NIPOMO COMMUNITY SERVICES DISTRICT

Construction Plans for
WATERLINE INTERTIE PROJECT
Bid Package 2
Nipomo Area Pipeline Improvements
April 2010

**DRAFT FINAL PRELIMINARY DESIGN PLANSET - NOT FOR CONSTRUCTION**
PIPELINE GENERAL NOTES
1. SHOWN AND DESIGNATED SHOWN ON THE DRAWINGS ARE BASED ON HORIZONTAL MEASUREMENTS PROJECTED FROM THE PIPE CENTERLINE.
2. STRUCTURAL CONSIDERATIONS SHOULD BE PROVIDED TO ENHANCE THE USE OF PIPE, UNLESS INDICATED OTHERWISE, ALL PIPE MATERIALS EXCEPT WHERE NOTED OTHERWISE.
3. VERIFY DIMENSIONS AND CONDITIONS OF THE SITE, ACCORDING TO THIS DOCUMENT, AND MAKE NEEDED ADJUSTMENTS TO THE DRAWINGS TO ACCOMMODATE THE CHANGES.
4. UTILITIES OTHER THAN THOSE SHOWN ON THE DRAWINGS MUST NOT BE portable, AND THE BOXES MUST BE LOCATED TO ENSURE THE SECURITY OF THE UTILITIES.
5. TAKE PRECAUTIONS TO PROTECT UTILITIES AND STRUCTURES SHOWN ON THE DRAWINGS, AS WELL AS ANY OTHER UTILITIES AND STRUCTURES NOT ShOWN ON THE DRAWINGS.
6. ALL SPECIFICATIONS, DRAWINGS, AND DETAILS INCLUDED IN THE CONTRACT DOCUMENTS SHALL FULLY APPLY TO THE WORK WHETHER SPECIFICALLY REFERENCED OR NOT.
7. ORTHOPHOTOGRAPHY AND AERIAL MAPPING PRODUCED BY:
8. GROUND WATER PUMPED FROM EXCAVATION AND JACKING/RECEIVING SHAFTS MAY BE DISCHARGED IN ACCORDANCE WITH APPLICABLE PERMITS.
9. MAINTAIN THE WORK AREA IN A NEAT, CLEAN, AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE OWNER, HIS REPRESENTATIVES, AND ANY OTHERS HAVING BUSINESS IN THE WORK AREA.
10. WORK SHALL BE DONE IN ACCORDANCE WITH THE APPROPRIATE ENCROACHMENT PERMITS.
11. USE EXTERIOR LIGHTING WHEN WORKING AROUND ELECTRICAL PANELS, TOOLS, OR EQUIPMENT.
12. INSTALL ELECTRICAL BOXES TO PROVIDE ACCESS TO THE ELECTRICAL EQUIPMENT EXISTING AND NOTED AS FUTURE.
13. VERIFY DIMENSIONS AND CONDITIONS AT THE SITE BEFORE STARTING WORK. ANY CONFLICTS BETWEEN DETAILS OR DIMENSIONS ON THE DRAWINGS AND THE CONDITIONS ON THE LOCATIONS SHOWN MUST BE REPORTED PROMPTLY TO THE OWNER'S REPRESENTATIVE, WHO WILL DETERMINE THE INTENT OF THE DRAWINGS.
14. THE DISTRICT SHALL BE NOTIFIED AT LEAST SEVEN (7) WORKING DAYS PRIOR TO START OF CONSTRUCTION. TELEPHONE (805) 939-1133.
15. ANY DIFFERENCES BETWEEN THE SPECIFICATIONS AND THE DRAWINGS MUST BE REPORTED TO THE CONTRACTOR.
16. THE CONTRACTOR SHALL INSTALL REFLECTORIZED, RAISED PAVEMENT MARKERS (STIMSONTTE HYDRANT MARKERS) ALSO COMMONLY CALLED "BLUE DOTS". A TWO PART EPOXY ADHESIVE SHALL BE USED TO INSTALL THE MARKERS. ONE WORKER SHALL BE INSPECTED PERPENDICULARLY OPPOSITE EACH FIRE HYDRANT, APPROXIMATELY 6-INCHES OFFSET FROM THE CENTERLINE OF THE HYDRANT. ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST INCURRED.
17. TAKE PRECAUTIONARY MEASURES TO PROTECT UTILITY AND STRUCTURES SHOWN ON THESE PLANS. ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST INCURRED.
18. GROUND WATER SHALL NOT BE DISCHARGED TO THE STREET OR SURROUNDING AREA WITHOUT A PERMIT. NO DISCHARGE TO PAVING, IRRIGATION, STRUCTURES, ETC., CAUSED BY THE WORK.
19. A SEPARATE UTILITIES DEPARTMENT REPORT IS PREPARED TO IDENTIFY UTILITIES AND STRUCTURES SHOWN ON THIS DRAWING. NO UTILITIES OR STRUCTURES SHOWN ON THIS DRAWING SHOULD BE CONSIDERED TO BE OF RECORD OR NOT OF RECORD.
20. UNDERGROUND ELECTRICAL PAINT MARK AND WATER PAINT MARK WITH DETAILED NOTES ARE INSTALLED PER PROJECT SPECIFICATIONS.
21. THE DISTRICT SHALL BE NOTIFIED AT LEAST SEVEN (7) WORKING DAYS PRIOR TO START OF CONSTRUCTION. TELEPHONE (805) 939-1133.
22. THE CONTRACTOR SHALL INSTALL REFLECTORIZED, RAISED PAVEMENT MARKERS (STIMSONTTE HYDRANT MARKERS) ALSO COMMONLY CALLED "BLUE DOTS". A TWO PART EPOXY ADHESIVE SHALL BE USED TO INSTALL THE MARKERS. ONE WORKER SHALL BE INSPECTED PERPENDICULARLY OPPOSITE EACH FIRE HYDRANT, APPROXIMATELY 6-INCHES OFFSET FROM THE CENTERLINE OF THE HYDRANT. ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST INCURRED.
23. GROUND WATER SHALL NOT BE DISCHARGED TO THE STREET OR SURROUNDING AREA WITHOUT A PERMIT. NO DISCHARGE TO PAVING, IRRIGATION, STRUCTURES, ETC., CAUSED BY THE WORK.
24. A SEPARATE UTILITIES DEPARTMENT REPORT IS PREPARED TO IDENTIFY UTILITIES AND STRUCTURES SHOWN ON THIS DRAWING. NO UTILITIES OR STRUCTURES SHOWN ON THIS DRAWING SHOULD BE CONSIDERED TO BE OF RECORD OR NOT OF RECORD.
25. UNDERGROUND ELECTRICAL PAINT MARK AND WATER PAINT MARK WITH DETAILED NOTES ARE INSTALLED PER PROJECT SPECIFICATIONS.
26. THE CONTRACTOR SHALL INSTALL REFLECTORIZED, RAISED PAVEMENT MARKERS (STIMSONTTE HYDRANT MARKERS) ALSO COMMONLY CALLED "BLUE DOTS". A TWO PART EPOXY ADHESIVE SHALL BE USED TO INSTALL THE MARKERS. ONE WORKER SHALL BE INSPECTED PERPENDICULARLY OPPOSITE EACH FIRE HYDRANT, APPROXIMATELY 6-INCHES OFFSET FROM THE CENTERLINE OF THE HYDRANT. ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST INCURRED.
CONSTRUCTION NOTES:

1. NOTIFY NSO STAFF PRIOR TO INTERRUPTION OF SERVICE. INTERRUPTION OF SERVICE SHALL BE COORDINATED WITH NSO AND SHALL BE MINIMIZED.

2. CONTRACTOR TO POTHOLE POC @ STA. 999+95.78 PRIOR TO BEGINNING CONSTRUCTION. PROVIDE OWNER'S REPRESENTATIVE WITH POTHOLE REPORT.

3. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040. RESTRAIN 12" P.V.C. PIPE 245-FEET IN EACH DIRECTION, FROM FITTINGS AT STA. 999+95.78 AND STA. 1000+54.31.

4. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.

UTILITY POOTHOLE DATA

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<tr>
<th>Label</th>
<th>Surface Elev. (Ft)</th>
<th>Depth to Top of Pipe (Ft)</th>
<th>Pipe Size, Material, and Notes</th>
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<tr>
<td>PHW</td>
<td>334.80</td>
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<td>12&quot; Diameter P.V.C. Water</td>
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<tr>
<td>PHW</td>
<td>335.42</td>
<td>4.20</td>
<td>6&quot; Diameter Sewer Force Main</td>
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<td>PHW</td>
<td>335.63</td>
<td>3.00</td>
<td>3&quot; Diameter Plastic Natural Gas</td>
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MATERIALS LIST:

1. 12" P.V.C. WATER MAIN
2. 12" RESTRAINED FLANGE ADAPTER
3. 12" 90° ELBOW, FLG'D
4. 12" 90° ELBOW, MJxMJ (RESTRAINED)
5. 12" TEE, FLG'D
6. THRUST BLOCK PER DETAIL
7. 12" SPOOL, FLG'D
8. 12"x12"x4" TEE FOR BLOWOFF ASSEMBLY PER DETAIL

NOT TO SCALE
CONSTRUCTION NOTES:

(3) 12" OD-14 OD PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-003.

DESIGNED: JHR
DATE: APRIL 2010
AECOM PROJECT NO. OXK129S
NCSO PROJECT NO. AECOM WATER CAM STDS.

FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION
DRAFT FINAL PRELIMINARY DESIGN PLANSET

DATE: APRIL 30, 2010
EXISTING GROUND SURFACE OVER I OF PIPELINE

CONSTRUCTION NOTES:

1. 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 5/2-553.

2. TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT DRIP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE A MINIMUM OF 4'-1 FT TALL CHAIN LINK FENCE, SNOW FENCE OR SAFETY FENCE. ERECT FENCE PRIOR TO CONSTRUCTION.

3. TREE NUMBER PER TREE PROTECTION PLAN. FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.
CONSTRUCTION NOTES:

1. 12" DR-14 CI 8300 PVC PIPE PER SPECIFICATION SECTION 402492 AND DETAIL 3/C-503.
2. MSIC: JH B
3. DETAILED: JPF
4. MTE: M11-00

PROJECT NO. 80081298

NCSD

AECOM WATER

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NOT TO BE USED FOR CONSTRUCTION
"DRAFT FINAL PRELIMINARY DESIGN PLANSET"
CONSTRUCTION NOTES:

1. 12" DR-14 C800 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL.
2. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402092. RESTRAIN 12" PVC PIPE 245 FEET IN EACH DIRECTION, FROM FITTINGS AT STA. 1021+22.94 AND STA. 1021+43.84.
3. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.

UTILITY POTHOLE DATA

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<tr>
<th>LABEL</th>
<th>SURFACE ELEV. (FT)</th>
<th>DEPTH TO TOP OF PIPE (FT)</th>
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<td>POTH 7</td>
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<td>POTH 8</td>
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DATE: APRIL 2010
AECOM PROJECT NO. 1008I285
NCSO PROJECT NO. AECOM WATER
CADO STDS. BOYLE

*If this bar does not exist on sheet, then drawing is not to full scale

DRAFT FINAL PRELIMINARY DESIGN PLAN

NOT TO BE USED FOR CONSTRUCTION

"DON'T FINAL PRELIMINARY DESIGN PLEASE!!"
CONSTRUCTION NOTES:

1. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040. RESTRAIN 12" PVC PIPE 24" BEFORE FROM FITTING AT STA. 1032+37.35.

2. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.

3. TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT DRIP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE A MINIMUM OF 4' TALL CHAIN LINK FENCE, SNOW FENCE OR SAFETY FENCE. ERECT FENCE PRIOR TO CONSTRUCTION.

4. TREE NUMBER PER TREE PROTECTION PLAN. FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.

DATE: APRIL 2010

AECOM PROJECT NO. 60081205

NCSD PROJECT NO.

AECOM WATER

FOR PRELIMINARY USE ONLY

DATE: APRIL 30, 2010

"DRAFT FINAL PRELIMINARY DESIGN PLAN SET"
CONSTRUCTION NOTES:

1. 12" .08-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.
2. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040. RESTRAIN 12" PVC PIPE 245'-FEET IN EACH DIRECTION, FROM FITTING AT STA. 1032+37.35.
3. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.
4. NOTE CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 312316 AND DETAIL 3/C-503.
5. CONTINUE TYPICAL TRENCH REPAIR AND SURFACE RESTORATION PER DETAIL 3/C-32.
6. SEAM TO BE PERPENDICULAR TO TRAVELED WAY (TYP.)
7. APPROXIMATE EXTENTS OF PREVENT PIPE REPAIR (COORDINATE WITH SLOCO ENCROACHMENT PERMIT).

GENERAL NOTES:

1. CONTACT JOE PHILIPS AT (805) 710-2021 PRIOR TO WORK IN THE VICINITY OF SEWER FORCE MAIN.

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"Unfinal Preliminary Design Plans"
CONSTRUCTION NOTES:

1. 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL C-503.
2. POT-HOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219.
3. SUBMIT WRITTEN POT-HOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.
4. NOTE CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 312316 AND DETAIL C-109.
5. SEE SPECIFICATION SECTION 321216 FOR THICKNESS.

DESIGNED: JHR
DETAILED: JPF
DATE: APRIL 2010
AECOM PROJECT NO. 60061295
CMC STDS.
CONSTRUCTION NOTES:

1. INSTALL 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.

2. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040. RESTRAIN 12" P.V.C. PIPE 245-FEFJ IN EACH DIRECTION, FROM FITTING AT 1043+56.40 AND STA. 1052+33.81.

3. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONTACTS ARE DISCOVERED.

4. NOTE CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 312316 AND DETAIL-SEE POTHOLE REPORT FOR THICKNESSES.

5. SPECIAL PAY ZONE FOR PROTECTION OF EUCALYPTUS TREE ROOTS IN ACCORDANCE WITH TREE PROTECTION PLAN AND ARBORIST SEE BID ITEM 5 OF SPECIFICATION SECTION 012000.

6. TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT DRIP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE A MINIMUM OF 4-FT TALL CHAIN LINK FENCE, SNOW FENCE OR SAFETY FENCE. ERECT FENCE PRIOR TO CONSTRUCTION.

7. TREE NUMBER PER TREE PROTECTION PLAN. FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.
EXISTING GROUND SURFACE OVER TOP OF PIPELINE

EUCALYPTUS ROOT ZONE STA. 1044+00 to 1052+00 (SEE NOTE 7)

RESTRAINED PIPE STA. 1041+11.40 to 1052+37.96 (SEE NOTE 12)

12" DR-14 C900 PVC PIPE

CONSTRUCTION NOTES:

1. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040.
2. 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.
3. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040, RESTRAIN 12" PVC PIPE 245- FEET IN EACH DIRECTION, FROM FITTINGS AT STA. 1043+56.40 AND STA. 1052+33.81.
4. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONTACTS ARE DISCOVERED.
5. SPECIAL PAY ZONE FOR PROTECTION OF EUCALYPTUS TREE ROOTS IN ACCORDANCE WITH TREE PROTECTION PLAN AND ARBORIST. SEE BID ITEM 5 OF SPECIFICATION SECTION 012000.
6. TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT ORP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE A MINIMUM OF 4'-11" TALL DOWN LINK FENCE, GATE FENCE OR SAFETY FENCE. ERECT FENCE PRIOR TO CONSTRUCTION.
7. TREE NUMBER PER TREE PROTECTION PLAN. FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.
CONSTRUCTION NOTES:

1. NOTIFY NCSD STAFF PRIOR TO INTERRUPTION OF SERVICE. INTERRUPTION OF SERVICE SHALL BE COORDINATED WITH NCSD AND DURATION SHALL BE MINIMIZED.

2. 2" 08-14 C900 PVC PIPE PER SPECIFICATION SECTION 402020 AND DETAIL 1/C-503.

3. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040. RESTRAIN 12" PVC PIPE 245- FEET IN EACH DIRECTION, FROM FITTING AT STA. 1043+35.40 AND STA. 1052+33.81.

4. SPECIFY PAY ZONE FOR PROTECTION OF EUCALYPTUS TREE ROOTS IN ACCORDANCE WITH TREE PROTECTION PLAN AND ARBOSTORE. SEE BID ITEM 5 OF SPECIFICATION SECTION 012000.

5. CONTRACTOR TO POTHOLE POC STA. 1052+33.81 PRIOR TO BEGINNING CONSTRUCTION. PROVIDE OWNER'S REPRESENTATIVE WITH POTHOLE REPORT.

6. TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT DRIP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE MINIMUM OF 4-FT TALL CHAIN LINK FENCE, SNOW FENCE, OR SAFETY FENCE. ERECT FENCE PRIOR TO CONSTRUCTION.

7. TREE NUMBER PER TREE PROTECTION PLAN. FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.

MATERIALS LIST:

1. 10" PVC WATER MAIN
2. 12" RESTRAINED FLANGE ADAPTER
3. BRONZE DOUBLE STRAP SERVICE SADDLE WITH 1" CORR SDR FOR SAMPLING STATION CONNECTION
4. 10" GATE VALVE, FLG'D
5. EXISTING 10" A.C. WATER MAIN
6. 10" AC-OP TRANSITION COUPLING

UTILITY POTHOLE DATA

<table>
<thead>
<tr>
<th>LABEL</th>
<th>SURFACE ELEV. (FT)</th>
<th>DEPTH TO TOP OF PIPE (FT)</th>
<th>PIPE SIZE, MATERIAL AND NOTES</th>
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"Draft Final Preliminary Design Plans"
CONSTRUCTION NOTES:

3. 17" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 40209.2 AND DETAIL. J/E - 500.

5. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.

7. SPECIAL PAY ZONE FOR PROTECTION OF EUCALYPTUS TREE ROOTS IN ACCORDANCE WITH TREE PROTECTION PLAN AND ARBORIST. SEE BID ITEM 5 OF SPECIFICATION SECTION 012000.

(f) PROTECT EXISTING 6" A.C. PIPE IN PLACE AND OPERATIONAL. POSITIVELY LOCATE PIPE UNLESS IN ADVANCE OF CONSTRUCTION. SEE SPECIFICATION SECTION 020120.

® TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT DRIP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE A MINIMUM OF 4-FT TALL CHAIN LINK FENCE, SNOW FENCE OR SAFETY FENCE. ERECT FENCE PRIOR TO CONSTRUCTION.

® TREE NUMBER PER TREE PROTECTION PLAN. FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.

PIVOT POINT SCALE:

HORIZONTAL 1" = 1'-0"

VERTICAL 1" = 5'

PROFILE SCALE:

HORIZONTAL 1" = 20'

VERTICAL 1" = 10'

EXISTING GROUND SURFACE OVER OUTLET PIVOT.
CONSTRUCTION NOTES:

1. 1/2" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.

2. SPECIAL PAY ZONE FOR PROTECTION OF EUCALYPTUS TREE ROOTS IN ACCORDANCE WITH TREE PROTECTION PLAN AND ARBORIST. SEE BID ITEM 5 OF SPECIFICATION SECTION 012000.

3. PROTECT EXISTING 6" A.C. PIPE IN PLACE AND OPERATIONAL. POSITIVELY LOCATE PIPELINE IN ADVANCE OF CONSTRUCTION. SEE SPECIFICATION SECTION 020120.

4. TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT DRIP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE A MINIMUM OF 4-FT TALL CHAIN LINK FENCE, CHAIN Link FENCE OR SAFETY FENCE. ERECT FENCE PRIOR TO CONSTRUCTION.

5. TREE NUMBER PER TREE PROTECTION PLAN. FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.
EXISTING GROUND SURFACE OVER E OF PIPELINE

PROFILE SCALE
HORIZONTAL 1"=20'
VERTICAL 1"=5'

CONSTRUCTION NOTES:
(3) 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION A3003 AND DECEL. A/C=0.63.
(5) SPECIAL PAY ZONE FOR PROTECTION OF EUCALYPTUS TREE ROOTS IN ACCORDANCE WITH TREE PROTECTION PLAN AND ARBORIST. SEE BID ITEM 5 OF SPECIFICATION SECTION 012000.
(7) PROTECT EXISTING 6" A.C. PIPE IN PLACE AND OPERATIONAL. POSITIVELY LOCATE PIPELINE IN ADVANCE OF CONSTRUCTION. SEE SPECIFICATION SECTION A3003.
(9) TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT DRIP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE A MINIMUM OF 4-FT TALL CHAIN LINK FENCE, SNOW FENCE OR SAFETY FENCE. ERECT FENCE PRIOR TO CONSTRUCTION.
(11) TREE NUMBER PER TREE PROTECTION PLAN. FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.

PIPELINE CURVE DATA

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ACOM WATER
FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION
DATE: APRIL 30, 2010
"DRAFT FINAL PRELIMINARY DESIGN PLANSET"
CONSTRUCTION NOTES:

1. 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.
2. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.
3. PROTECT EXISTING 6" A.C. PIPE IN PLACE AND OPERATIONAL. POSITIVELY LOCATE PIPELINE IN ADVANCE OF CONSTRUCTION. SEE SPECIFICATION SECTION 020120.
4. TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT DRIP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE A MINIMUM OF 4-FT TALL CHAIN LINK FENCE, SNOW FENCE OR SAFETY FENCE. ERECT FENCE PRIOR TO CONSTRUCTION.
5. TREE NUMBER PER TREE PROTECTION PLAN. FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.

AECOM WATER
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DATE: APRIL 30, 2010
"DRAFT FINAL PRELIMINARY DESIGN PLAN"
CONSTRUCTION NOTES:

1. NOTIFY NCSD STAFF PRIOR TO INTERRUPTION OF SERVICE. INTERRUPTION OF SERVICE SHALL BE COORDINATED WITH NCSD AND DURATION SHALL BE MINIMIZED.

2. 12" DR-14 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.

3. PROTECT EXISTING 6" A.C. PIPE IN PLACE AND OPERATIONAL. POSITIVELY LOCATE PIPELINE IN ADVANCE OF CONSTRUCTION. SEE SPECIFICATION SECTION 020120.

