

# 7

MAY 22 2008



**Chandler • Arizona**  
*Where Values Make The Difference*

**MEMORANDUM PUBLIC WORKS – COUNCIL MEMO NO. PWE08-017**

**DATE:** MAY 22, 2008

**TO:** MAYOR & COUNCIL

**THRU:** W. MARK PENTZ, CITY MANAGER   
R.J. ZEDER, PUBLIC WORKS DIRECTOR   
SHEINA HUGHES, ASSISTANT PUBLIC WORKS DIRECTOR/ CITY ENGINEER 

**FROM:** WARREN WHITE, SENIOR ENGINEER 

**SUBJECT:** ORDINANCE NO. 3932 AMENDING SECTION 43-5.1 OF CHAPTER 43 OF CHANDLER CITY CODE RELATING TO THE CITY OF CHANDLER STANDARD SPECIFICATIONS AND DETAILS

RECOMMENDATION: Staff recommends that Council introduce and tentatively approve Ordinance No. 3932 amending section 43-5.1 of Chapter 43 of Chandler City Code relating to the City of Chandler Standard Specifications and Details. This revision pertains to certain Transportation related details and Municipal Utilities water and reclaimed meter and service details.

BACKGROUND/DISCUSSION: Public Works, Traffic Engineering is recommending updates to details C-210, C-223 (PG 2) and C-226:

- Detail C-210 - revise cross section dimension from 21' back of curb (B/C) to 22.5' B/C.
- Detail C-223 (Pg 2) - revise median bullnose radius dimension from 2' B/C to 1' B/C.
- Detail C-226 - revise median bullnose radius dimension of 1' B/C to 0.5' B/C.

Municipal Utilities, Water Distribution is recommending updates to details C-301, C-316, C-404 and a new detail C-416:

- Detail C-301- graphical revisions for clarification, corrections to notes, updates for a new polymer meter box and cover and new signal antenna used by Utility Services to read meter usage.
- Detail C-316 - graphical revisions for clarification, corrections to notes, updates for new vault requirements and notes to allow Water Distribution to supply and install all large meters (3" and larger). Note: The City already installs 2" and smaller meters.

Council Memo No. PWE08-017

May 22, 2008

Page Two

- Detail C-404 (PG 1-12) – revisions and additional standard details needed for reclaimed water services to accommodate various meter sizes and flow requirements.
- Detail C-416 – New detail for 3” and 4” reclaimed water meter vault. Water Distribution to supply and install similar to C-316.

FINANCIAL IMPLICATIONS: None. Municipal Utilities will purchase and stock all meters. The exact cost of the meter (and assembly) will be charged to the developer on the water meter permit.

PROPOSED MOTION: Move that Council introduce and tentatively approve Ordinance No. 3932 amending section 43-5.1 of Chapter 43 of Chandler City Standard Specifications and Details pertaining to certain Transportation related details and Municipal Utilities water and reclaimed meter and service details.

Attachments:

Ordinance No. 3932

Proposed Revisions to Details

**ORDINANCE NO. 3932**

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CHANDLER, ARIZONA, AMENDING SECTION 43-5.1 OF CHAPTER 43 OF CHANDLER CITY CODE; RELATING TO THE CITY OF CHANDLER STANDARD DETAILS AND SPECIFICATIONS.

**WHEREAS**, the City has Standard Details and Specifications that are used to establish minimum standards for construction; and

**WHEREAS**, from time to time the Standard Details and Specifications need to be revised to accommodate changes in design standards, construction techniques, needed project features, and errors or omissions; and

**WHEREAS**, corrections are necessary to resolve dimensional errors on certain transportation related standard details and municipal utilities water and reclaimed meter and service details;

**NOW, THEREFORE**, BE IT ORDAINED by the City Council of the City of Chandler, Arizona:

Section 1. Section 43-5.1 is hereby amended to read as follows:

43-5.1 City of Chandler Standard Details and Specifications. That certain document on file with the City Clerk marked, known and designated as “City of Chandler Standard Details and Specifications, “ January 2007 edition, including the May 2008 Amendment, is hereby adopted by reference and made a part hereof as if set forth at length herein.

Section 2. Attached as Exhibit A is the May 2008 Amendment to the “City of Chandler Standard Details and Specifications”, January 2007 edition.

INTRODUCED AND TENTATIVELY APPROVED by the City Council this 22<sup>rd</sup> day of May 2008.

ATTEST:

\_\_\_\_\_  
CITY CLERK

\_\_\_\_\_  
MAYOR

PASSED AND ADOPTED by the City Council of the City of Chandler, Arizona this

\_\_\_\_\_ day of \_\_\_\_\_, 2008.

ATTEST:

\_\_\_\_\_  
CITY CLERK

\_\_\_\_\_  
MAYOR

CERTIFICATION

I HEREBY CERTIFY that the above and foregoing Ordinance No. 3932 was duly passed and adopted by the City Council of the City of Chandler, Arizona, at a regular meeting held on the \_\_\_\_\_ day of \_\_\_\_\_, 2008 and that a quorum was present thereat.

\_\_\_\_\_  
CITY CLERK

APPROVED AS TO FORM:

\_\_\_\_\_  
CITY ATTORNEY

*CAO*

PUBLISHED:

## EXHIBIT A



**Chandler** ♦ **Arizona**  
*Where Values Make The Difference*

### **MEMORANDUM                      PUBLIC WORKS ENGINEERING**

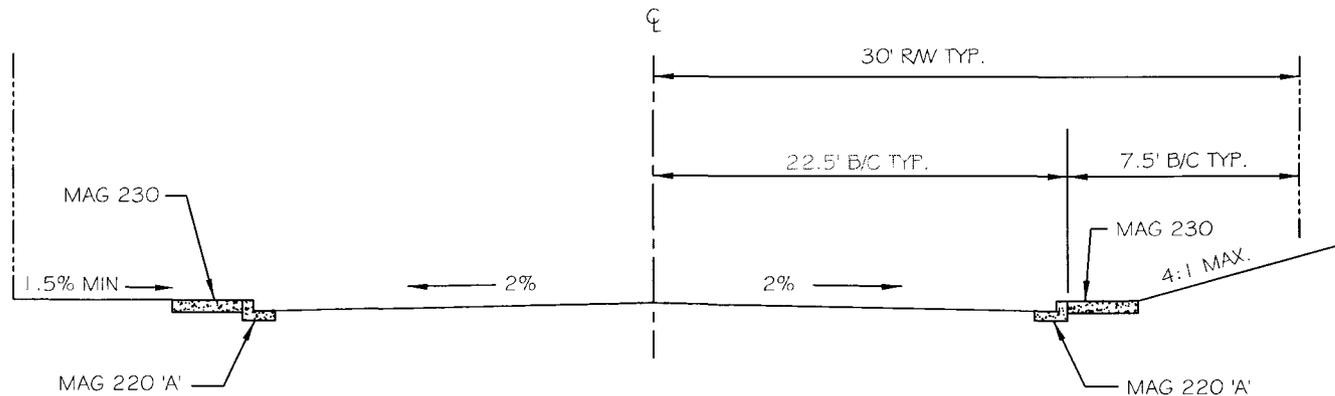
**DATE:**            MAY 22, 2008

**FROM:**            WARREN WHITE, SENIOR ENGINEER

**SUBJECT:**        May 2008 Amendment to the Engineering Standard Details and Specifications (2007 Edition)

**The attached information replaces information in the Engineering Standard Details and Specifications (2007 Edition)**

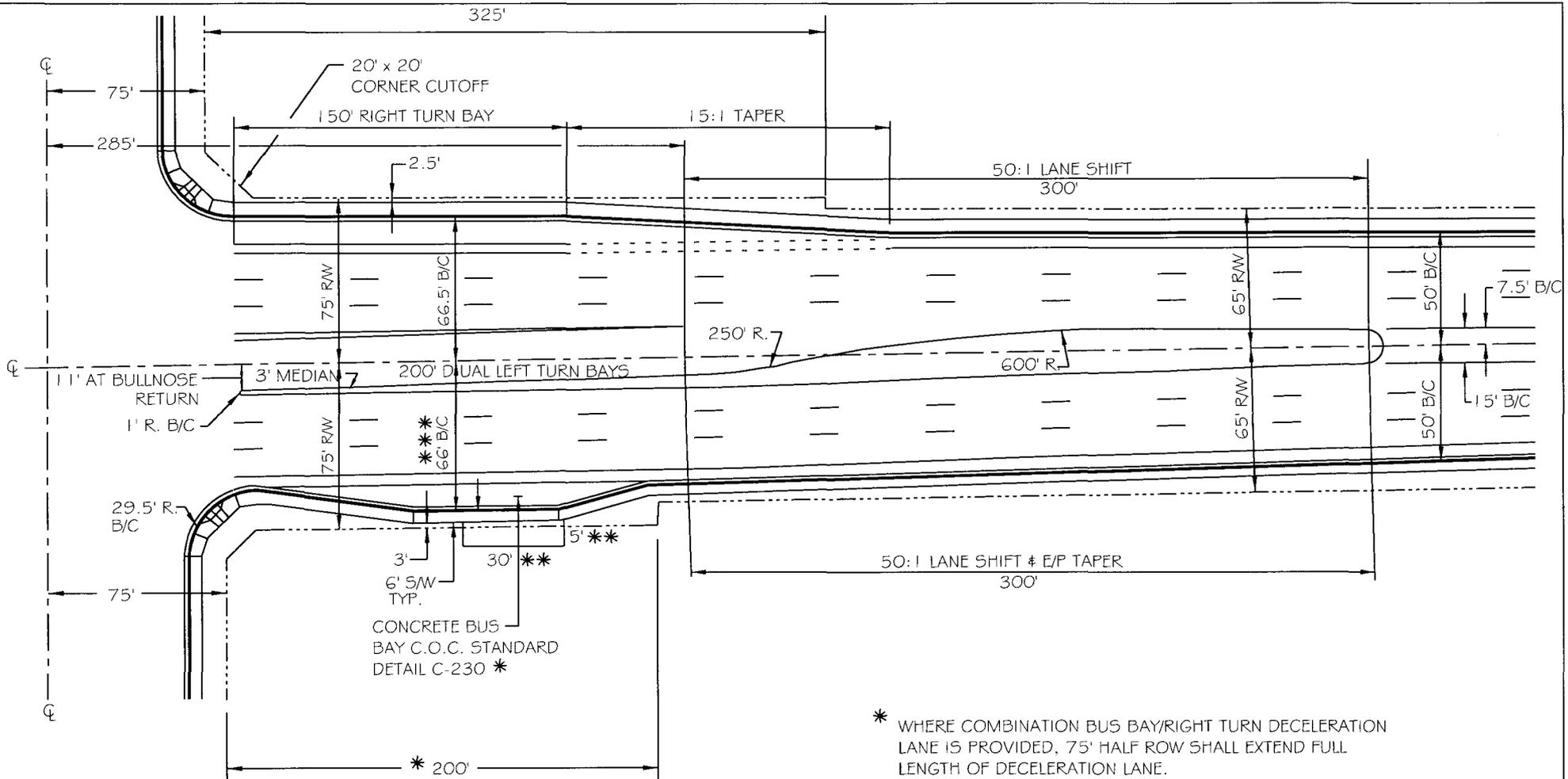
- Detail C-210 - revised cross section dimension from 21' B/C to 22.5' B/C.
- Detail C-223 (Pg 2) - revised median bullnose radius dimension from 2' B/C to 1' B/C.
- Detail C-226 - revised median bullnose radius dimension of 1' B/C to 0.5' B/C.
- Detail C-301- graphical revisions for clarification, corrections to notes, updates for a new a polymer meter box and cover and new signal antenna used by Utility Services to read meter usage.
- Detail C-316 - graphical revisions for clarification, corrections to notes, updates for new vault requirements and notes to allow Water Distribution to supply and install all large meters (3" and larger). Note: The city already installs 2" and smaller meters.
- Detail C-404 (PG 1-12) – revisions and additional standard details needed for reclaimed water services to accommodate various meter sizes and flow requirements.
- Detail C-416 – New detail for 3" and 4" reclaimed water meter vault. Water Distribution to supply and install similar to C-316.



**NOTES:**

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
  - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-241 FOR RESIDENTIAL AREAS AND COC STANDARD DETAIL C-240 FOR ALL OTHER AREAS.
  - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
  - A. THE THICKNESS SHALL BE A MINIMUM OF 2 INCHES OF R12.5 MM EVAC MIX.
  - B. A PRESERVATIVE SEAL COAT CONFORMING TO MAG STANDARD SPECIFICATIONS 334, AND SHALL BE EMULSIFIED ASPHALT GRADE 55-1 H PER MAG STANDARD SPECIFICATIONS, SEC. 713.
  - C. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
4. WHEN IN THE BEST INTEREST OF THE CITY, THE PUBLIC WORKS DIRECTOR, OR DESIGNEE, MAY WAIVE SIDEWALK ON ONE SIDE OF ROADWAY OR ON BOTH SIDES IN INDUSTRIAL AREAS.
5. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.

