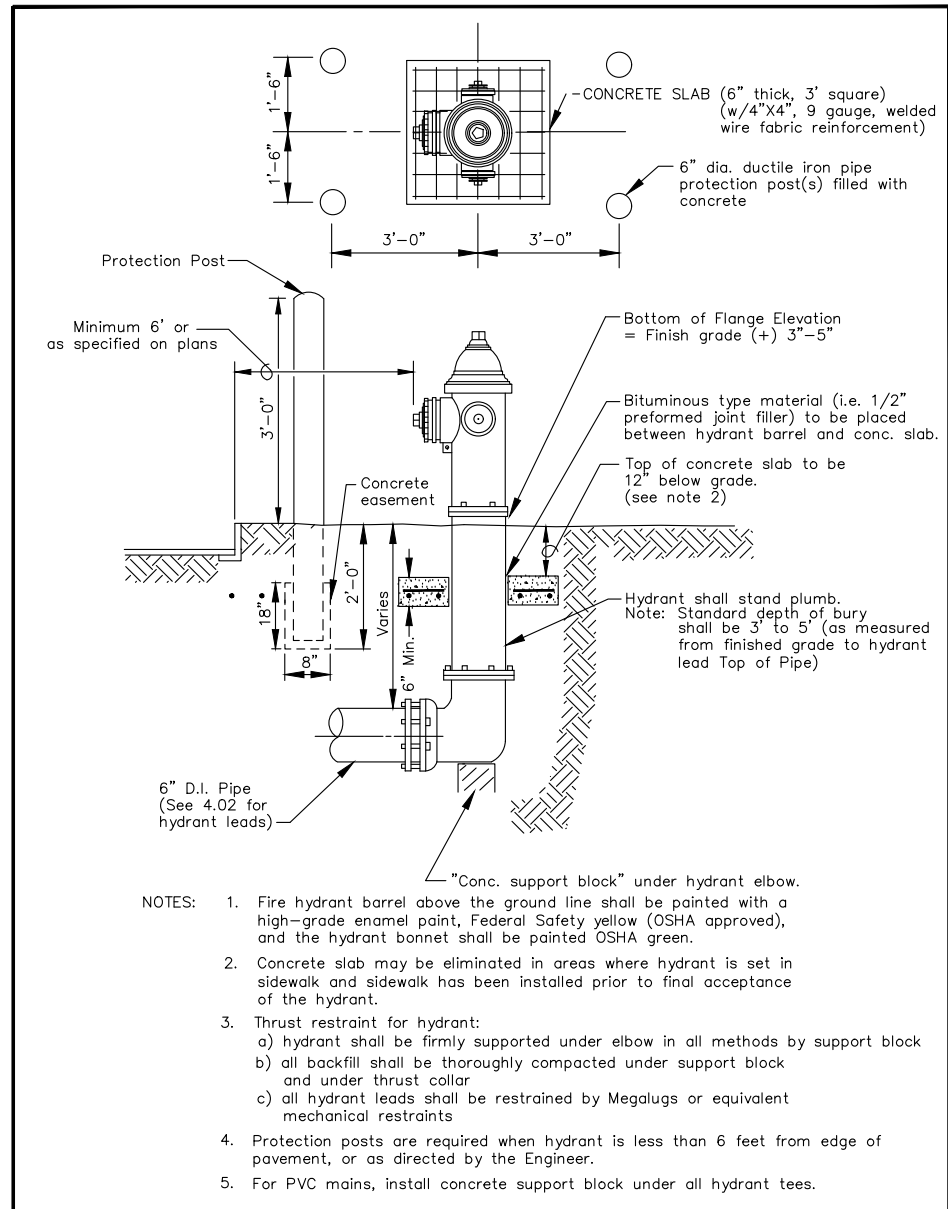
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DETAILS
PALMA CEIA PHASE II