DESIGNED: JAR
DETAILED: JPF
DATE: APRIL 2010

AECOM PROJECT NO. 60081285

UTILITY POTHOLE DATA

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<th>LABEL</th>
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<th>DEPTH TO TOP OF PIPE (FT)</th>
<th>PIPE SIZE, MATERIAL AND NOTES</th>
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CONSTRUCTION NOTES:

1. 1/4 DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.
2. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219.
3. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.
4. PROTECT EXISTING 6" A.C. PIPE IN PLACE AND OPERATIONAL. POSITIVELY LOCATE PIPELINE IN ADVANCE OF CONSTRUCTION, SEE SPECIFICATION SECTION 020120.

DATE: APRIL 30, 2010

AECOM WATER
FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION

"DRAFT FINAL PRELIMINARY DESIGN PLANSET"
CONSTRUCTION NOTES:

1) 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402002 AND DETAIL 3/C-500.
2) INSTALL RESTRAINED JOINT PIPE PER SPECIFICATION SECTION 402040. RESTRAIN 12" P.V.C. PIPE 245- FEET IN EACH DIRECTION, FROM FITTINGS AT STA. 2033+66.93 AND STA. 3000+00.
3) POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.
4) PROTECT EXISTING 6" A.C. PIPE IN PLACE AND OPERATIONAL. POSITIVELY LOCATE PIPELINE IN ADVANCE OF CONSTRUCTION. SEE SPECIFICATION SECTION 020120.

DESIGNED: JHR
DATE: APRIL 30, 2010
AECOM PROJECT NO. 8006285
NCSD PROJECT NO. AECOM WATER CADD STDS.
FOR PRELIMINARY USE ONLY
CONSTRUCTION NOTES:

1) 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL C-120.

2) INSTALL RESTRAINED JOINT PIPE PER SPECIFICATION SECTION 402040.

3) RESTRAIN 12" P.V.C. PIPE 245-Feet in each direction, from fittings at STA. 2033+66.93 and STA. 3000+00.

4) POThOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219.

5) SUBMIT WRITTEN POThOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.

6) PROTECT EXISTING 6" A.C. PIPE IN PLACE AND OPERATIONAL. POSITIVELY LOCATE PIPELINE IN ADVANCE OF CONSTRUCTION. SEE SPECIFICATION SECTION 020120.
EXISTING GROUND SURFACE OVER PIPELINE

PROFILE SCALE
HORIZONTAL 1"=20'
VERTICAL 1"=3'

PROFILE SCALE
HORIZONTAL 1"=20'
VERTICAL 1"=3'

INV EL 297.91

EXISTING GROUND SURFACE OVER PIPELINE

CONSTRUCTION NOTES:
(3) INSTALL RESTRAINED JOINT PIPE PER SPECIFICATION SECTION 402040.
(4) INSTALL RESTRAINED JOINT PIPE PER SPECIFICATION SECTION 402040.
(5) INSTALL RESTRAINED JOINT PIPE PER SPECIFICATION SECTION 402040.
(6) INSTALL RESTRAINED JOINT PIPE PER SPECIFICATION SECTION 402040.

UTILITY POTHOLE DATA

<table>
<thead>
<tr>
<th>LABEL</th>
<th>SURFACE ELV. (FT)</th>
<th>DEPTH TO TOP OF PIPE (FT)</th>
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DATE: APRIL 2010

AECOM WATER
FOR PRELIMINARY USE ONLY
"DRAFT FINAL PRELIMINARY DESIGN PLANSET"
CONSTRUCTION NOTES:

1. 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402019 AND DETAIL C-143. INSTALL RESTRAINED JOINT PIPE PER SPECIFICATION SECTION 402040. RESTRAIN 12" P.V.C. PIPE 24'-9" FEET IN EACH DIRECTION, FROM FITTINGS AT STA. 2033+66.93 AND STA. 3000+00.

2. POCKET UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POCKET REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.

3. EXISTING SEWER SHALL REMAIN IN SERVICE UNTIL 21" SEWER IS COMPLETED. DO NOT CONSTRUCT 12" WATERLINE UNTIL EXISTING 12" SEWER IS ABANDONED. SEE SPECIFICATION SECTION 013216.

DESIGNED: JHR
DETAILED: JPF
DATE: APRIL 2010

AECOM PROJECT NO. 60061295
NCSD PROJECT NO. 40000005

AECOM WATER
CADD STDS.

FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION

"DRAFT FINAL PRELIMINARY DESIGN PLANSET"
CONSTRUCTION NOTES:

1. 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/V-003.

2. EXISTING SEWER SHALL REMAIN IN SERVICE UNTIL 21" SEWER IS COMPLETED. DO NOT CONSTRUCT 12" WATERLINE UNTIL EXISTING 12" SEWER IS ABANDONED. SEE SPECIFICATION SECTION 013216.

DESIGNED: JHR
DETAILED: JPF
DATE: APRIL 2010
AECOM PROJECT NO. 60061295
NCSD PROJECT NO. AECOM WATER
CADD STDS. BOYLE/AECOM

FOR PRELIMINARY USE ONLY
"NOT TO BE USED FOR CONSTRUCTION"
DATE: APRIL 30, 2010
"DRAFT FINAL PRELIMINARY DESIGN PLANSET"
EXISTING GROUND SURFACE OVER £ OF PIPELINE

6" SEWER (SEE SHEET C-144)
INV EL=304.07

12" DR-14 C900 PVC PIPE (2)

CONSTRUCTION NOTES:

1) 12" DR-14 C900 PVC PER SPECIFICATION SECTION 402092 AND DETAIL 5/C-503.

2) EXISTING SEWER SHALL REMAIN IN SERVICE UNTIL 27" SEWER IS COMPLETED. DO NOT CONSTRUCT 12" WATERLINE UNTIL EXISTING 12" SEWER IS ABANDONED. SEE SPECIFICATION SECTION 013216.

DESIGNED: JHR
DETAILED: JPF
DATE: APRIL 2010

AECOM PROJECT NO. 60061295
NCSD PROJECT NO. 0 10 20 40

SCALE: 1"=20'
EXISTING GROUND SURFACE OVER TOP OF PIPELINE

SEWER (SEE SHEET C-145) IN EL=307.92

12" DR-14 C900 PVC PIPE

PROFILE SCALE
HORIZONTAL 1"=20'
VERTICAL 1"=1'

CONSTRUCTION NOTES:
(3) 12" PVC DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL S/C-303.
(5) POTRIKE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT POTRIKE REPORT TO OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.

EXISTING SEWER SHALL REMAIN IN SERVICE UNTIL 24" SEWER IS COMPLETED. DO NOT CONSTRUCT 12" WATERLINE UNTIL EXISTING 12" SEWER IS ABANDONED. SEE SPECIFICATION SECTION 013216.

DESIGNED: JHF
DETAILED: JPF
DRAWN: SK
2010
AECOM PROJECT NO.
80001295
NCSD
PROJECT NO.
AECOM WATER
WATERLINE INTENT PLANS
CADD STDS.
BOYLE	£COU
FOR PRELIMINARY USE ONLY
"DRAFT FINAL PRELIMINARY DESIGN PLANSET"

SCALE
1'000 = 10" 20" = 1'-00"

DATE APRIL 30, 2010

FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION
**CONSTRUCTION NOTES:**

1. 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.

2. EXISTING SEWER SHALL REMAIN IN SERVICE UNTIL 21" SEWER IS COMPLETED. DO NOT CONSTRUCT 12" WATERLINE UNTIL EXISTING 12" SEWER IS ABANDONED. SEE SPECIFICATION SECTION 013216.

3. POTHOLE 2" GAS MAIN PRIOR TO START OF CONSTRUCTION IN VICINITY OF 2" GAS MAIN. SUBMIT WRITTEN POTHOLE REPORT SHOWING HORIZONTAL AND VERTICAL LOCATION OF PIPE TO THE OWNER'S REPRESENTATIVE MINIMUM OF 3 WEEKS PRIOR TO CONSTRUCTION IN VICINITY OF 2" GAS MAIN. If 2" GAS MAIN IS WITHIN 3-FOOT OF THE 12" WATERLINE, RELOCATE GAS MAIN TO THE EAST OF THE 12" WATERLINE. COORDINATE WITH GAS COMPANY PRIOR TO POTHOLEING AND DO NOT WORK ON GAS COMPANY UTILITIES WITHOUT PERMISSION FROM THE GAS COMPANY.

**UTILITY POTHOLE DATA**

<table>
<thead>
<tr>
<th>LABEL</th>
<th>SURFACE ELEV. (FT)</th>
<th>DEPTH TO TOP OF PIPE (FT)</th>
<th>PIPE SIZE, MATERIAL AND NOTES</th>
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<tbody>
<tr>
<td>PW10</td>
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<td>PW20</td>
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FOR PRELIMINARY USE ONLY

"DRAFT FINAL PRELIMINARY DESIGN PLAN SET"
CONSTRUCTION NOTES:

3. 12" DR-14 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.

4. INSTALL RESTRAINED JOINT PIPE PER SPECIFICATION SECTION 402040. RESTRAIN 12" PVC PIPE 245 FEET IN EACH DIRECTION FROM FITTING AT STA. 3024+97.67 AND STA. 3031+49.30.

5. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.

6. EXISTING SEWER SHALL REMAIN IN SERVICE UNTIL 21" SEWER IS COMPLETED. DO NOT CONSTRUCT 12" WATERLINE UNTIL EXISTING 12" SEWER IS ABANDONED. SEE SPECIFICATION SECTION 013216.

7. POTENTIAL 2" GAS MAIN PRIOR TO START OF CONSTRUCTION IS WITHIN 3 FEET OF THE 12" WATERLINE. SUBMIT WRITTEN POTHOLE REPORT TO THE OWNER'S REPRESENTATIVE MINIMUM OF 3 WEEKS PRIOR TO CONSTRUCTION IN VICINITY OF 2" GAS MAIN. IF 2" GAS MAIN IS WITHIN 3 FEET OF THE 12" WATERLINE, RELOCATE GAS MAIN TO THE EAST OF THE 12" WATERLINE. COORDINATE WITH GAS COMPANY PRIOR TO POTHOLING AND DO NOT WORK ON GAS COMPANY UTILITIES WITHOUT PERMISSION FROM THE GAS COMPANY.
SEE SHEET C-128
MATCH LINE STA: 3030+50

SEE SHEET C-129
MATCH LINE STA: 3035+00

CONSTRUCTION NOTES:

1. STA 3030+50 to STA 3035+00

NIPOMO COMMUNITY SERVICES DISTRICT
WATERLINE INTERTIE PROJECT - BP2
SOUTH FRONAGE ROAD WATER
PLAN AND PROFILE
STA 3030+50 to 3035+00
EXISTING GROUND SURFACE OVER £ OF PIPE

CONSTRUCTION NOTES:

12" DR-14 C900 P.V.C. PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503. CONFORM TO SPECIAL CONSTRUCTION REQUIREMENTS PER C.D.P.H. AND N.C.S.D. STANDARDS.