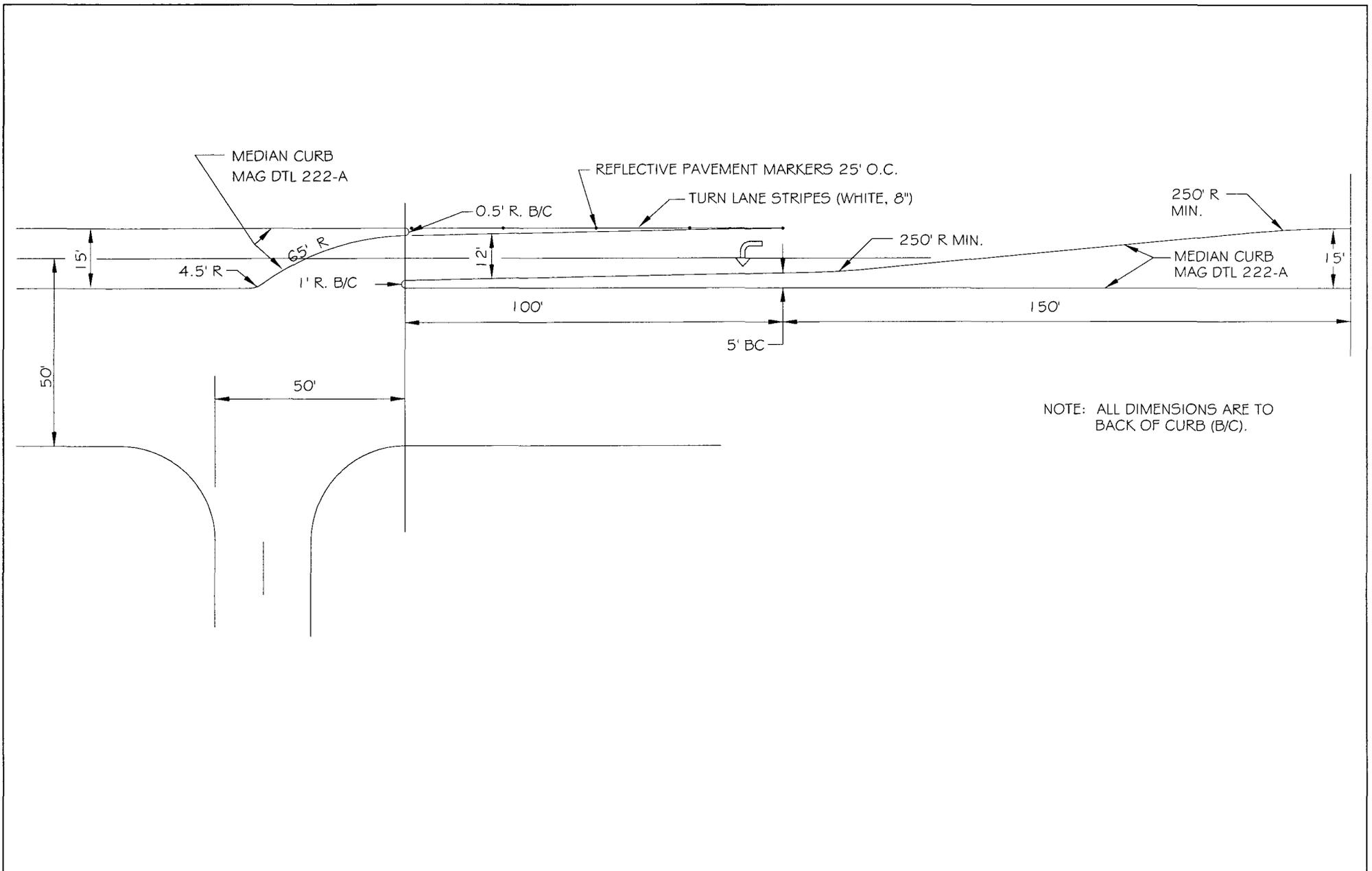
DETAIL NO. <b>C-210</b> NTS	 CITY OF CHANDLER STANDARD DETAIL	<b>RESIDENTIAL COLLECTOR STREET          TYPICAL CROSS SECTION</b>	APPROVED: _____ CITY ENGINEER DATE: _____	DETAIL NO. <b>C-210</b> NTS
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- \* WHERE COMBINATION BUS BAY/RIGHT TURN DECELERATION LANE IS PROVIDED, 75' HALF ROW SHALL EXTEND FULL LENGTH OF DECELERATION LANE.
- \*\* ADDITIONAL 5' X 30' EASEMENT SHALL BE REQUIRED OF DEVELOPER FOR BUS SHELTER PAD.
- \*\*\* 66.5' B/C AND 2.5' FOR INTEGRAL BUS BAY/DECELERATION LANE, SEE C.O.C. STANDARD DETAIL C-231.
- \*\*\*\* REFER TO COC STANDARD DETAIL C-619 AND C-623 FOR PAVEMENT MARKING AND SIGNING.

**NOTES:**

50 : 1 TAPERS FOR REDIRECTION OF THROUGH LANES  
 15 : 1 TAPERS FOR RIGHT TURN BAY APPROACHES



NOTE: ALL DIMENSIONS ARE TO BACK OF CURB (B/C).

DETAIL NO.  
**C-226**  
NTS

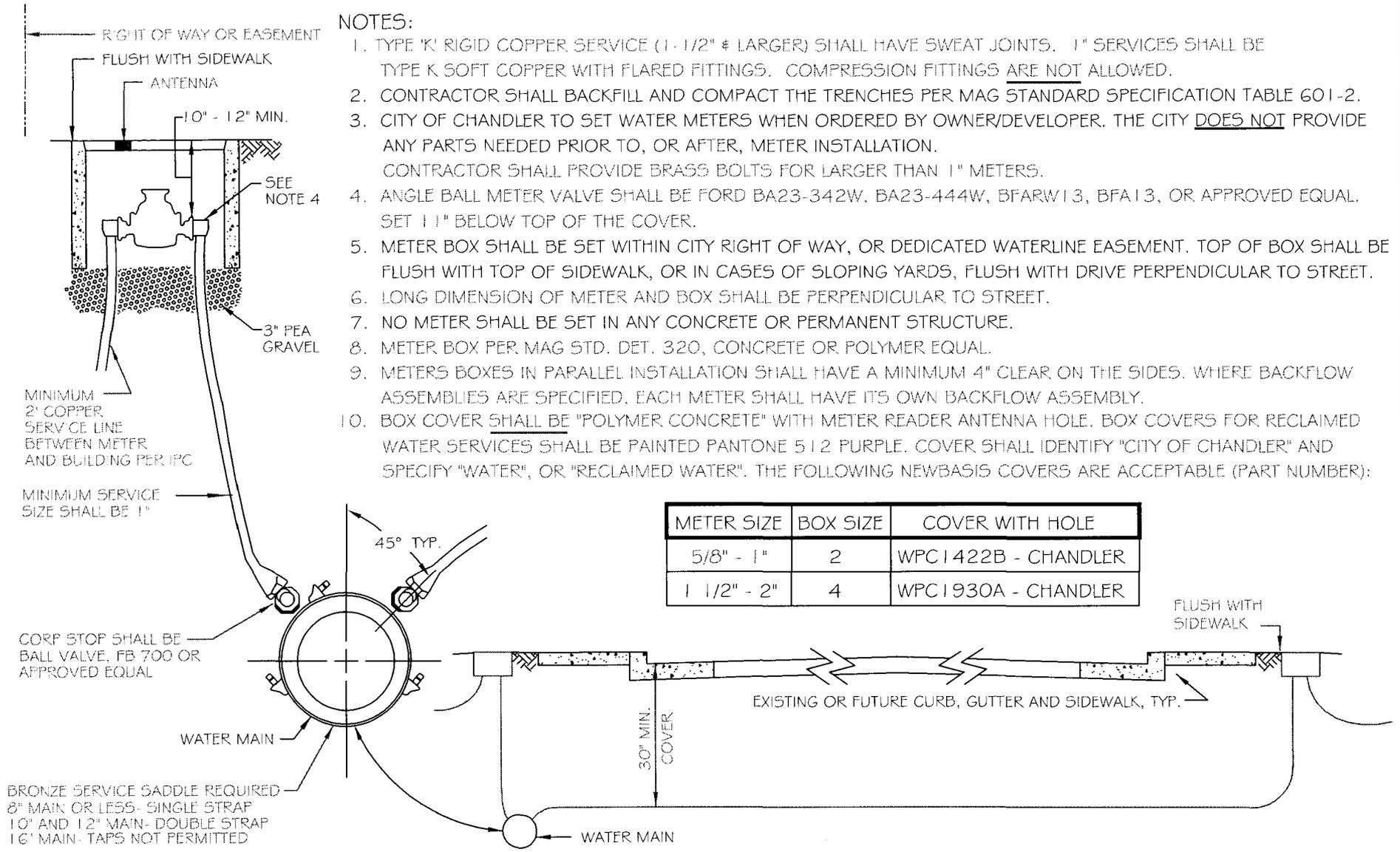


**"LEFT IN ONLY" MEDIAN DESIGN**  
**16' WIDE MEDIAN**

APPROVED: \_\_\_\_\_  
CITY ENGINEER  
DATE: \_\_\_\_\_

DETAIL NO.  
**C-226**  
NTS

CAUTION: BEFORE SERVICES ARE INSTALLED, DRIVEWAY LOCATIONS SHOULD BE VERIFIED AND THE SERVICES CONSTRUCTED TO AVOID CONFLICTS.