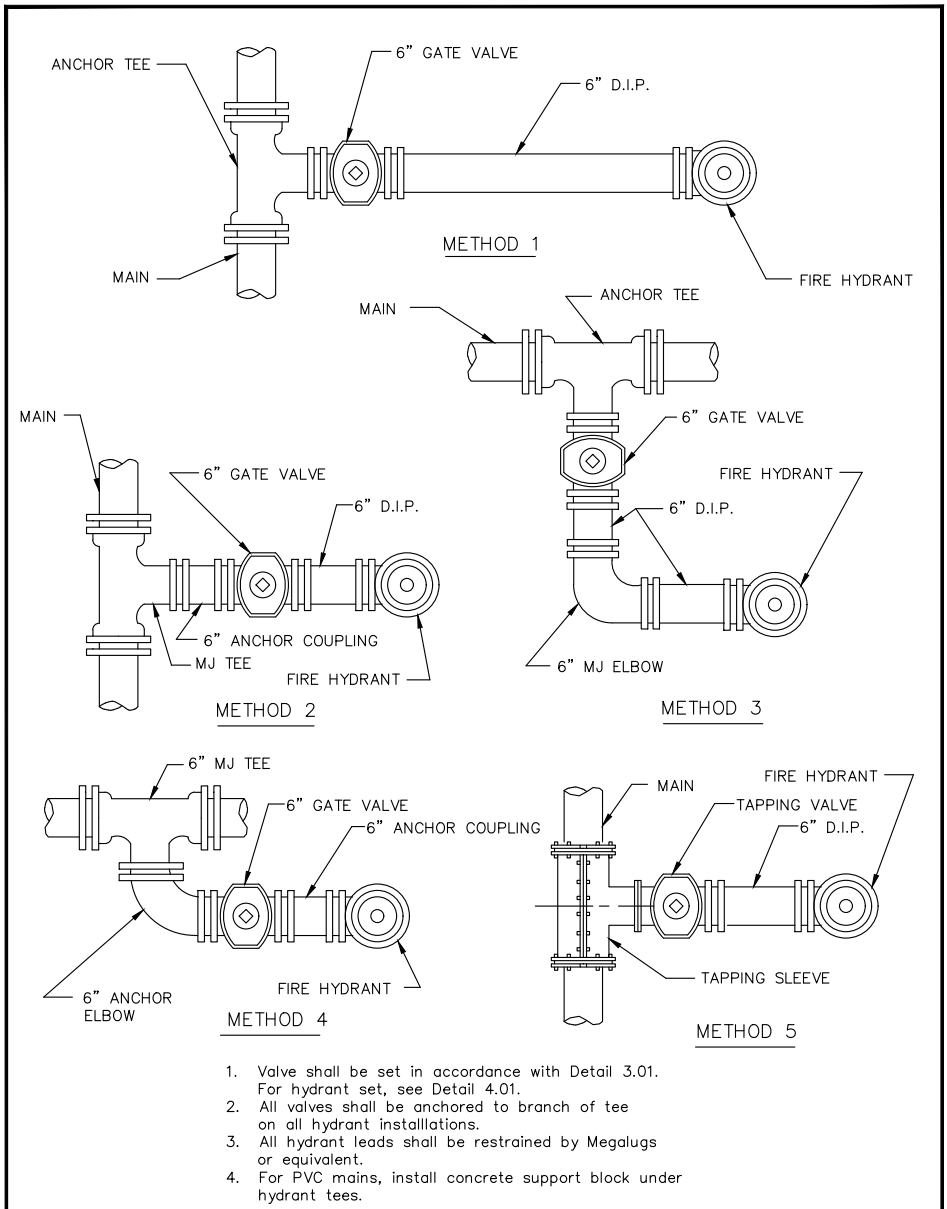
Atlas Page
K09-1
k10-4

W.O. 8401
25 OF 29



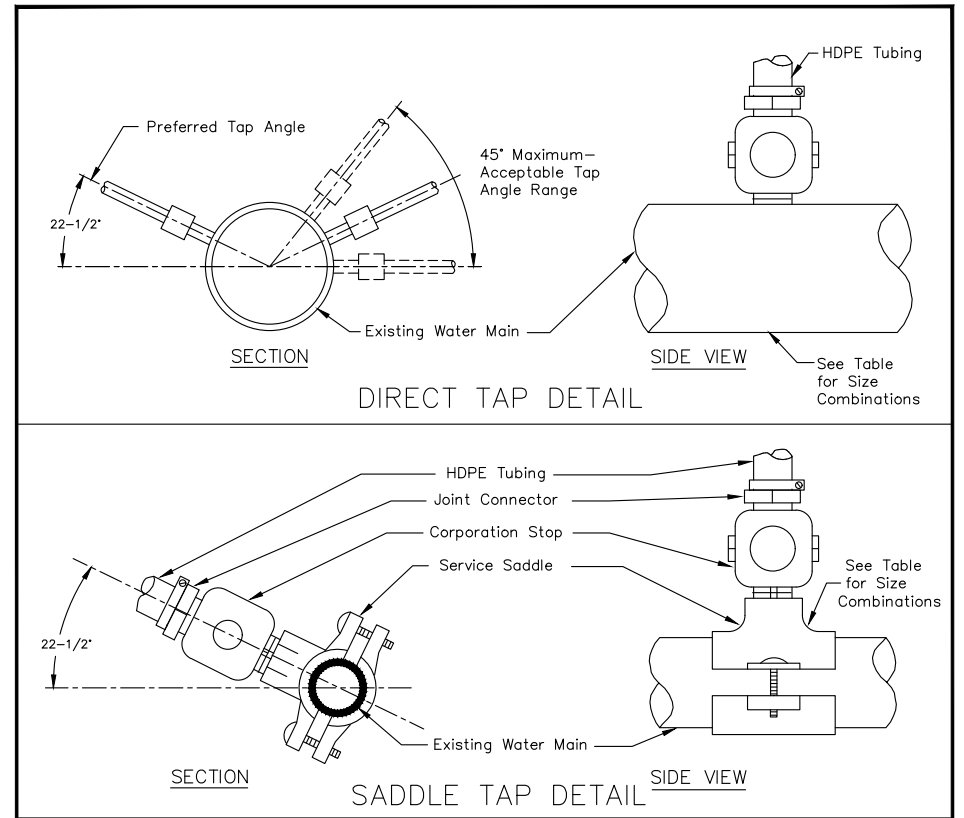
- NOTES:
1. Fire hydrant barrel above the ground line shall be painted with a high-grade enamel paint, Federal Safety yellow (OSHA approved), and the hydrant bonnet shall be painted OSHA green.
 2. Concrete slab may be eliminated in areas where hydrant is set in sidewalk and sidewalk has been installed prior to final acceptance of the hydrant.
 3. Thrust restraint for hydrant:
 - a) hydrant shall be firmly supported under elbow in all methods by support block
 - b) all backfill shall be thoroughly compacted under support block and under thrust collar
 - c) all hydrant leads shall be restrained by Megalugs or equivalent mechanical restraints
 4. Protection posts are required when hydrant is less than 6 feet from edge of pavement, or as directed by the Engineer.
 5. For PVC mains, install concrete support block under all hydrant tees.

| | | | | |
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| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED | FIRE HYDRANT INSTALLATION | 4.01 |
|------------------------|------------------------|---------|---------------------------|------|