INSTALL RESTRAINED JOINT PIPE PER SPECIFICATION SECTION 402040. RESTRAIN 12" P.V.C. Pipe 245-Feet in each direction, from fittings at STA. 3039+95.57 and STA. 3042+22.45.
CONSTRUCTION NOTES:

1. NOTIFY NCSD STAFF PRIOR TO INTERRUPTION OF SERVICE. INTERRUPTION OF SERVICE SHALL BE COORDINATED WITH NCSD AND DURATION SHALL BE MINIMIZED.

2. 12" 28'-14" 000 PVC PIPE FOR SPECIFICATION SECTION 402040 AND DETAIL 3/C-503. CONFORM TO SPECIAL CONSTRUCTION REQUIREMENTS PER C.D.P.H. AND N.C.S.D. STANDARDS.

3. INSTALL RESTRAINED JOINT PIPE AND FITTINGS FOR SPECIFICATION SECTION 402040. RESTRAIN 12" PVC PIPE 245 FEET IN EACH DIRECTION, FROM FITTINGS AT STA. 3039+95.57 AND STA. 3042+22.45.

4. SPECIAL PAY ZONE FOR PROTECTION OF EUCALYPTUS TREE ROOTS IN ACCORDANCE WITH TREE PROTECTION PLAN AND ARBORIST. SEE BID ITEM 5 OF SPECIFICATION SECTION 012000.

UTILITY POTHOLE DATA

<table>
<thead>
<tr>
<th>LABEL</th>
<th>SURFACE ELEV. (FT)</th>
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<td>PHH24</td>
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<td>3.00</td>
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MATERIALS LIST:

1. 12" TEE, FLG'D
2. 12" RESTRAINED FLANGE ADAPTER
3. 12" 11.25-ELBOW, FLG'D
4. 12" PVC WATER MAIN

STA. 3042+07.71 - CONNECTION TO 12" PVC WATER

NOT TO SCALE
CONSTRUCTION NOTES:

1. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040. RESTRAIN 12" P.V.C. PIPE 245- FEET IN EACH DIRECTION, FROM FITTINGS AT STA. 4000+27.92 AND STA. 4007+57.16.

2. BACKFILL IN JACK AND BORE PITS IN CONFORMANCE WITH DETAIL 3/C-503 AND REPAIR PAVING PER DETAILS 2/C-503.

3. TREE PROTECTION/EXCLUSIONARY FENCING. PLACE AT DRIP LINE OF TREE AND AS INDICATED IN TREE PROTECTION PLAN. FENCE SHALL BE A MINIMUM OF 4'-FEET TALL CHAIN LINK FENCE. SNOW FENCE OR SAFETY FENCE ERECT FENCE PRIOR TO CONSTRUCTION.

4. TREE NUMBERS PER TREE PROTECTION PLAN FOLLOW MITIGATION MEASURES AS INDICATED IN TREE PROTECTION PLAN.

UTILITY POTHOLE DATA

<table>
<thead>
<tr>
<th>LABEL</th>
<th>SURFACE ELEV. (FT)</th>
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APN: 1092-271-004
DESIGNED: JHR
UTILITY POTHOLE DATA LABEL
PH#21
PH#22
PH#24
PH#32
SURFACE ELEV. (FT) 334.39 334.95 332.74 334.01 332.74
DEPTH TO TOP OF PIPE (FT) 2.92 5.58 2.75 2.17 2.50
PIPE SIZE, MATERIAL AND NOTES 3" GAS 16" STEEL, HP GAS MAIN 8" STEEL ELECTRICAL CONDUIT 8" PVC GAS

DETAILED: JPF
DATE: APRIL 2010
ABCOU PROJECT NO.
NCSD PROJECT NO.
CADD STDS.
BOYLE/AECOU C-132
IF THIS BODY DOES NOT THEN DRAWING IS NOT TO FULL SCALE 1 INCH = 20 FEET
CONSTRUCTION NOTES:

1. 12" 000 P.V.C. PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 4/C-503.

2. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040. RESTRAIN 12" P.V.C. PIPE 245 FEET IN EACH DIRECTION, FROM FITTINGS AT STA. 4000+27.92 AND 4007+57.16.

3. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.

4. NOTE CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 312316 AND DETAIL 321216 FOR THICKNESS.

UTILITY POTHOLE DATA

<table>
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<tr>
<th>LABEL</th>
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SAMPLING STATION PER N.C.S.D. STANDARD

CONSTRUCTION NOTES:

1. 12" 09-14 0900 P.V.C. PIPE PER SPECIFICATION SECTION 40202 AND DETAIL 3/C-503.

2. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040. RESTRAIN 12" P.V.C. PIPE 245-LEFJ IN EACH DIRECTION, FROM FITTINGS AT STA. 4000+27.92 AND STA. 4007+57.16.

3. NOTE CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 312316 AND DETAIL • SEE SPECIFICATION SECTION 321216 FOR THICKNESS.

UTILITY POTHOLE DATA

LABEL | SURFACE ELEV. (FT) | DEPTH TO TOP OF PIPE (FT) | PIPE SIZE, MATERIAL AND NOTES
--- | --- | --- | ---
PHW24 | - | 3.87 | 1" DIA. DIAMETER A.C. WATER
CONSTRUCTION NOTES:

① 1'-0" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.

② NOTE CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 312316 AND DETAIL - SEE SECTION 321216 FOR THICKNESS.
CONCRETE UNDER A.C. SEE POTHOLE REPORT

CONSTRUCTION NOTES:

(1) 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.

(2) NOTE CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 312316 AND DETAIL 3/C-503.

DESIGNED: JHR
DETAILED: JPF

SEE SPECIFICATION SECTION 321216 FOR THICKNESS.

DATE: APRIL 2010
AECOM PROJECT NO. 00061196
NCSD PROJECT NO. AECOM WATER CADO STDS.

FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION IF THIS BAR DOES NOT MEASURE 1' THEN DRAWING IS NOT TO FULL SCALE.

"DRAFT FINAL PRELIMINARY DESIGN PLANSET"

ACCOMPLISHED WATER
CONSTRUCTION NOTES:

1. 12" DR-14 C900 PVC PIPE PER SPECIFICATION SECTION 402092 AND DETAIL 3/C-503.

2. NOTE CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 321216 AND DETAIL 3/C-503 FOR THICKNESS.

DATE: APRIL 30, 2010
AECOM PROJECT NO. 00061296
NCSD PROJECT NO. 116086450
AECOM WATER
CADD STDS.
BOYCE/EDO
FOR PRELIMINARY USE ONLY
"DRAFT FINAL PRELIMINARY DESIGN PLANSET"
CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 312316 AND DETAIL SHEETED: JNHS JNFLED: JPF
STA. 4027+84.69 - CONNECTION TO EXISTING
SCALE:

MATERIALS LIST:

1. EXISTING 16" C905 PVC PIPE
2. 16" x 12" TEE, FLG'D
3. 12" GATE VALVE, FLGxFLG (RESTRAINED)
4. 12" RESTRAINED FLANGE ADAPTER
5. EXISTING 16" BUTTERFLY VALVE
6. 16" BUTTERFLY VALVE, FLGxFLG

CONSTRUCTION NOTES:
1. NOTIFY NCSD STAFF PRIOR TO INTERRUPTION OF SERVICE. INTERRUPTION OF SERVICE SHALL BE COORDINATED WITH NCSD AND DURATION SHALL BE MINIMIZED.
2. POTHOLE UTILITY CROSSING PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.
3. NOTE CONCRETE UNDER A.C. REMOVE AND DISPOSE PER SPECIFICATION SECTION 312316 AND DETAIL SHEETED: JNHS JNFLED: JPF

STA. 4027+84.69 - CONNECTION TO EXISTING
SCALE:

NOTE:
1. HOT TAPPING THE 16" C905 TRANSMISSION MAIN WILL NOT BE PERMITTED.

DATE: APRIL 30, 2010

*NOT TO BE USED FOR CONSTRUCTION*
CONSTRUCTION NOTES:
1. PROVIDE AND INSTALL NEW SEWER MANHOLE, TYPE AS INDICATED PER DETAIL.
2. REMOVE EXISTING MANHOLE AND ABANDON PIPE PER DETAIL.
3. ABANDON EXISTING MANHOLE AND/OR SEWER IN-PLACE PER DETAIL.
4. PROJECT IN PLACE.
5. 24" PVC SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH DETAIL.
6. PROJECT EXISTING TREES DO NOT TRIM OR REMOVE WITHOUT PRIOR AUTHORIZATION FROM OWNER.

GENERAL CONSTRUCTION SEQUENCE NOTE:
1. EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 24-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 24-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE /"ABANDONMENT DETAIL" AND SPECIFICATION SECTION 051800.

UTILITY POTHOLE DATA

<table>
<thead>
<tr>
<th>LABEL</th>
<th>SURFACE ELEV. (FT)</th>
<th>DEPTH TO TOP OF PIPE (FT)</th>
<th>PIPE SIZE, MATERIAL AND NOTES</th>
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<tr>
<td>PIH/PH</td>
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SEWER MANHOLE - CONTROL

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<th>EASTING</th>
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<td>562985.42</td>
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<tr>
<td>#2</td>
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*POINT AT CENTER OF MANHOLE BASE*
REREAD AND INSTALL NEW SEWER MANHOLE. TYPE AS INDICATED PER DETAIL.

EXISTING MANHOLE AND/OR SEWER PER DETAIL

SEE GENERAL CONSTRUCTION SEQUENCE NOTE

24" PS46 SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH DETAIL.

PROTECT EXISTING TREES. DO NOT TRIM OR REMOVE WITHOUT PRIOR AUTHORIZATION FROM THE OWNER.

(1) PIPELINE BEARINGS

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<th>No.</th>
<th>Bearing</th>
<th>Northing</th>
<th>Easting</th>
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<tr>
<td>2</td>
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SEWER MANHOLE - CONTROL

SSMH # | NORTHING | EASTING |
-------|----------|---------|
SSMH #0 | 3323367.94 | 5822495.57 |

*POINT AT CENTER OF MANHOLE BASE*

DATE: APRIL 30, 2010

"DRAFT FINAL PRELIMINARY DESIGN PLANSET"
GENERAL CONSTRUCTION SEQUENCE NOTES:

1. EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 24-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 24-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.

2. REPAIR EXISTING PAVEMENT PER DETAIL.

CONSTRUCTION NOTES:

A. ABANDON EXISTING MANHOLE AND/or SEWER PER DETAIL. SEE GENERAL CONSTRUCTION SEQUENCE NOTES.

B. MAINTAIN ACCESS TO WWTP DURING CONSTRUCTION. COORDINATE WITH OWNER'S REPRESENTATIVE AND SPECIFICATION SECTION 011100.

C. PROVIDE AND INSTALL NEW SEWER MANHOLE. TYPE AS INDICATED PER DETAIL.

D. PROTECT IN PLACE.

E. 24" PVC SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH DETAIL.

F. RESTORE EXISTING FENCE TO ORIGINAL CONDITION.

SEWER MANHOLE - CONTROL

SSMH # | NORTHING | EASTING
---|---|---
SSMH #3 | 3202651.19 | 5402270.76
SSMH #4 | 3202661.35 | 5402290.49

*POINT AT CENTER OF MANHOLE BASE*
GENERAL CONSTRUCTION SEQUENCE NOTE

1. Existing 12-inch sewer to remain in service during construction of new PVC sewer and
connection of size mans. Abandon 12-inch sewer piping andLaterals are
connected. Refer to pipe abandonment detail and specification section 013900.