**NOTES:**

1. TYPE 'K' RIGID COPPER SERVICE (1-1/2" # LARGER) SHALL HAVE SWEAT JOINTS. 1" SERVICES SHALL BE TYPE K SOFT COPPER WITH FLARED FITTINGS. COMPRESSION FITTINGS ARE NOT ALLOWED.
2. CONTRACTOR SHALL BACKFILL AND COMPACT THE TRENCHES PER MAG STANDARD SPECIFICATION TABLE 601-2.
3. CITY OF CHANDLER TO SET WATER METERS WHEN ORDERED BY OWNER/DEVELOPER. THE CITY DOES NOT PROVIDE ANY PARTS NEEDED PRIOR TO, OR AFTER, METER INSTALLATION. CONTRACTOR SHALL PROVIDE BRASS BOLTS FOR LARGER THAN 1" METERS.
4. ANGLE BALL METER VALVE SHALL BE FORD BA23-342W, BA23-444W, BFA13, BFA13, OR APPROVED EQUAL. SET 1" BELOW TOP OF THE COVER.
5. METER BOX SHALL BE SET WITHIN CITY RIGHT OF WAY, OR DEDICATED WATERLINE EASEMENT. TOP OF BOX SHALL BE FLUSH WITH TOP OF SIDEWALK, OR IN CASES OF SLOPING YARDS, FLUSH WITH DRIVE PERPENDICULAR TO STREET.
6. LONG DIMENSION OF METER AND BOX SHALL BE PERPENDICULAR TO STREET.
7. NO METER SHALL BE SET IN ANY CONCRETE OR PERMANENT STRUCTURE.
8. METER BOX PER MAG STD. DET. 320, CONCRETE OR POLYMER EQUAL.
9. METERS BOXES IN PARALLEL INSTALLATION SHALL HAVE A MINIMUM 4" CLEAR ON THE SIDES. WHERE BACKFLOW ASSEMBLIES ARE SPECIFIED. EACH METER SHALL HAVE ITS OWN BACKFLOW ASSEMBLY.
10. BOX COVER SHALL BE "POLYMER CONCRETE" WITH METER READER ANTENNA HOLE. BOX COVERS FOR RECLAIMED WATER SERVICES SHALL BE PAINTED PANTONE 512 PURPLE. COVER SHALL IDENTIFY "CITY OF CHANDLER" AND SPECIFY "WATER", OR "RECLAIMED WATER". THE FOLLOWING NEWBASIS COVERS ARE ACCEPTABLE (PART NUMBER):

METER SIZE	BOX SIZE	COVER WITH HOLE
5/8" - 1"	2	WPC1422B - CHANDLER
1 1/2" - 2"	4	WPC1930A - CHANDLER

DETAIL NO.  
**C-301**  
NTS

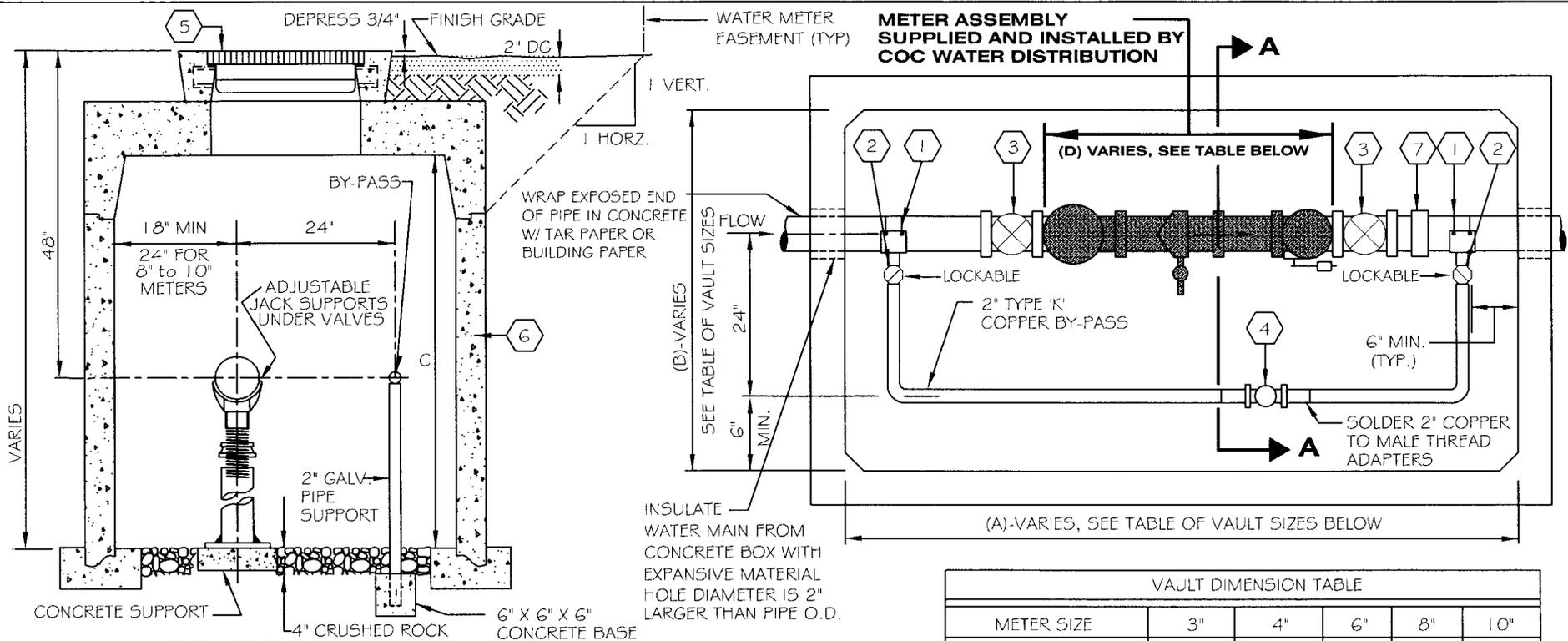


CITY OF  
CHANDLER  
STANDARD  
DETAIL

**WATER SERVICE INSTALLATION**

APPROVED: \_\_\_\_\_  
CITY ENGINEER  
DATE: \_\_\_\_\_

DETAIL NO.  
**C-301**  
NTS



**SECTION A-A**

VAULT DIMENSION TABLE					
METER SIZE	3"	4"	6"	8"	10"
LENGTH (A)	8' - 4"	10' - 6"	12'	14'	15' - 0"
WIDTH (B)	4' - 4"	5'	5'	5' - 6"	5' - 6"
INSIDE HEIGHT (C)	4' - 6"	5' - 0"	5' - 6"	6' - 0"	6' - 6"
METER ASSEMBLY (D)					
BLOCK OUT	3' - 8"	4' - 5"	6' - 8"	8' - 1"	10' - 0"
COMPOUND METER	3' - 3"	3' - 11"	6' - 7"	7' - 11"	9' - 0"
TURBINE METER					