1. Valve shall be set in accordance with Detail 3.01. For hydrant set, see Detail 4.01.
2. All valves shall be anchored to branch of tee on all hydrant installations.
3. All hydrant leads shall be restrained by Megalugs or equivalent.
4. For PVC mains, install concrete support block under hydrant tees.

| | | | | |
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| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED | FIRE HYDRANT METHODS OF INSTALLATION | 4.02 |
|------------------------|------------------------|---------|--------------------------------------|------|



| PIPE | SIZE | CORPORATION TAP SIZE | |
|--------|------------|----------------------|----|
| | | 1" | 2" |
| DI/CI | 12" | DT | DT |
| | 8" | DT | SS |
| | 6" | DT | SS |
| | 4" | SS | SS |
| PVC | 2", 2-1/2" | SS | NA |
| | 8" C-900 | SS | SS |
| | 6" C-900 | SS | SS |
| | 2"-SDR21 | SS | NA |
| OTHER* | 12" | SS | SS |
| | 10" | SS | SS |
| | 8" | SS | SS |
| | 6" | SS | SS |
| | 4" | SS | NA |
| | 3" | SS | NA |
| | 2", 2-1/2" | SS | NA |

LEGEND
 DT- Direct Tap Can be Allowed
 SS- Service Saddle is Required
 NA- Not Allowed
 *Asbestos Cement, Steel, Galvanized Iron Pipe, Non Std PVC, etc.