CONSTRUCTION NOTES:

1. Provide and install new sewer manhole type A as indicated per detail.
2. Remove existing manhole and abandonment pipe per detail.
3. Abandon existing manhole and/or sewer per detail.
4. Support existing conduit across trench per detail.
5. Project in place.
6. Slurry between manhole bases.
7. Restore existing signs to original condition.
8. 27-in. PVC pipe per specification section 333112 and trench and fragment repair detail.
9. 24-in. PVC pipe per specification section 333112 and trench detail.

SEWER MANHOLE - CONTROL

SSMH #5
NORTHING: 2203977.73
EASTING: 5821949.58

SSMH #6
NORTHING: 2204069.14
EASTING: 5821942.78

SSMH #7
NORTHING: 2204079.14
EASTING: 5821942.04

SSMH #8
NORTHING: 2204278.65
EASTING: 5821771.32

UTILITY POTHOLE DATA

<table>
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<tr>
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<td>5.00</td>
<td>9&quot; DIAMETER PVC WATER</td>
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NOT TO BE USED FOR CONSTRUCTION IF THIS DRAWING IS NOT TO FULL SCALE.

DATE: APRIL 30, 2010

"DRAFT FINAL PRELIMINARY DESIGN PLAN"
EXISTING GROUND SURFACE OVER E OF SEWER PIPELINE

EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 21-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 21-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.

CONSTRUCTION NOTES:

1. PROVIDE AND INSTALL NEW SEWER MANHOLE, TYPE AS INDICATED PER DETAIL.
2. REMOVE EXISTING MANHOLE AND ABANDON PIPE PER DETAIL.
3. ABANDON EXISTING MANHOLE AND/OR SEWER PER DETAIL.
4. 21" PS46 PVC SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH AND PAVEMENT REPAIR DETAIL.

GENERAL CONSTRUCTION SEQUENCE NOTE:

1. EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 21-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 21-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.

SEWER MANHOLE - CONTROL

SSMH #   NORTHING   EASTING
SSMH #9   2034583.75   5821512.66

[POINT AT CENTER ON MANHOLE]
GENERAL CONSTRUCTION SEQUENCE NOTE:

1. EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 21-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 21-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.

DESIGNED: \[\text{Designer's Name}\]
DETAILED: \[\text{Detailer's Name}\]

DATE: APRIL 2010

AECOM WATER
CADD STDS.

FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION
"UNTIL FINAL PRELIMINARY DESIGN PLANSET"

PIPELINE BEARINGS

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SEWER MANHOLE - CONTROL

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CONSTRUCTION NOTES:

1. PREPARE AND INSTALL NEW SEWER MANHOLE, TYPE AS INDICATED PER DETAIL.
2. REMOVE EXISTING MANHOLE AND ABDON PIPE PER DETAIL.
3. ABANDON EXISTING MANHOLE AND/OR SEWER PER DETAIL.
4. SUPPORT EXISTING CONDUIT ACROSS TRENCH PER DETAIL.
5. 21" PVC SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH AND PAVEMENT REPAIR DETAIL.
6. 21" PVC SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH AND PAVEMENT REPAIR DETAIL.
7. 21" PVC SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH AND PAVEMENT REPAIR DETAIL.
GENERAL CONSTRUCTION SEQUENCE NOTE:

1. **EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 21-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 21-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.**

CONSTRUCTION NOTES:

- PROVIDE AND INSTALL NEW SEWER MANHOLE. TYPE AS INDICATED PER DETAIL.
- REMOVE EXISTING MANHOLE AND ABANDON PIPE PER DETAIL.
- ABANDON EXISTING MANHOLE AND/OR SEWER PER DETAIL.
- SUPPORT EXISTING CONDUIT ACROSS TRENCH PER DETAIL.
- 21" PVC SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH AND PAVEMENT REPAIR DETAIL.

PIPELINE BEARINGS

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SEWER MANHOLE - CONTROL

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*POINT AT CENTER OF MANHOLE BASE*
PROVIDE AND INSTALL NEW SEWER MANHOLE, TYPE AS INDICATED PER DETAIL.

ABANDON EXISTING MANHOLE AND/OR SEWER PER DETAIL.

PIPELINE BEARINGS

PIPE 12" PVC WATER PIPELINE
SEE SHEETS C-122 TO C-131

BANKS PLACE

UTILITY POTHOLE DATA

LABEL | SURFACE ELEV. (FT) | DEPTH TO TOP OF PIPE (FT) | PIPE SIZE, MATERIAL AND NOTES
--- | --- | --- | ---
PHM19 | 327.87 | 3.63 | 6" DIAMETER P.V.C. WATER PIPE
PHM20 | 328.17 | 3.33 | 6" DIAMETER P.V.C. WATER PIPE

GENERAL CONSTRUCTION SEQUENCE NOTE:
1. EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 21-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 21-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.
GENERAL CONSTRUCTION SEQUENCE NOTE:
1. EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 21-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 21-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.

CONSTRUCTION NOTES:
1. PROVIDE AND INSTALL NEW SEWER MANHOLE TYPE AS INDICATED PER DETAIL.
2. REMOVE EXISTING MANHOLE AND ABANDON PIPE PER DETAIL.
3. ABANDON EXISTING MANHOLE AND/OR SEWER PER DETAIL.
4. SUPPORT EXISTING CONDUIT ACROSS TRENCH PER DETAIL.
5. 21" PS115 PVC SEWER PIPE PER SPECIFICATION SECTION 033112 AND TRENCH AND PAVEMENT REPAIR DETAIL.
6. POTHOLE UTILITY PER SPECIFICATION SECTION 023219. SUBMIT WRITTEN POTHOLE REPORT TO OWNER'S REPRESENTATIVE AND NOTIFY OWNER'S REPRESENTATIVE IF CONFLICTS ARE DISCOVERED.
EXISTING GROUND SURFACE OVER EDGE OF SEWER PIPELINE

EXISTING 12-INCH SEWER

S=0.0040
21" PS46 PVC SEWER
INV OUT EL=318.54
INV IN EL=318.64

27" PS46 PVC SEWER
INV OUT EL=318.70

5031+00 PROFILE SCALE
HORIZONTAL 1"=20'
VERTICAL 1"=5'

CONSTRUCTION NOTES:
1. REMOVE EXISTING MANHOLE AND ABANDON PIPE PER DETAIL
2. ABANDON EXISTING MANHOLE AND/OR SEWER PER DETAIL
3. SUPPORT EXISTING CONDUIT ACROSS TRENCH PER DETAIL
4. 27" FIRE P.L.S. SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH AND PAVEMENT REPAIR DETAIL
5. PROTECT IN PLACE
6. STUB AND CAP FOR FUTURE USE

GENERAL CONSTRUCTION SEQUENCE NOTE:
1. EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 21-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.

SEWER MANHOLE - CONTROL

SSMH # 5030+57.43
SSMH #17 5030+52.16

SEWER MANHOLE - CONTROL*

SSMH #16 2205029.38 5819981.62
SSMH #17 2205023.00 5819981.94

*POINT AT CENTER OF MANHOLE BASE
GENERAL CONSTRUCTION SEQUENCE NOTE:
1. EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 21-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 21-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.

CONSTRUCTION NOTES:
- PROVIDE AND INSTALL NEW SEWER MANHOLE, TYPE AS INDICATED PER DETAIL.
- REMOVE EXISTING MANHOLE AND ABANDON PIPE PER DETAIL.
- PROVIDE AND INSTALL 6" SDR35 P.V.C. SEWER PIPE PER SPECIFICATION SECTION 333112 AND TRENCH AND PAVEMENT REPAIR DETAIL.

EXISTING GROUND SURFACE OVER 12" OF SEWER PIPE:
- INV OUT EL=308.80
- INV IN EL=304.62

GENERAL PROFILE:
- HORIZONTAL 1"=20'
- VERTICAL 1"=5'

DATE: APRIL 10, 2010
AECOM PROJECT NO. 60001295
AECOM WATER

SCALE
1"=20'
CONSTRUCTION NOTES:

1. PROVIDE AND INSTALL NEW SEWER MANHOLE, TYPE AS INDICATED PER DETAIL.
2. REMOVE EXISTING MANHOLE AND ABANDON PVC PER DETAIL.
3. INSTALL 8" SDR35 PVC SEWER PIPE PER SPECIFICATION SECTION 333.12 AND TRENCH AND PAVEMENT REPAIR DETAIL.

GENERAL CONSTRUCTION SEQUENCE NOTE:

1. EXISTING 12-INCH SEWER TO REMAIN IN SERVICE DURING CONSTRUCTION OF NEW 21-INCH PVC SEWER AND CONNECTION OF SIDE MAINS. ABANDON 12-INCH SEWER ONCE 21-INCH PVC SEWER, SIDE MAINS AND LATERALS ARE CONNECTED. REFER TO PIPE ABANDONMENT DETAIL AND SPECIFICATION SECTION 015800.
COORDINATES

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NOTES:
1. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION ADDING.
2. REINSTALL EXISTING CORRAL FENCE TO ORIGINAL CONDITION.

MATERIALS LIST

1. 4" SD Elbow, N/A (Restrainted)
2. 4" Restrainted Flange Adapter
3. 4" D.I.P. Spool, Flange
4. 4" Butterfly Valve, Flanged
5. 4" Elbow, MJxMJ (Restrainted)
6. 3" D.I.P. Spool, Flange
7. 3" Butterfly Valve, Flange
8. 3" Elbow, MJxMJ (Restrainted)
9. 2" Flange Adapter
10. 1" Rigid Tee, MJxMJ
11. 1" Butterfly Valve, Flanged
12. 6" Buterfly Valve, MJxMJ
13. 6" Elbow, MJxMJ (Restrainted)
14. 6" D.I.P. Spool, Flange
15. 6" Buterfly Valve, Flanged
16. 6" Elbow, MJxMJ (Restrainted)
17. 3" D.I.P. Spool, Flange
18. 3" Butterfly Valve, Flanged
19. 3" Elbow, MJxMJ (Restrainted)
20. 2" Flange Adapter

PRESSURE REDUCING VALVE VAULT

COORDINATES

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NOTES:
1) INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040.
2) 6" DUCTILE IRON PIPE PER SPECIFICATION SECTION 402040. TRENCH PER DETAIL AND REPAIR PAVEMENT IN ACCORDANCE WITH 4/C-501 AND COUNTY OF SAN LUIS OBISPO.