**NOTES:**

- METER VAULTS MAY BE EITHER CAST-IN-PLACE OR PRE-CAST CONCRETE. SEE MAG STANDARD DETAIL 321 FOR VAULT CONSTRUCTION, 3" TO 6" METERS.
- FOR LARGER THAN 6" METERS SPECIAL VAULT DESIGN IS REQUIRED. SUBMIT FOR APPROVAL.
- STAINLESS BOLTS AND NUTS REQUIRED FOR ENTIRE ASSEMBLY.
- PIPE MAIN SHALL BE FULLY RESTRAINED BEYOND INLET AND OUTLET OF VAULT.
- CONTRACTOR SHALL PROVIDE FLANGED SPOOL IN METER ASSEMBLY BLOCK-OUT TO PROVE CORRECT ALIGNMENT. SPOOL MAY BE SALVAGED AFTER METER INSTALLATION.
- VAULT LID SHALL NOT BE INSTALLED UNTIL AFTER METER IS INSTALLED BY CITY. CALL (480) 782-3700.

**LEGEND:**

- DOUBLE STRAP ALL BRONZE SERVICE SADDLES.
- 2" CORP STOP WITH BRONZE OR BRASS BODY, LOCKABLE, TO NORMALLY BE CLOSED.
- O.S. & Y. GATE VALVE, FLANGED WITH HAND WHEEL OPEN LEFT, AND RISING STEM.
- 2" BRONZE CHECK VALVE. (LOW ZINC)
- METER HATCH PER SYRACUSE CASTINGS "CH-AL" STYLE PEDESTRIAN RATED ALUMINUM WITH SLAM LOCK OR APPROVED EQUAL. 3" & 4" - CH-5AL 42" X 42", 6" THROUGH 10" - CHD-9AL 36" X 60". UPON APPROVAL FROM CITY, DRILL 1-3/4" HOLE(S) IN HATCH FOR METER TRANSMITTER(S).
- METER VAULT PER UTILITY VAULT COC STANDARD DETAIL OR APPROVED EQUAL.
- PROVIDE 1" TO 1-1/2" OF PLAY IN THE FLEX COUPLING - CAULDER OR EQUAL.

DETAIL NO. <b>C-316</b> NTS	 CITY OF CHANDLER STANDARD DETAIL	<b>3" TO 10" METER VAULT</b>	APPROVED: _____ CITY ENGINEER DATE: _____	DETAIL NO. <b>C-316</b> NTS
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## RECLAIMED WATER SERVICE CONNECTIONS SIZING TABLE

SERVICE CONNECTION FLOW RATE (GPM)	IRRIGATION SERVICE LINE SIZE (AFTER PUMP)	RECLAIMED WATER SERVICE CONNECTION LINE SIZE (FROM MAIN TO PUMP)	WET WELL PUMP SEE PAGES:	CAN PUMP SEE PAGES:
UP TO 80	2"	3"	PAGE 3	-
80 TO 170	3"	4"	PAGE 4	-
170 TO 300	4"	6"	PAGES 5 & 6	PAGES 9 & 10
300 TO 700	6"	8"	PAGES 7 & 8	PAGES 11 & 12

**NOTES:**

1. THE DATA FORM ON DETAIL C-404 PAGE 2 MUST BE COMPLETED AND SUBMITTED WITH THE BUILDING PERMIT APPLICATION FOR THE INLINE PUMP AND CAN PUMP SERVICE CONNECTIONS.
2. THESE RECLAIMED WATER SERVICE CONNECTION DETAILS PRESENT THE MINIMUM REQUIREMENTS TO ENSURE THE INTEGRITY OF THE CITY OF CHANDLER'S RECLAIMED WATER DISTRIBUTION SYSTEM. ALL RECLAIMED WATER SERVICE CONNECTIONS MUST BE DESIGNED IN ACCORDANCE WITH THESE DETAILS AND THE SITE-SPECIFIC REQUIREMENTS INCLUDING: THE GROUND ELEVATION, IRRIGATION SYSTEM FLOW REQUIREMENTS, AND IRRIGATION SYSTEM PRESSURE REQUIREMENTS.
3. ALL RECLAIMED WATER SERVICE CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT (MCESD) AND ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) REQUIREMENTS.
4. AN APPROVAL TO CONSTRUCT PERMIT FROM MCESD IS REQUIRED FOR ALL RECLAIMED WATER SERVICE CONNECTIONS PRIOR TO CONSTRUCTION. A COPY OF THE APPROVAL OF CONSTRUCTION FROM MCESD MUST BE SUBMITTED TO THE CITY OF CHANDLER PRIOR TO PLACING THE RECLAIMED WATER SERVICE CONNECTION IN SERVICE.
5. ALL ABOVE GROUND PIPING SHALL BE PAINTED PURPLE OR STENCILED IN ACCORDANCE WITH MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) STANDARDS SECTION 616.4.2.

DETAIL NO. <b>C-404</b> PAGE 1 OF 12	 CITY OF CHANDLER STANDARD DETAIL	<b>RECLAIMED WATER SERVICE                  CONNECTIONS</b>	APPROVED: _____ CITY ENGINEER DATE: _____	DETAIL NO. <b>C-404</b> PAGE 1 OF 12
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**DEVELOPER:** \_\_\_\_\_