| | | | | |
|------------------------|------------------------|---------|----------------------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED | TAPPING DETAIL FOR 3/4", 1", 1-1/2" & 2" W/DI, CI, OR PVC PIPE | 5.01 |
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RORY A JONES, P.E.
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 306 E. JACKSON ST., 5E
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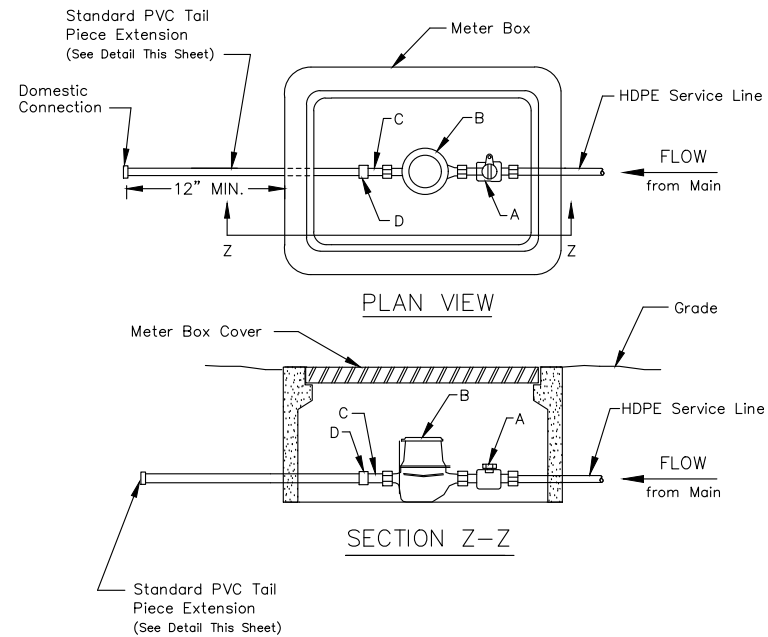
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DETAILS
 PALMA CEIA PHASE II

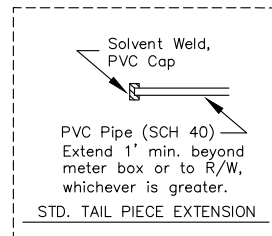
Atlas Page
 K09-1
 k10-4

W.O. 8401
 26 OF 29



METER INSTALLATION
-PARTS LIST-

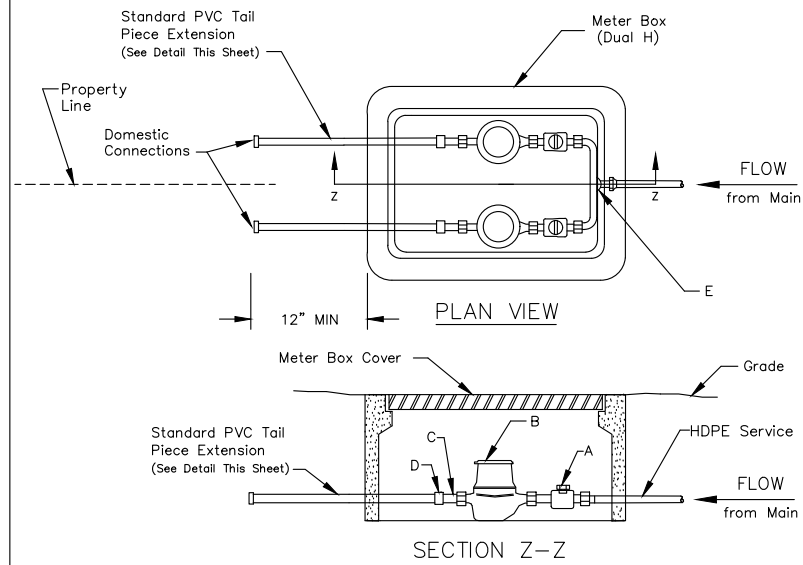
| ITEM | DESCRIPTION |
|------|-----------------------------------------|
| A | HDPE CJ X METER, SWIVEL NUT (CURB STOP) |
| B | METER |
| C | BRASS METER COUPLING |
| D | *PVC FIP X WELD COUPLING |



* All PVC pipe and fittings shall be SCH 80 except for standard tail piece section which will be SCH 40.

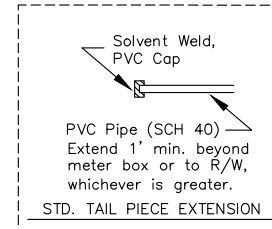
NOTE: Parts list is for standard installation; actual parts required may vary as directed by the Engineer.