FINISH GRADE

MATERIALS LIST

1. 10" x 8' - 0" (ID) PRECAST CONCRETE VAULT PER SPECIFICATION SECTION 034220
2. 10" x 6" TEE, FLG'D
3. (2) 6" RESILIENT WEDGE GATE VALVE FLGxMJ
4. (5) 6" D.I.P. WATER LINE (RESTRAINED)
5. (5) 6" x 6" x 4" REDUCING ON RUN TEE, FLG'D
6. (2) 6" D.I.P. SPOOL, RGxPE
7. (5) WALL PENETRATION PER DETAIL
8. (5) 4" D.I.P. SPOOL, PExPE
9. (1) 6" BUTTERFLY VALVE, FLG'D
10. (3) 8" x 8" D.I.P. SPOOL, FLG'D
11. (1) 6" PRESSURE REDUCING VALVE
12. (1) 6" ROMAC DJ405 DISMANTLING JOINT, FLGxFLG, COMPACT BACKFILL TO 95% RELATIVE COMPACTION
13. 4" BUTTERFLY VALVE, FLG'D
14. 6" x 8" D.I.P. SPOOL, FLG'D
15. 6" BUTTERFLY VALVE, FLG'D
16. 6" PRESSURE GAUGE AND TRANSMITTER
17. 4" 45° ELBOW, MJxMJ (RESTRAINED)
18. PIPE SUPPORT PER DETAIL
19. 8" x 10" DOOD PRESSCAST CONCRETE VAULT PER SPECIFICATION SECTION 04220
20. CLEAN COMPACTED CRUSHED ROCK, WRAPPED ALL SIDES WITH FILTER FABRIC PER SPEC. SECTION 312323
21. WALL MOUNTED PRESSURE TRANSMITTER PER DETAIL
EXISTING 8" WATER LINE
STA. 3042+22.45 EL=330.19
(SEE SHEET C—131)

NOTES:
1. INSTALL RESTRAINED JOINT PIPE AND FITTINGS PER SPECIFICATION SECTION 402040.
2. 8" DUCTILE IRON PIPE PER SPECIFICATION SECTION 402040. TRENCH PER DETAIL SECTION VIEW SCALE: 1/4" = 1'-0" AND REPAIR PAVEMENT IN ACCORDANCE WITH A/C-501 AND COUNTY OF SAN LUIS OBISPO.

MATERIALS LIST
1. 8" TEE, FLG'D
2. 8" RESTRAINED FLANGE ADAPTER
3. 8" 90° ELBOW, FLG'D
4. 8" D.I.P. SPOOL, FLG'D
5. 6" D.I.P. SPOOL, PE
6. 6" RESTRAINED FLANGE ADAPTER
7. 6" ELEVATION REDUCER ON RUN TEE, FLG'D
8. 6" D.I.P. SPOOL, PE
9. WALL PENETRATION PER DETAIL
10. LADDER PER DETAIL
11. 6" BUTTERFLY VALVE, FLG'D
12. 8" D.I.P. SPOOL, FLG'D
13. 8" PRESSURE REDUCING VALVE (CLA-VAL 90-01)
14. 6" ROMAC DJ405 DISMANTLING JOINT, FLG'D
15. 6"x6"x4" TEE, FLG'D
16. 8"x6"x4" TEE, FLG'D
17. 12" RESILIENT WEDGE GATE VALVE, FLG'D
18. 8" BUTTERFLY VALVE, FLG'D
19. 6" PRESSURE GAUGE AND TRANSMITTER PER DETAIL
20. 6"x14" DOUBLE LEAF ALUMINUM ACCESS HATCH (CLA-VAL 90-01)
21. CLEAN COMPACTED CRUSHED ROCK (CLA-VAL 90-01)
22. WALL MOUNTED PRESSURE TRANSMITTERS PER DETAIL

SECTION VIEW SCALE: 1/4" = 1'-0"
**COORDINATES**

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**PRESSURE REDUCING VALVE VAULT**

**SECTION VIEW**

**MATERIALS LIST**

1. 10" RESTRAINED FLANGE ADAPTER
2. 10" BUTTERFLY VALVE, FLG'D
3. 10" GATE VALVE, FLG'D (RESTRAINED) (NORMALLY CLOSED)
4. 6" RESTRAINED INSIDE VALVE, FLG'D
5. 6" D.I.P. SPOOL, FLG'D
6. 6" BUTTERFLY VALVE, FLG'D
7. 6" PRESSURE REDUCING VALVE, (CLA-VAL 90-01)
8. 6" ROMAC DJ405 DISMANTLING JOINT, FLG'D
9. 6" X 8" BUTTERFLY VALVE, FLG'D
10. 6" D.I.P. SPOOL, FLG'D
11. 6" BUTTERFLY VALVE, FLG'D
12. 6" PRESSURE REDUCING VALVE (CLA-VAL 90-01)
13. 6" ROMAC DJ405 DISMANTLING JOINT, FLG'D

**SECTION VIEW**

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**PRESSURE REDUCING VALVE VAULT**

**SECTION VIEW**

**MATERIALS LIST**

1. 10" RESTRAINED FLANGE ADAPTER
2. 10" BUTTERFLY VALVE, FLG'D
3. 10" GATE VALVE, FLG'D (RESTRAINED) (NORMALLY CLOSED)
4. 6" RESTRAINED INSIDE VALVE, FLG'D
5. 6" D.I.P. SPOOL, FLG'D
6. 6" BUTTERFLY VALVE, FLG'D
7. 6" PRESSURE REDUCING VALVE, (CLA-VAL 90-01)
8. 6" ROMAC DJ405 DISMANTLING JOINT, FLG'D
9. 6" X 8" BUTTERFLY VALVE, FLG'D
10. 6" D.I.P. SPOOL, FLG'D
11. 6" BUTTERFLY VALVE, FLG'D
12. 6" PRESSURE REDUCING VALVE (CLA-VAL 90-01)
13. 6" ROMAC DJ405 DISMANTLING JOINT, FLG'D

**SECTION VIEW**

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**PRESSURE REDUCING VALVE VAULT**

**SECTION VIEW**

**MATERIALS LIST**

1. 10" RESTRAINED FLANGE ADAPTER
2. 10" BUTTERFLY VALVE, FLG'D
3. 10" GATE VALVE, FLG'D (RESTRAINED) (NORMALLY CLOSED)
4. 6" RESTRAINED INSIDE VALVE, FLG'D
5. 6" D.I.P. SPOOL, FLG'D
6. 6" BUTTERFLY VALVE, FLG'D
7. 6" PRESSURE REDUCING VALVE, (CLA-VAL 90-01)
8. 6" ROMAC DJ405 DISMANTLING JOINT, FLG'D
9. 6" X 8" BUTTERFLY VALVE, FLG'D
10. 6" D.I.P. SPOOL, FLG'D
11. 6" BUTTERFLY VALVE, FLG'D
12. 6" PRESSURE REDUCING VALVE (CLA-VAL 90-01)
13. 6" ROMAC DJ405 DISMANTLING JOINT, FLG'D

**SECTION VIEW**

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<td>B</td>
<td>2208016.76</td>
<td>5819543.29</td>
<td>SOUTH INSIDE CORNER</td>
</tr>
<tr>
<td>C</td>
<td>2208233.83</td>
<td>5819549.40</td>
<td>NORTH INSIDE CORNER</td>
</tr>
<tr>
<td>D</td>
<td>2208017.83</td>
<td>5819554.57</td>
<td>EAST INSIDE CORNER</td>
</tr>
</tbody>
</table>
NOT TO SCALE

**Concrete Wall**

- Galvanized Steel Long Radius Core Drill Concrete Per Table A
- Passing Pipe Saddle Support at PRV, TYP.
- 2 1/2" Min. Threaded Rod 3" Oil, Max. Std. WT. Steel Pipe Anchor Bolts with Nuts and Washers, 5/8" x 6" (4 Req'd)
- 1/2" or 3/4" Saddle Steel Base Plate Conつい with System to Per Specification Section 099000.

**Table A**

<table>
<thead>
<tr>
<th>ø</th>
<th>3&quot;</th>
<th>4&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP</td>
<td>1 1/4&quot;</td>
<td>1 1/2&quot;</td>
</tr>
</tbody>
</table>

**Passing Pipe**

- 4" Saddle Support at PRV, TYP.
- 10" ID

**Steel Base Plate**

- 12" x 12" x 5/8"

**Stainless Steel**

- Type 316

**Notes:***

1. Coat with System 10 Per Specification Section 099000.
2. Bolts, Nuts, and Washers Shall Be Type 316, Stainless Steel.

---

**Concrete Pad**

- 2'-0" Sq. x 8" Thick Class "A"

**Table A**

<table>
<thead>
<tr>
<th>ø</th>
<th>10&quot; I.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;D&quot;</td>
<td>6&quot; D.I.P.</td>
</tr>
</tbody>
</table>

**Steel Base Plate**

- 12" x 12" x 5/8"

**Steel Base Plate**

- 12" x 12" x 5/8"

---

**Ladder Detail**

- Not to Scale

**Wood Retaining Walls**

- Pressure treated Douglas Fir no. 2 Post <g> 4 FT. O.C. Post @ 6 FT. O.C.
- 4 FT. 5 FT. 6 FT.

**Notes:***

1. SST = Type 316 Stainless Steel
2. Unless Noted Otherwise Pipe to Be Bronze

---

**Pressure Gauges and Pressure Transmitter Mounting (Pipe)**

- Not to Scale
JACKED CASING AND CASING SECTION NOTES:

1. JACKED STEEL CASINGS SHALL BE IN CONFORMANCE WITH SPECIFICATION SECTION 317216.
2. USE BENTONITE AS REQ'D TO REDUCE JACKING FORCE.
3. ALL STEEL CASING SECTIONS SHALL BE JOINED BY CONTINUOUS WELDING PROCESS.
4. ALL CARRIER PIPE JOINTS WITHIN CASING SHALL BE RESTRAINED PER SPECIFICATION SECTION 402040.
5. FOR NUMBER AND SPACING OF CASING RUNNERS, SEE SPEC. SECTION 317216.
6. BACKFILL ANNULAR SPACE BETWEEN CASING AND CARRIER PIPE WITH SAND PER SPECIFICATION SECTION 317216.
7. EACH END OF A CASING SHALL BE FITTED WITH AN END SEAL, INSTALLED AS SHOWN AND SECURELY FASTENED WITH S.S. CLAMPS. THE END SEAL SHALL BE A MIN. 1/8" THICK NEOPRENE.

Note: Each settlement rod shall have a separate borehole. Boreholes should be separated a minimum of 3 feet and installed directly over the centerline of the bore. Install 2 rods at each monitoring location, one at the depth of 3 feet and one at a depth of 6 feet.

Note: See specification section 317216 for subsurface settlement monitoring requirements and tolerances.

SETTLEMENT ROD DETAIL

NOT TO SCALE

JACKED CASING GROUT CONNECTION

NOT TO SCALE

N.C.S.D. FIRE HYDRANT ASSEMBLY

NOT TO SCALE
SET COVER OF VALVE BOX AND CONCRETE PAD 1/4" BELOW GRADE IN PAVEMENT OR SHOULDER AND 2" ABOVE GRADE ELSEWHERE.

- PROVIDE 8" THICK CLASS "A" CONCRETE PAD AS DIMENSIONED.
- FRAME AND LID FOR TRAFFIC LOADING.

FRAME AND LID FOR TRAFFIC LOADING.