**TURNOUT ADDRESS:** \_\_\_\_\_

**FLOW RATE CRITERIA**

ANNUAL AVERAGE \_\_\_\_\_ ACRE FT/YEAR

MAXIMUM MONTH \_\_\_\_\_ ACRE FT

INSTANTANEOUS \_\_\_\_\_ GPM

**SUCTION HEAD CALCULATION**

① LENGTH AND DIAMETER OF PIPING FROM NEAREST RECLAIMED WATER TRANSMISSION MAIN (RWTM) TO TURNOUT \_\_\_\_\_

② FRICTION LOSSES IN PIPING FROM RWTM TO TURNOUT AT INSTANTANEOUS FLOW RATE \_\_\_\_\_ FEET

③ HGL IN RWTM 1330 TO 1345 FEET

④ HGL AT TURNOUT (HGL OF RWTM LESS FRICTION LOSSES CALCULATED ABOVE) \_\_\_\_\_ TO \_\_\_\_\_ FEET

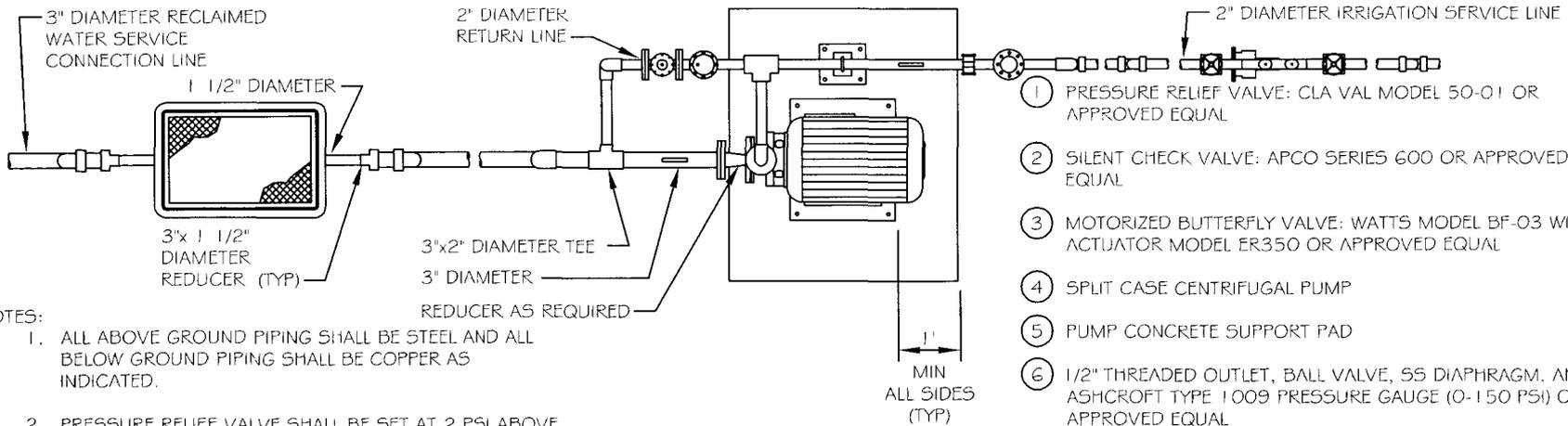
⑤ ELEVATION AT TURNOUT \_\_\_\_\_ FEET

⑥ SUCTION PRESSURE AT TURNOUT \_\_\_\_\_ TO \_\_\_\_\_ PSI

⑦ PUMP TDH \_\_\_\_\_ FEET

⑧ DISCHARGE PRESSURE \_\_\_\_\_ PSI

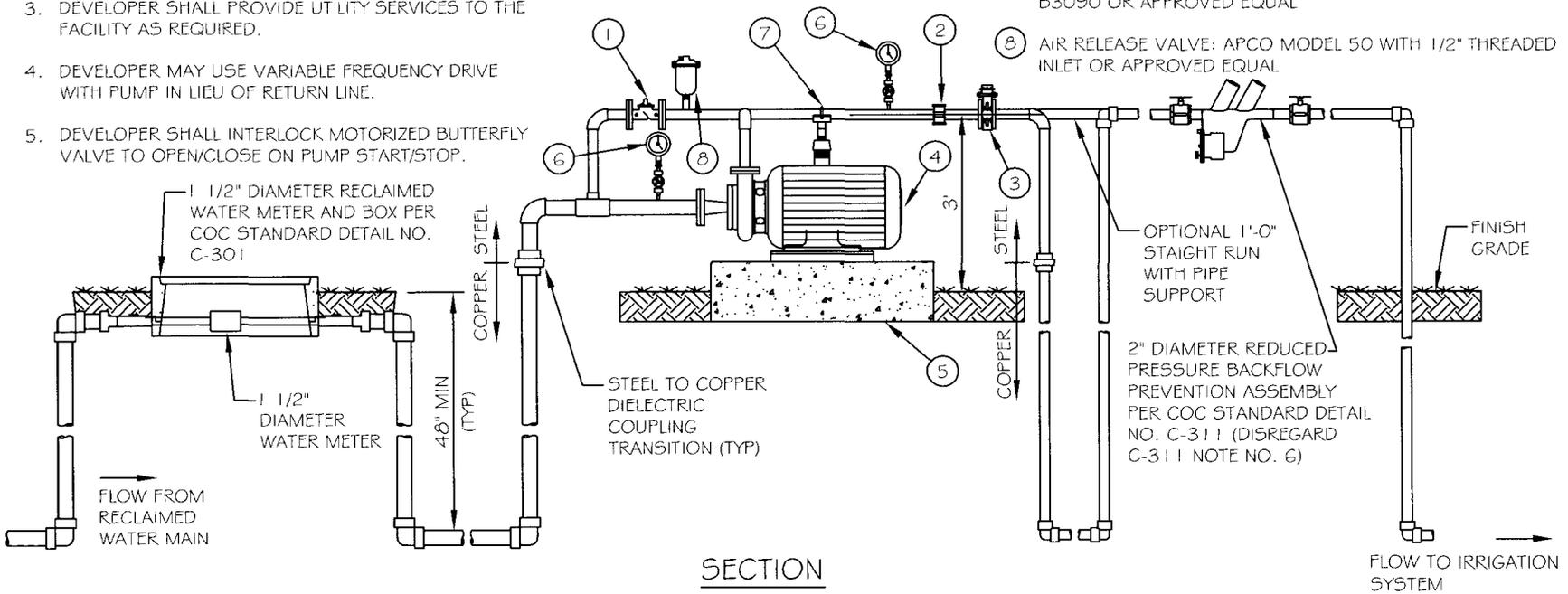
DETAIL NO. <b>C-404</b> PAGE 2 OF 14	 <p>CITY OF CHANDLER STANDARD DETAIL</p>	<b>RECLAIMED WATER SERVICE CONNECTION DATA FORM</b>	APPROVED: _____ CITY ENGINEER DATE: _____	DETAIL NO. <b>C-404</b> PAGE 2 OF 12
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**NOTES:**

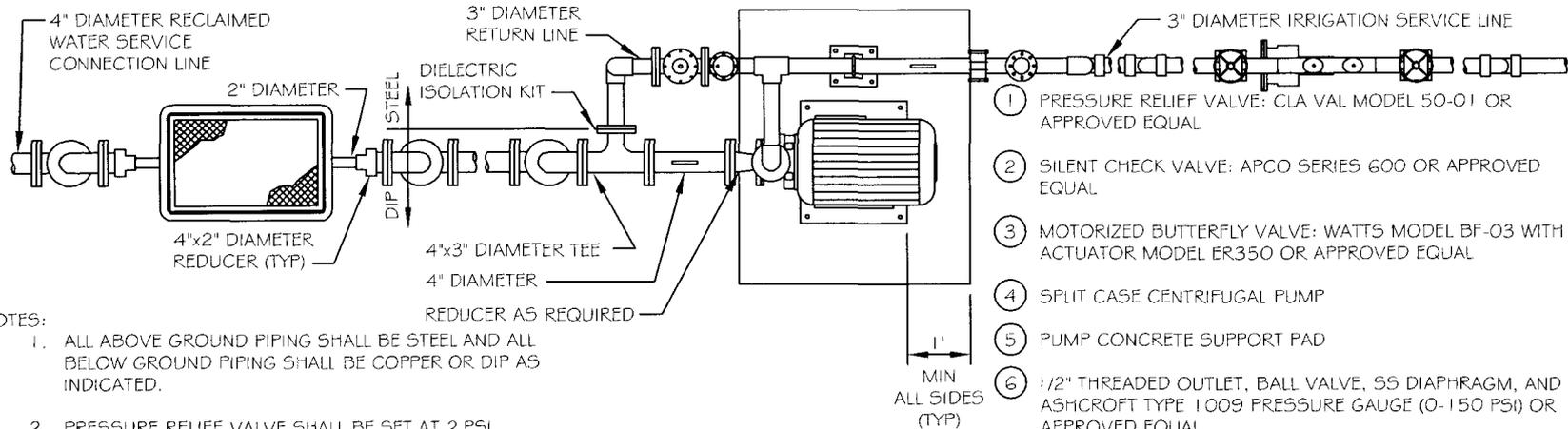
1. ALL ABOVE GROUND PIPING SHALL BE STEEL AND ALL BELOW GROUND PIPING SHALL BE COPPER AS INDICATED.
2. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
3. DEVELOPER SHALL PROVIDE UTILITY SERVICES TO THE FACILITY AS REQUIRED.
4. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
5. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.