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|------------------------|------------------------|---------|-------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED | SINGLE METER SET DETAIL 3/4", 1", 1-1/2", 2" | 5.02 |
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METER INSTALLATION
-PARTS LIST-

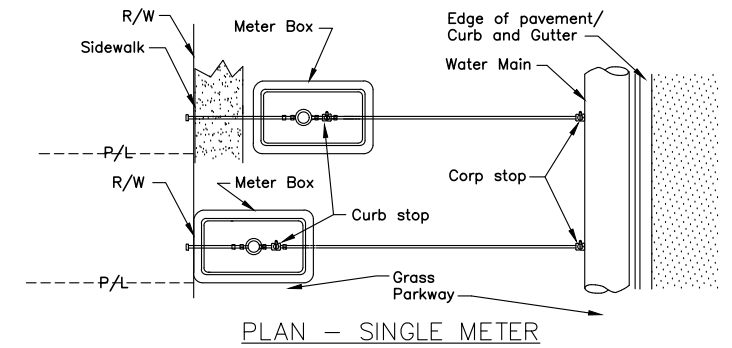
| ITEM | DESCRIPTION |
|------|-----------------------------------------|
| A | FIP CURB X METER SWIVEL NUT (CURB STOP) |
| B | METER |
| C | METER COUPLING |
| D | *PVC FIP X WELD COUPLING |
| E | MIP X HDPE CJ BRANCH COUPLING |



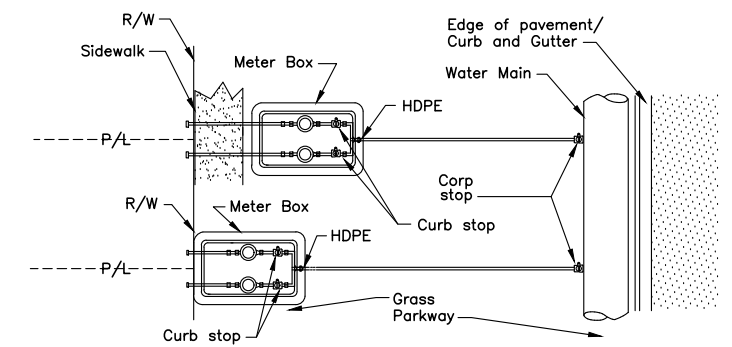
* All PVC pipe and fittings shall be SCH 80 Except for standard tail piece section which will be SCH 40.

NOTE: Parts list is for standard installation; actual parts required may vary as directed by the Engineer.

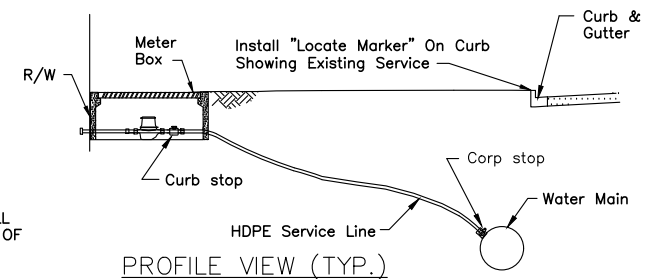
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|------------------------|------------------------|---------|------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED | DUAL METER SET DETAIL 3/4" & 1" | 5.03 |
|------------------------|------------------------|---------|------------------------------------|------|



PLAN - SINGLE METER



PLAN VIEW - DUAL METER



PROFILE VIEW (TYP.)

DO NOT INSTALL METER WITHIN SIDEWALK. WHEN SIDEWALK EXISTS, INSTALL METER ON STREET SIDE OF SIDEWALK OR WHERE DIRECTED BY ENGINEER.

| SINGLE METER SIZE (inches) | | SERVICE LINE SIZE (inches) (0-15') | | * Line size applicable for DDCVA | |
|----------------------------|----------------------------|------------------------------------|----------------------------|----------------------------------|----------------------------|
| SINGLE METER SIZE (inches) | SERVICE LINE SIZE (inches) | DUAL METER SIZE (inches) | SERVICE LINE SIZE (inches) | DUAL METER SIZE (inches) | SERVICE LINE SIZE (inches) |
| 3/4 | 1 | 3/4 | 2 | | |
| 1 | 1 | 1 | 2 | | |
| 1-1/2 | 2 | 1-1/2 | n/a | | |
| 2* | 2 | 2 | n/a | | |