GROUND OR PAVEMENT - FINISHED GRADE

GROUND OR PAVEMENT - FINISHED GRADE

8" SDR 35 PVC EXTENSION VALVE ENDS AS SPECIFIED

BOLTS TO BE BITUMEN COATED

RESILIENT SEAT GATE VALVE, FLANGED OR MJ FITTINGS

- INSTALL THRUST BLOCK IF IN LINE VALVE IS USED. (CONDITION 6)

ANCHOR BLOCK WITH TIE-DOWNS SEE DETAIL

- INSTALL THRUST BLOCK IF IN LINE VALVE IS USED. (CONDITION 6)

ANCHOR BLOCK WITH TIE-DOWNS SEE DETAIL

NOT TO SCALE

NOT TO SCALE

NOT TO SCALE

NOT TO SCALE
NOT TO SCALE

5. WATERLINE TRENCH DETAIL

NOT TO SCALE

WATERLINE TRENCH DETAIL

NOT TO SCALE

NOTES:

1. WATERMAIN WITH A DIAMETER GREATER THAN 12" SHALL USE A 4" OUTLET FROM THE MAIN WITH A 6" LATERAL, AND VALVE AND A 4" BRONZE NIPPLE.

2. MINIMUM DISTANCE BETWEEN OUTLET AND VALVE TO CLEAR PIPE BY 6".

3. LENGTH L IS APPROXIMATE HORIZONTAL LENGTH OF BLOWOFF PIPING BETWEEN MAIN PIPE AND BLOWOFF BOX.

4. NO TRENCH PER NOTE 1 TO REMOVE AN ADDITIONAL 12" MIN OF ASPHALT SURFACE.

5. COMPLETED EXISTING SECTION OR AS REQUIRED BY THE COUNTY OF SAN LUIS OBISPO PUBLIC WORKS DEPARTMENT.

NOT TO SCALE

NOTES:

1. BLOWOFF PIPING BETWEEN MAIN PIPE AND 8" BLOWOFF CLEAR PIPE BY 6".

2. BLOWOFF PER NOTE 1 TO REMOVE AN ADDITIONAL 12" MIN OF ASPHALT SURFACE.

3. CLEAR PIPE BY 6".

4. NOTE 1 TO REMOVE AN ADDITIONAL 12" MIN OF ASPHALT SURFACE.

COUNTY OF SLO SURFACE RESTORATION - A.C. PAVED AREAS

NOT TO SCALE

NOTES:

1. IF A SEAM IS WITHIN 3- FEET OF EDGE OF PAVEMENT, CONTRACTOR SHALL RESTORE SURFACE TO PAVEMENT EDGE CONDITIONS.

2. SEAMS AT CENTER OF LANE ARE ALLOWABLE TO 1'- 6" FROM CENTERLINE. SEAMS 3'- 0" FROM CENTERLINE ARE ALLOWABLE TO 1'- 0".

3. SURFACE RESTORATION SHALL COMPLY WITH SLO COUNTY ENCROACHMENT PERMIT CONDITIONS.

SURFACE RESTORATION-ALLOWABLE SAWCUT SEAMS

NOT TO SCALE

NOTES:

1. A TACK COAT SHALL BE APPLIED TO ALL HORIZONTAL AND VERTICAL CONFORM SURFACES PRIOR TO PAVING.

2. AVOID EXISTING UTILITIES IN PLANT, SEE DETAIL.

SURFACE RESTORATION AT OBLIQUE CROSSING

NOT TO SCALE

NOTES:

1. CONTINUE TYPICAL TRENCH REPAIR AND SURFACE RESTORATION TO MATCH

2. SEAL TO BE PERPENDICULAR TO TRaveled WAY (TYP.)

NOTE 6

NOTE 4

NOTE 2

NOTE 1

NOT TO SCALE

COUNTY OF SLO SURFACE RESTORATION - A.C. PAVED AREAS

NOT TO SCALE

NOTES:

1. SAWCUT TO REMOVE DAMAGED OR FAILED PAVEMENT SECTION ADJACENT TO THE EDGE OF TRENCH AS NEECESARY TO PROVIDE A CLEAN AREA. ALL SURFACES SHAL BE LEFT OF IN PLACE PRIOR TO THE PLACING OF THE PERMANENT PAVEMENT.

2. THE STRUCTURAL ROAD REPAIR SECTION SHALL MATCH THE EXISTING STRUCTURAL SECTION THICKENED OR AS REQUIRED BY THE COUNTY OF SAN LUIS OBISPO PUBLIC WORKS DEPARTMENT. TYPICAL ROAD WIDENING SECTION SHALL BE:

3. ASPHALT CONCRETE PER THE DESIGN STANDARDS TO SIDE RELATIVE COMPACTION, OVER

COUNTY OF SLO SURFACE RESTORATION - A.C. PAVED AREAS

NOT TO SCALE

NOTES:

1. SAWCUT PRIOR TO CONSTRUCT TRENCH AS NEECESARY TO PROVIDE A CLEAN AREA. ALL SURFACES SHAL BE LEFT OF IN PLACE PRIOR TO THE PLACING OF THE PERMANENT PAVEMENT.

2. EACH TRENCH PER NOTE 1 TO REMOVE AN ADDITIONAL 12" MIN OF ASPHALT SURFACE.

3. CLEAR PIPE BY 6".

COUNTY OF SLO SURFACE RESTORATION - A.C. PAVED AREAS

NOT TO SCALE

NOTES:

1. SAWCUT PRIOR TO CONSTRUCT TRENCH AS NEECESARY TO PROVIDE A CLEAN AREA. ALL SURFACES SHAL BE LEFT OF IN PLACE PRIOR TO THE PLACING OF THE PERMANENT PAVEMENT.

2. EACH TRENCH PER NOTE 1 TO REMOVE AN ADDITIONAL 12" MIN OF ASPHALT SURFACE.

3. CLEAR PIPE BY 6".

COUNTY OF SLO SURFACE RESTORATION - A.C. PAVED AREAS

NOT TO SCALE

NOTES:

1. SAWCUT PRIOR TO CONSTRUCT TRENCH AS NEECESARY TO PROVIDE A CLEAN AREA. ALL SURFACES SHAL BE LEFT OF IN PLACE PRIOR TO THE PLACING OF THE PERMANENT PAVEMENT.

2. EACH TRENCH PER NOTE 1 TO REMOVE AN ADDITIONAL 12" MIN OF ASPHALT SURFACE.

3. CLEAR PIPE BY 6".
NEW SEWER MAIN

SANITARY TEE OR WYE

OUTSIDE ROAD PAVEMENT

INSIDE ROAD PAVEMENT

SURFACE RESTORATION, A/C

PAVED AREAS

SEE DETAIL

NOTES:

1. TRENCH ZONE IN PAVED AREAS SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.

2. COMPACTION OF PAVER ZONE SHALL BE PER COUNTY OF SAN LUIS OBISPO DETAIL 312316 PRIOR TO THE PLACING OF THE PERMANENT PAVER.

3. PROVIDE ROCK REFILL ENCASED IN FILTER FABRIC FOR OVER EXCAVATION IN SOFT, WET, OR YIELDING SOILS AND/OR FOUNDATION STABILIZATION PER OWNER'S REPRESENTATIVE SPECIFICATION SECTION 312316. PRIOR TO THE PLACING OF THE PERMANENT PAVER.

4. PROVIDE ROCK REFILL ENCASED IN FILTER FABRIC FOR OVER EXCAVATION IN SOFT, WET, OR YIELDING SOILS AND/OR FOUNDATION STABILIZATION PER OWNER'S REPRESENTATIVE SPECIFICATION SECTION 312316. PRIOR TO THE PLACING OF THE PERMANENT PAVER.

5. INSIDE THE TRENCH TRENCH ZONE IN PAVED AREAS SHALL BE COMPACTED TO 95% RELATIVE COMPACTION. THE TOP SIX INCHES (6") OF THE BACKFILL CONSIST OF CLASS II AGGREGATE BASE COMPACTED TO 95%. SHOULDERS HAVING A GREATER DEPTH OF BASE MATERIAL THAN SIX INCHES (6") SHALL BE REPLACED WITH FOUNDATION STABILIZATION (VARIES AS AUTHORIZED) SEE SPECIFICATION SECTION 312316.

6. PROVIDE ROCK REFILL ENCASED IN FILTER FABRIC FOR OVER EXCAVATION IN SOFT, WET, OR YIELDING SOILS AND FOUNDATION STABILIZATION (VARIES AS AUTHORIZED) SEE SPECIFICATION SECTION 312316.

7. COUPLING AS NEEDED

EXISTING LATERAL

NOTE:

FOR DEEP SEWER USE CHIMNEY LATERAL CONNECTION PER N.C.S.D. STANDARD DRAWING S-10.

CASE B PVC PIPE FOR GRAVITY SEWER

(3-FT. COVER ≤18.5-FT)

SEWER TRENCH DETAIL

NOT TO SCALE

NOTES:

1. THESE TYPICAL DETAILS SHOW THE MINIMUM REQUIREMENTS FOR SUPPORT OF EXISTING UTILITIES CROSSING THE PIPE TRENCH. DETAILED DESIGN MUST BE PERFORMED TO ENSURE THE SYSTEM'S CAPABILITY TO support the INDIVIDUAL UTILITY OWNER'S SUPPORT AND REINFORCEMENT REQUIREMENTS.

2. SEE SPECIFICATION SECTION 312316. FOR NEW PIPE FOUNDATION STABILIZATION.

3. 12" MIN SPECIFICATION SECTION 312316.

4. CONTRACTOR TO SUPPORT UTILITY DURING CONSTRUCTION TO PREVENT MOVEMENT OF THE EXISTING UTILITY. DO NOT ALTER THE LINE OR GRADE OF THE EXISTING UTILITY. SEE SPECIFICATION SECTION 020120.

SECTION NOT TO SCALE

TYPICAL UTILITY CROSSING

NOT TO SCALE
MANHOLE OUTSIDE | MANHOLE INSIDE

CLASS "A" CONCRETE
CAST-IN-PLACE BASE
12" MIN. CLR
SEE NOTE 1

LATERAL/MAIN
12" MIN. CLR
PER PLANS
SEE NOTE 1

1 1/2"-24" DIA. OR 36" DIA COVER
12" CONCRETE COLLAR, CLASS "A", 6-SACK, 3000 PSI, OVER 6" CLASS II AGG. BASE ("%" AGG.)
OUTSIDE WALL OF MANHOLE/GRADE RINGS

NOTE:
1. MANHOLE FRAME AND COVER SHALL BE MODEL NO. 1495, 200 LB LID AS MANUFACTURED BY SOUTH BAY FOUNDRY PER SPECIFICATION SECTION 034210.

GENERAL NOTES:
1. ADJUST SPIGOT AND BELL STUB LENGTHS AS NECESSARY TO PROVIDE MINIMUM CLEARANCES SHOWN.

SHALLOW 60" SEWER MANHOLE

NOT TO SCALE

TYPICAL SECTION A-A

NOTE:
1. MANHOLE FRAME AND COVER SHALL BE MODEL NO. 1495, 200 LB LID AS MANUFACTURED BY SOUTH BAY FOUNDRY PER SPECIFICATION SECTION 034210.
Pavement Repair

Sewer Pipe Segment to be Abandoned

Class "A" Concrete
Cut End
Plug Pipe with Sand Bags

Notes:
1. Both ends of abandoned pipe segments shall be plugged as shown.