**PLAN**



**SECTION**

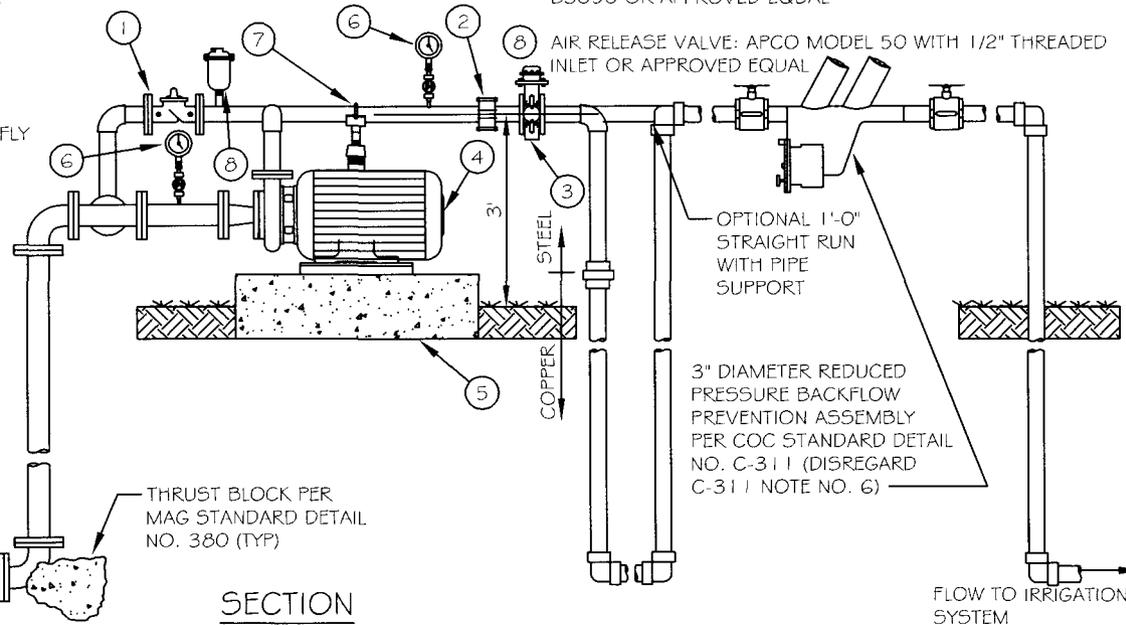
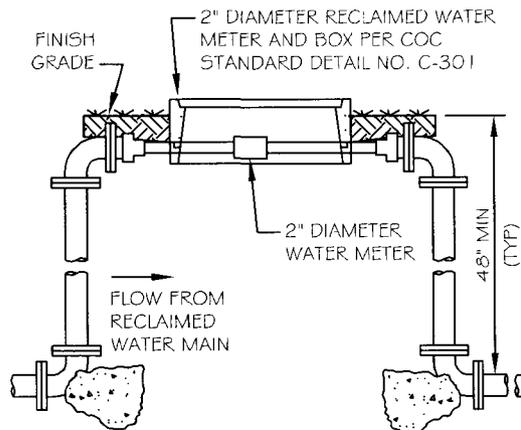
DETAIL NO. <b>C-404</b> PAGE 3 OF 12	 CITY OF CHANDLER STANDARD DETAIL	<b>2" RECLAIMED WATER          IRRIGATION SERVICE LINE          INLINE PUMP TYPE</b>	APPROVED: _____ CITY ENGINEER DATE: _____	DETAIL NO. <b>C-404</b> PAGE 3 OF 12
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**NOTES:**

1. ALL ABOVE GROUND PIPING SHALL BE STEEL AND ALL BELOW GROUND PIPING SHALL BE COPPER OR DIP AS INDICATED.
2. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
3. DEVELOPER SHALL PROVIDE UTILITY POWER TO THE FACILITY AS REQUIRED.
4. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
5. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.

**PLAN**



**SECTION**

DETAIL NO.  
**C-404**  
PAGE 4 OF 12



CITY OF  
CHANDLER  
STANDARD  
DETAIL

**3" RECLAIMED WATER  
IRRIGATION SERVICE LINE  
INLINE PUMP TYPE**

APPROVED: \_\_\_\_\_  
CITY ENGINEER  
DATE: \_\_\_\_\_

DETAIL NO.  
**C-404**  
PAGE 4 OF 12







① PRESSURE RELIEF VALVE: CLA VAL MODEL 50-01 OR APPROVED EQUAL

② SILENT CHECK VALVE: APCO SERIES 600 OR APPROVED EQUAL

③ MOTORIZED BUTTERFLY VALVE: MUELLER LINE SEAL III OR APPROVED EQUAL

④ SPLIT CASE CENTRIFUGAL PUMP

⑤ PUMP CONCRETE SUPPORT PAD

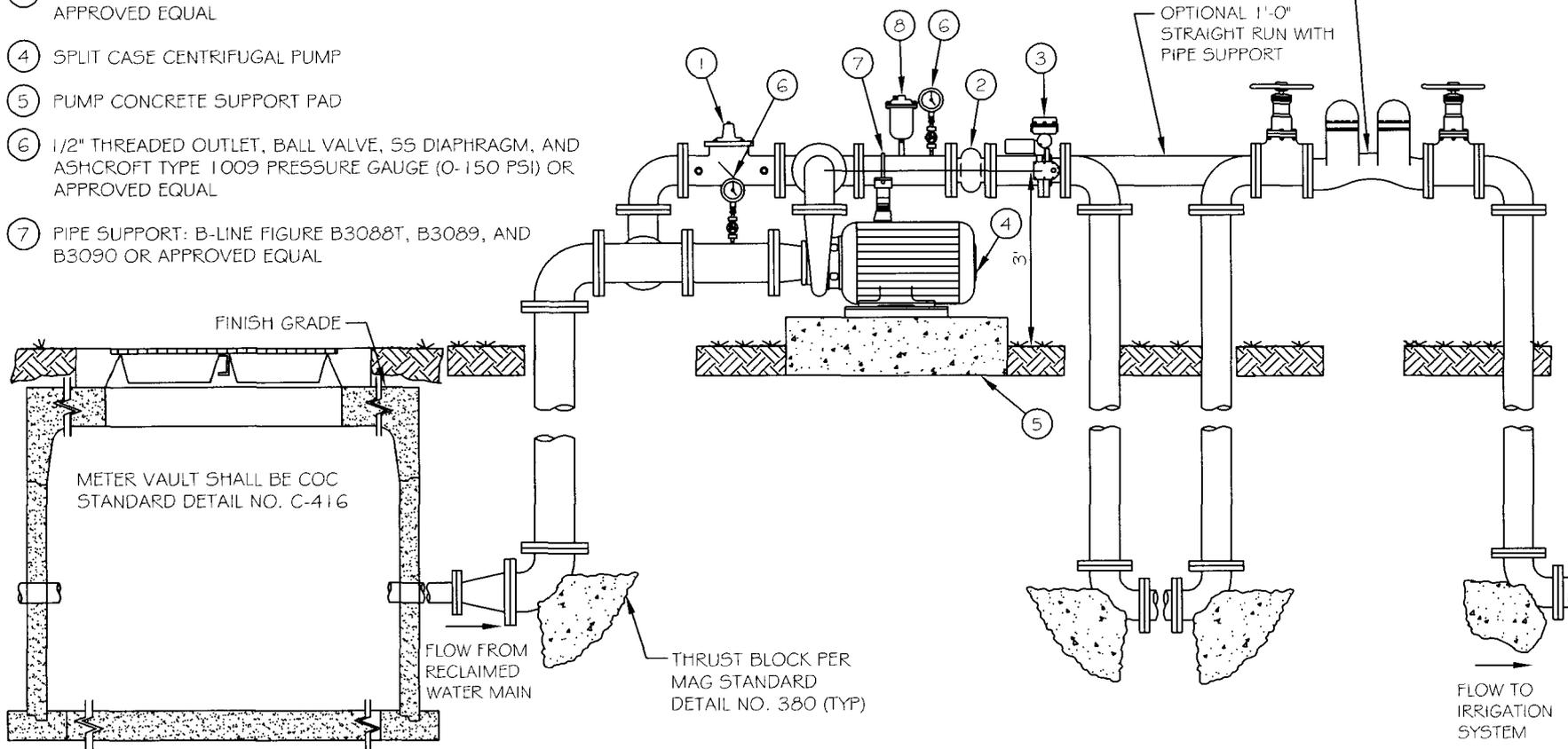
⑥ 1/2" THREADED OUTLET, BALL VALVE, SS DIAPHRAGM, AND ASHCROFT TYPE 1009 PRESSURE GAUGE (0-150 PSI) OR APPROVED EQUAL