(Feet refer to distance from water main to meter)

| | | | | |
|------------------------|------------------------|---------|-----------------------------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED | SINGLE & DUAL METERED SERVICE - SHORT SIDE 3/4", 1", 1-1/2" AND 2" | 5.04 |
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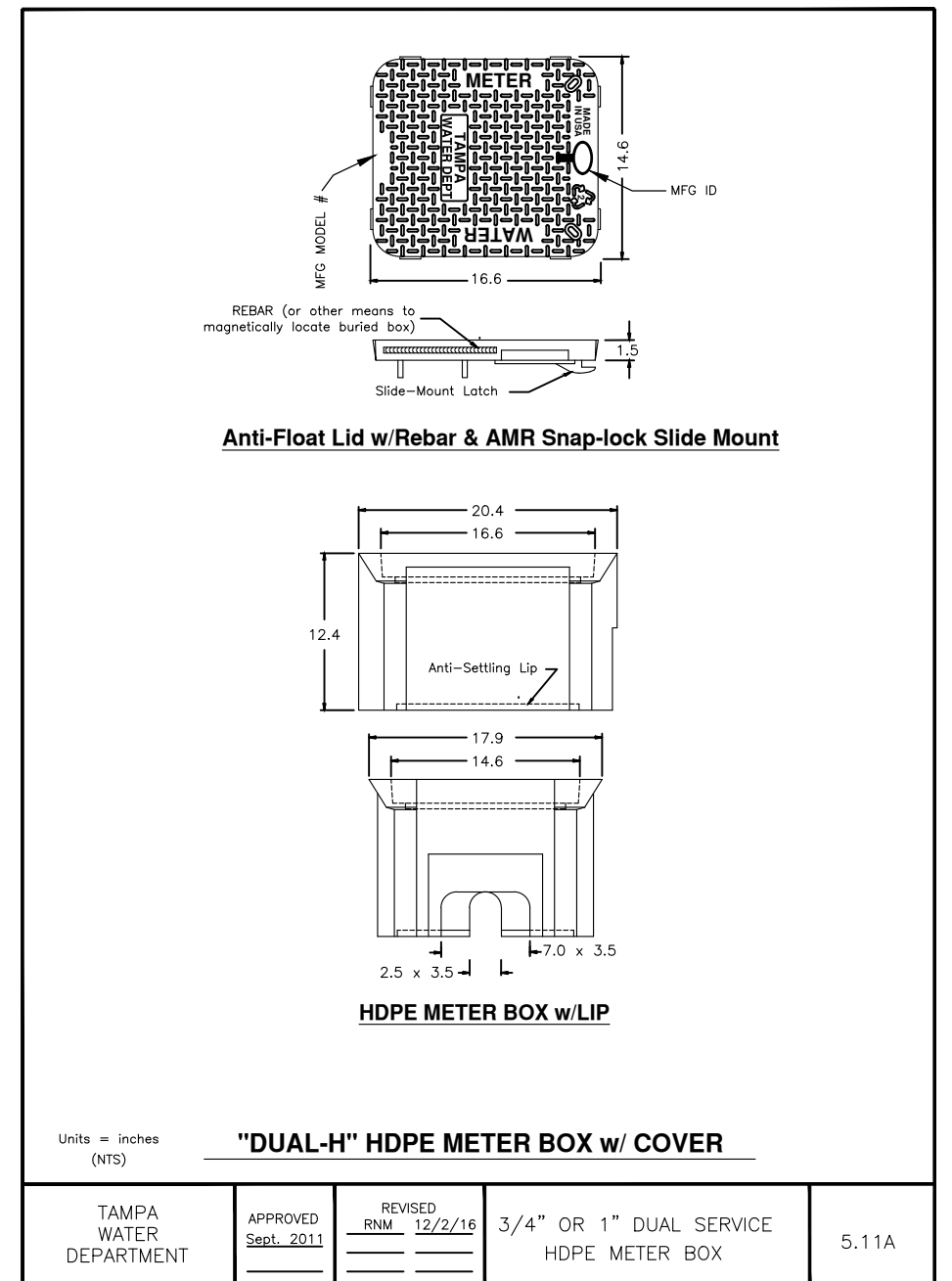
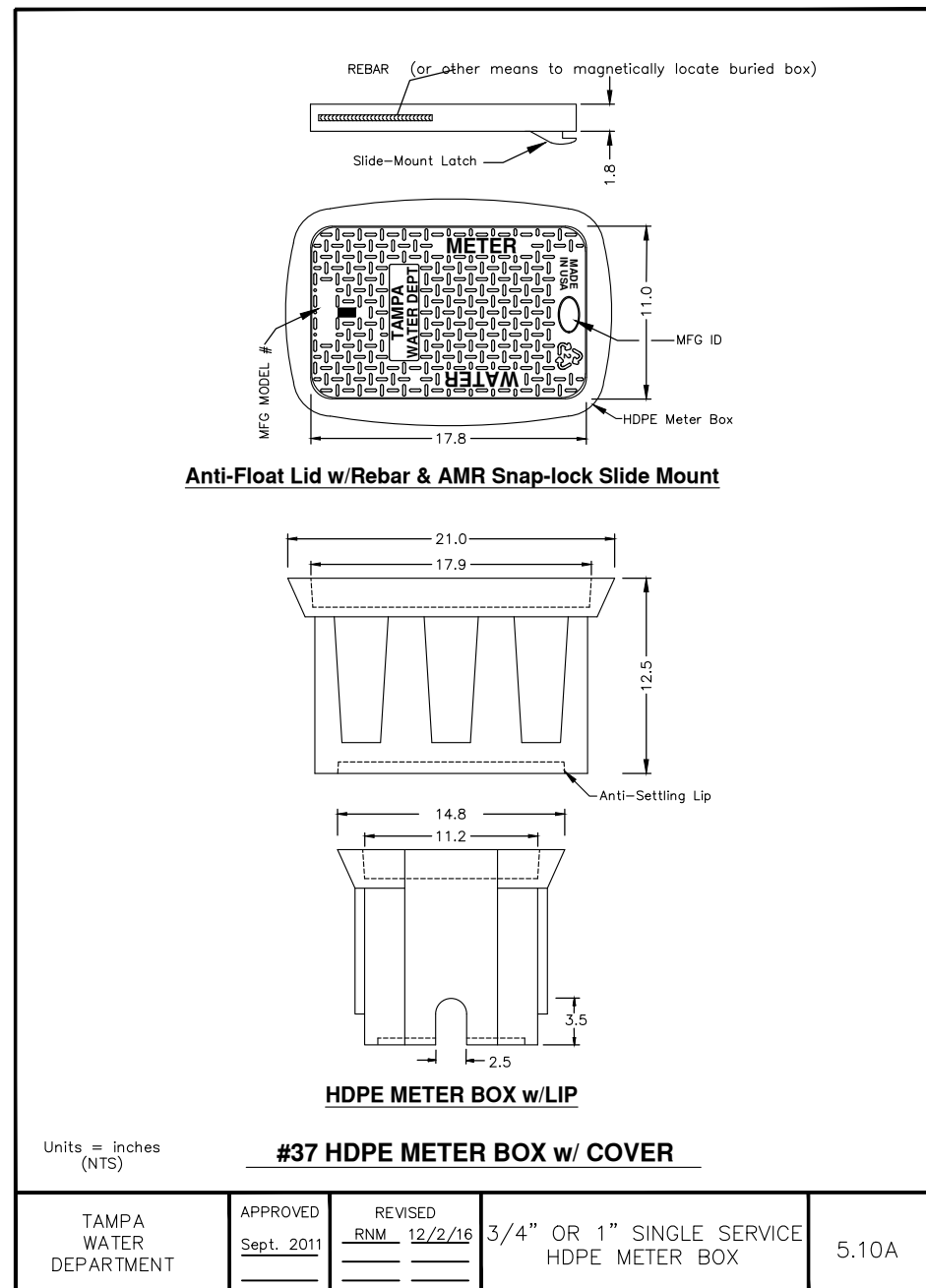
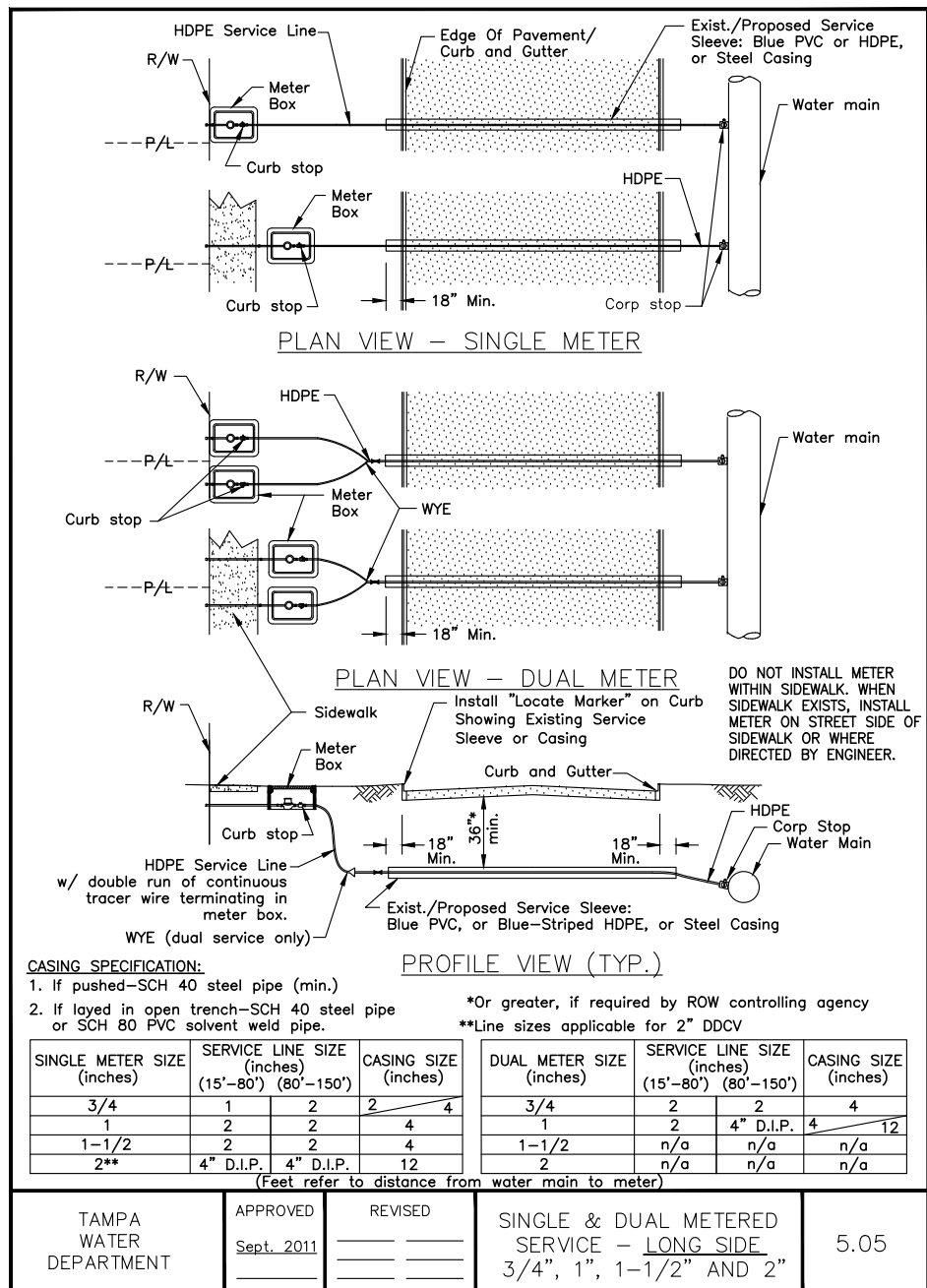
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DETAILS
PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
27 OF 29



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|------------------------|------------------------|---------|----------------------------------------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED | SINGLE & DUAL METERED SERVICE - LONG SIDE 3/4", 1", 1-1/2" AND 2" | 5.05 |
|------------------------|------------------------|---------|----------------------------------------------------------------------|------|

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|------------------------|------------------------|------------------------|------------------------------------------|-------|
| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED RNM 12/2/16 | 3/4" OR 1" SINGLE SERVICE HDPE METER BOX | 5.10A |
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| TAMPA WATER DEPARTMENT | APPROVED Sept. 2011 | REVISED RNM 12/2/16 | 3/4" OR 1" DUAL SERVICE HDPE METER BOX | 5.11A |
|------------------------|------------------------|------------------------|----------------------------------------|-------|



RORY A JONES, P.E.
CITY OF TAMPA WATER DEPT.
306 E. JACKSON ST., 5E
TAMPA, FLA. 33602
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PALMA CEIA PHASE II

Atlas Page
K09-1
k10-4

W.O. 8401
28 OF 29