Typical Manhole Abandonment

Typical Pipeline Abandonment
GENERAL NOTES:
1. ADJUST SPIGOT AND BELL STUB LENGTHS AS NECESSARY TO PROVIDE MINIMUM CLEARANCES SHOWN.
2. EXISTING 12" SANITARY SEWER TO REMAIN IN OPERATION UNTIL UPSTREAM TIE-INS TO THE NEW FRONTAGE ROAD SEWER ARE COMPLETED PER CONTRACTOR SUBMITTED CHANGE-OVER PLAN PER SPECIFICATION SECTION 015800.
3. POTHOLE EXISTING SEWER BEFORE CONSTRUCTION.
4. CAST INTERFERENCE MANHOLE IN-PLACE AROUND EXISTING SEWER LINE.
5. FORM CHANNEL WITH INSERT ELEVATIONS SHOWN IN THE DRAWINGS.
6. ONCE CONSTRUCTION OF NEW SEWER IS COMPLETE AND TIE-INS HAVE BEEN MADE ABANDON EXISTING 12" SEWER PER DETAIL 2 ON SHEET C-506. CUT 12" SEWER ENDS FLUSH WITH INTERFERENCE MANHOLE WALLS AND REMOVE SEGMENT OF 12" SEWER FROM INTERFERENCE MANHOLE. FORM CONTINUOUS MANHOLE SLEEVES WITH 2" SLOPE TOWARD CHANNEL.

INTERFERENCE MANHOLE - TEMPORARY CONSTRUCTION

INTERFERENCE MANHOLE - COMPLETE MANHOLE
GROUND WELL DETAIL

NOT TO SCALE

FINISH GRADE
GROUND CONNECTOR
GROUND BASE
GROUND ROD

CONDUIT & WIRE PER PLANS

GROUNDED CONDUIT & WIRE PER PLANS

PUMP CONTROL POWER PEDESTAL

100A, 120/240V,
1Ph, 3W

TO PG&E
POWER POINT
OF CONNECTION

120A 2P
30A 2P

ELEVATION

NOT TO SCALE

SINGLE LINE DIAGRAM

NOT TO SCALE
### NAMEPLATE

**B**

**MAIN 40/2P**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>OUTLET</th>
<th>20/240 VOLT</th>
<th>TOTAL LOAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>300</td>
<td>1</td>
<td></td>
<td>600</td>
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<td>300</td>
<td>300</td>
<td>2</td>
<td></td>
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<td>300</td>
<td>300</td>
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<td>300</td>
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<tr>
<td>300</td>
<td>300</td>
<td>10</td>
<td></td>
<td>600</td>
</tr>
</tbody>
</table>

### PANEL LIGHTS

**A**

**B**

**PLC**

**TOTAL LOAD**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>600</td>
</tr>
</tbody>
</table>

**KW + LO.**

**KW AT 240 VOLTS**

**1PH = 3.5 AMPS**

---

**PUMP CONTROL POWER PEDESTAL**

**ELEVATION**

**SINGLE LINE DIAGRAM**

**NOT TO SCALE**

---

**DATE:** APRIL 30, 2010

**FOR PRELIMINARY USE ONLY**

**NOT TO BE USED FOR CONSTRUCTION**

---

**AECOM WATER**

**FOR PRELIMINARY USE ONLY**

**NOT TO BE USED FOR CONSTRUCTION**

**DATE:** APRIL 30, 2010

**"DRAFT FINAL PRELIMINARY DESIGN PLANETU"**
### Panel Lights

<table>
<thead>
<tr>
<th>OUTLETS</th>
<th>20A-1P U.O.N.</th>
<th>AMPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.2</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>0.2</td>
<td>1</td>
</tr>
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</table>

### PLC

<table>
<thead>
<tr>
<th>OUTLETS</th>
<th>20A-1P U.O.N.</th>
<th>AMPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.2</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>0.2</td>
<td>1</td>
</tr>
</tbody>
</table>

### Total Load

- **Volts:** 20/240V, 1PH, 3W
- **Wattage:** A: 300, B: 300

---

**Pump Control Power Pedestal**

- **Volts:** 120/240V, 1P, 3W
- **Amperage:** 45A

---

**Single Line Diagram**

- **Panel:** C
- **Exterior:** E

---

**Elevation**

- **Dimensions:** 30" x 20" x 20"
### Instrument Identification

<table>
<thead>
<tr>
<th>LETTER</th>
<th>MODIFIER</th>
<th>SUCCESSING LETTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>ANALYSIS</td>
<td>ALARM</td>
</tr>
<tr>
<td>B</td>
<td>BURNER, COMBUSTION</td>
<td>USER'S CHOICE</td>
</tr>
<tr>
<td>C</td>
<td>CONDUCTIVITY</td>
<td>CONTROL</td>
</tr>
<tr>
<td>D</td>
<td>USERS CHOICE</td>
<td>DIFFERENTIAL</td>
</tr>
<tr>
<td>E</td>
<td>VOLTAGE</td>
<td>SENSOR (FREQUENCY ELEMENT)</td>
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<tr>
<td>F</td>
<td>FLOW RATE</td>
<td>RATIO (FUNCTION)</td>
</tr>
<tr>
<td>G</td>
<td>USERS CHOICE</td>
<td>GLASS, WELDING DEVICE</td>
</tr>
<tr>
<td>H</td>
<td>PANEL</td>
<td>HIGH</td>
</tr>
<tr>
<td>I</td>
<td>CURRENT (ELECTRICAL)</td>
<td>USER'S CHOICE</td>
</tr>
<tr>
<td>J</td>
<td>POWER</td>
<td>USER'S CHOICE</td>
</tr>
<tr>
<td>K</td>
<td>TIME, TIME SCHEDULE</td>
<td>TIME RATE OF CHANGE</td>
</tr>
<tr>
<td>L</td>
<td>LEVER</td>
<td>LIGHT</td>
</tr>
<tr>
<td>M</td>
<td>USERS CHOICE</td>
<td>MOMENTARY</td>
</tr>
<tr>
<td>N</td>
<td>USERS CHOICE</td>
<td>FORCE, RESTRICTION</td>
</tr>
<tr>
<td>O</td>
<td>PRESSURE, VACUUM</td>
<td>PUMP (TEST) CONNECTION</td>
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<tr>
<td>P</td>
<td>QUANTITY</td>
<td>INTERMODULATE</td>
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<td>Q</td>
<td>RADIATION</td>
<td>RECORD</td>
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<td>FREQUENCY, SAFETY</td>
<td>SWITCH</td>
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<td>TRANSIENT</td>
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<td>MULTIVARIABLE</td>
<td>MULTIPLICATION</td>
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<tr>
<td>U</td>
<td>VIBRATION, MECHANICAL ANALYSIS</td>
<td>VALUE, ANTIPLUG</td>
</tr>
<tr>
<td>V</td>
<td>WINDAGE, FORCE</td>
<td>WELL</td>
</tr>
<tr>
<td>W</td>
<td>UNCLASSIFIED</td>
<td>X AXIS</td>
</tr>
<tr>
<td>X</td>
<td>UNCLASSIFIED</td>
<td>Y AXIS</td>
</tr>
<tr>
<td>Y</td>
<td>UNCLASSIFIED</td>
<td>Z AXIS</td>
</tr>
<tr>
<td>Z</td>
<td>POSITION, DIMENSION</td>
<td>X AXIS</td>
</tr>
</tbody>
</table>

### Pumps & Compressors

- **Centrifugal Pump**
- **Vertical Turbine Pump**
- **Compressor or Blower**
- **Positive Displacement Pump or Blower**
- **Ductile Meter**
- **Ductile Flow Meter**
- **Ductile Switch**
- **Ductile Level Switch**

### Primary Elements

- **Flow Tube**
- **Anemometer**
- **Flow Meter**
- **Flow Switch**
- **Flow Level Switch**

### Instrument Line Symbols

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>PRIMARY PROCESS FLOW</td>
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<tr>
<td>SECONDARY PROCESS FLOW</td>
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<tr>
<td>CONNECTION TO PROCESS FLOW</td>
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</tr>
<tr>
<td>PNEUMATIC SIGNAL</td>
<td></td>
</tr>
<tr>
<td>ELECTRIC SIGNAL</td>
<td></td>
</tr>
<tr>
<td>ELECTRIC SIGNAL (ANALOG, twisted shield pair)</td>
<td></td>
</tr>
<tr>
<td>ELECTRIC SIGNAL (ANALOG, twisted shielded triax)</td>
<td></td>
</tr>
<tr>
<td>PLUG</td>
<td></td>
</tr>
<tr>
<td>ECCENTRIC PLUG</td>
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<tr>
<td>LUBRICATED PLUG</td>
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</tr>
<tr>
<td>5-WAY GLOBE</td>
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<tr>
<td>BIL CHECK</td>
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</tr>
<tr>
<td>PRESSURE RELIEF VALVE</td>
<td></td>
</tr>
<tr>
<td>PINCH VALVE</td>
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</tr>
</tbody>
</table>

### Valves & Gates

- **Butterfly**
- **Gate**
- **Knife Gate**
- **Swing Check**
- **Ball**
- **Solenoid**
- **Spray Nozzle**
- **Pinch Valve**

### Actuators or Operators

- **Motor (Modulating)**
- **Motor (Open/Close)**
- **Solenoid**
- **Pneumatic**

### Instrument ABBREVIATIONS

- **AC** Alternating Current
- **AD** Analog Input
- **AO** Analog Output
- **AM** Auto-Manual
- **BW** Backwash
- **DC** Direct Current
- **DI** Discrete Input
- **DO** Discrete Output
- **ETM** Elapsed Time Meter
- **HR** Hand-Restore
- **HL** High-Low
- **LPU** Multi-Point
- **LP** Line Protection Unit
- **MCC** Motor Control Center
- **N** Open
- **NC** Open-Auto
- **OSCA** Open-Stop-Auto
- **ODR** On-Off-Remote
- **ODA** On-Off-Auto
- **OA** On-Auto
- **PS** Process Supply
- **PRV** Pressure Relief Valve
- **RTH** Remote Terminal Unit
- **RTD** Resistance Temperature Detector
- **SCS** Supervisory Control Station
- **SP** Set Point
- **SS** Supervisory Station
- **S1** Status-to-Command Disagreement
- **TURB** Turbine
- **UTC** Time Proportional Control
- **TST** Totalization
- **TEMP** Temperature

### Special Notes

- Loop No. 001, designed by CR, dated April 2010.
INSTRUMENT CONTROL PANEL (ICP-X) LAYOUT

NOTES

1. SEE THE FOLLOWING FOR ICP NUMBER AND NAMEPLATE ENGRAVING

<table>
<thead>
<tr>
<th>ICP NUMBER</th>
<th>NAMEPLATE ENGRAVING</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>ORCHARD PRV</td>
</tr>
<tr>
<td>117</td>
<td>SOUTHEND PRV</td>
</tr>
<tr>
<td>131</td>
<td>FRONTAGE/GRADE PRV</td>
</tr>
<tr>
<td>134</td>
<td>OAKGLEN PRV</td>
</tr>
</tbody>
</table>

MONOPOLE ANTENNA MAST

NOT TO SCALE

PRESSURE TRANSMITTER MOUNTING

NOT TO SCALE