⑦ PIPE SUPPORT: B-LINE FIGURE B3088T, B3089, AND B3090 OR APPROVED EQUAL

⑧ A/R RELEASE VALVE: APCO MODEL 50 WITH 1" THREADED INLET OR APPROVED EQUAL

6" DIAMETER REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY PER COC STANDARD DETAIL NO. C-315

OPTIONAL 1'-0" STRAIGHT RUN WITH PIPE SUPPORT



SECTION

DETAIL NO.  
**C-404**  
PAGE 8 OF 12



CITY OF  
CHANDLER  
STANDARD  
DETAIL

**6" RECLAIMED WATER  
IRRIGATION SERVICE LINE  
INLINE PUMP TYPE**

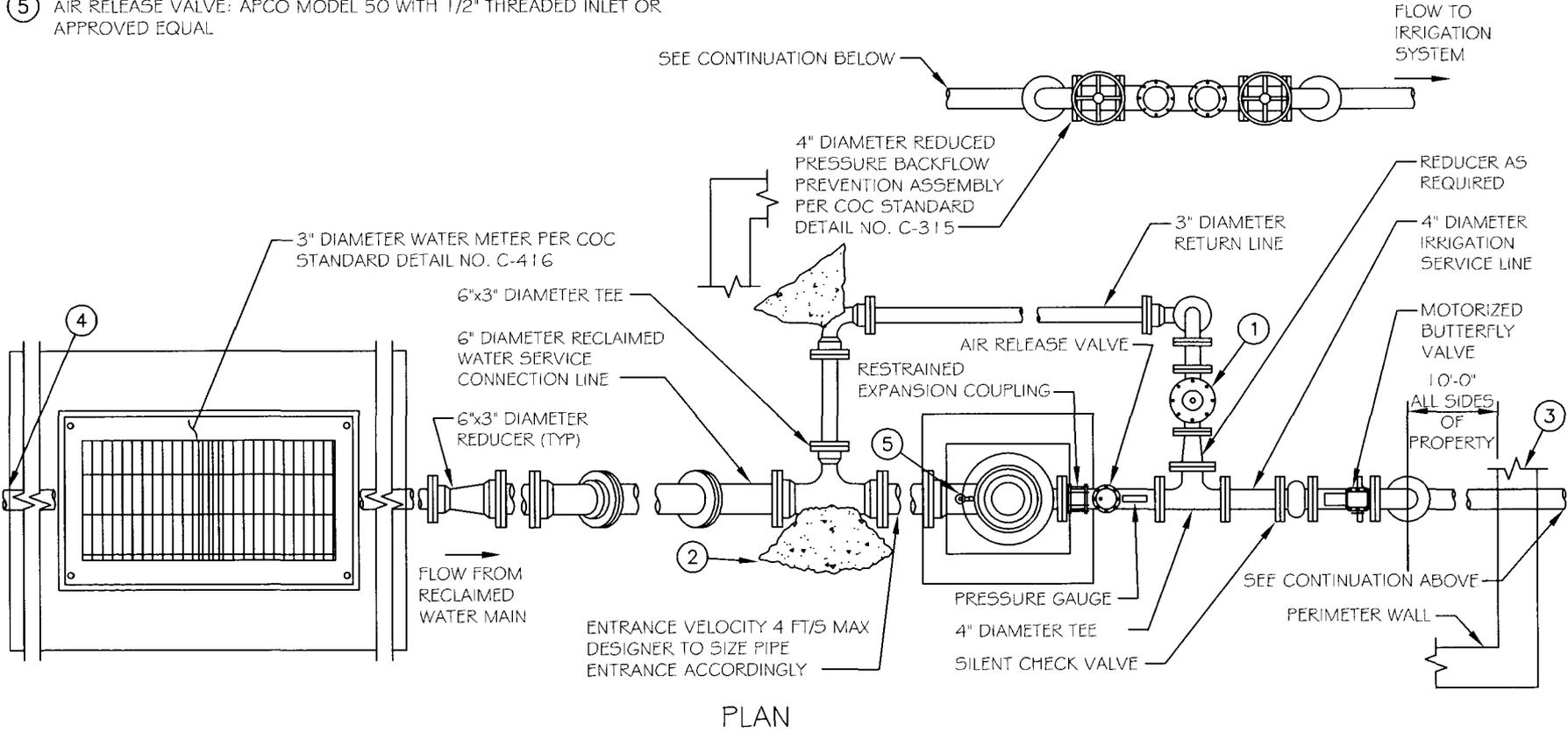
APPROVED: \_\_\_\_\_  
CITY ENGINEER  
DATE: \_\_\_\_\_

DETAIL NO.  
**C-404**  
PAGE 8 OF 12

NOTES:

- ① PRESSURE RELIEF VALVE : CLA VAL MODEL 6506-01B OR APPROVED EQUAL
- ② THRUST BLOCK PER MAG STANDARD DETAIL NO. 380 (TYP)
- ③ PROPERTY SHALL BE FENCED WITH 6 FOOT BLOCK WALL TO MATCH THE SURROUNDING WALL THEME
- ④ PROVIDE 6"x3" REDUCER FOR CONTINUATION OF INSTALLATION OF 6" DIAMETER WATER SERVICE CONNECTION LINE, REDUCER SHALL BE LOCATED 2'-0" MAX FROM METER VAULT
- ⑤ AIR RELEASE VALVE: APCO MODEL 50 WITH 1/2" THREADED INLET OR APPROVED EQUAL

- 1. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
- 2. DEVELOPER SHALL PROVIDE UTILITY SERVICES TO THE FACILITY AS REQUIRED.
- 3. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
- 4. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.



PLAN

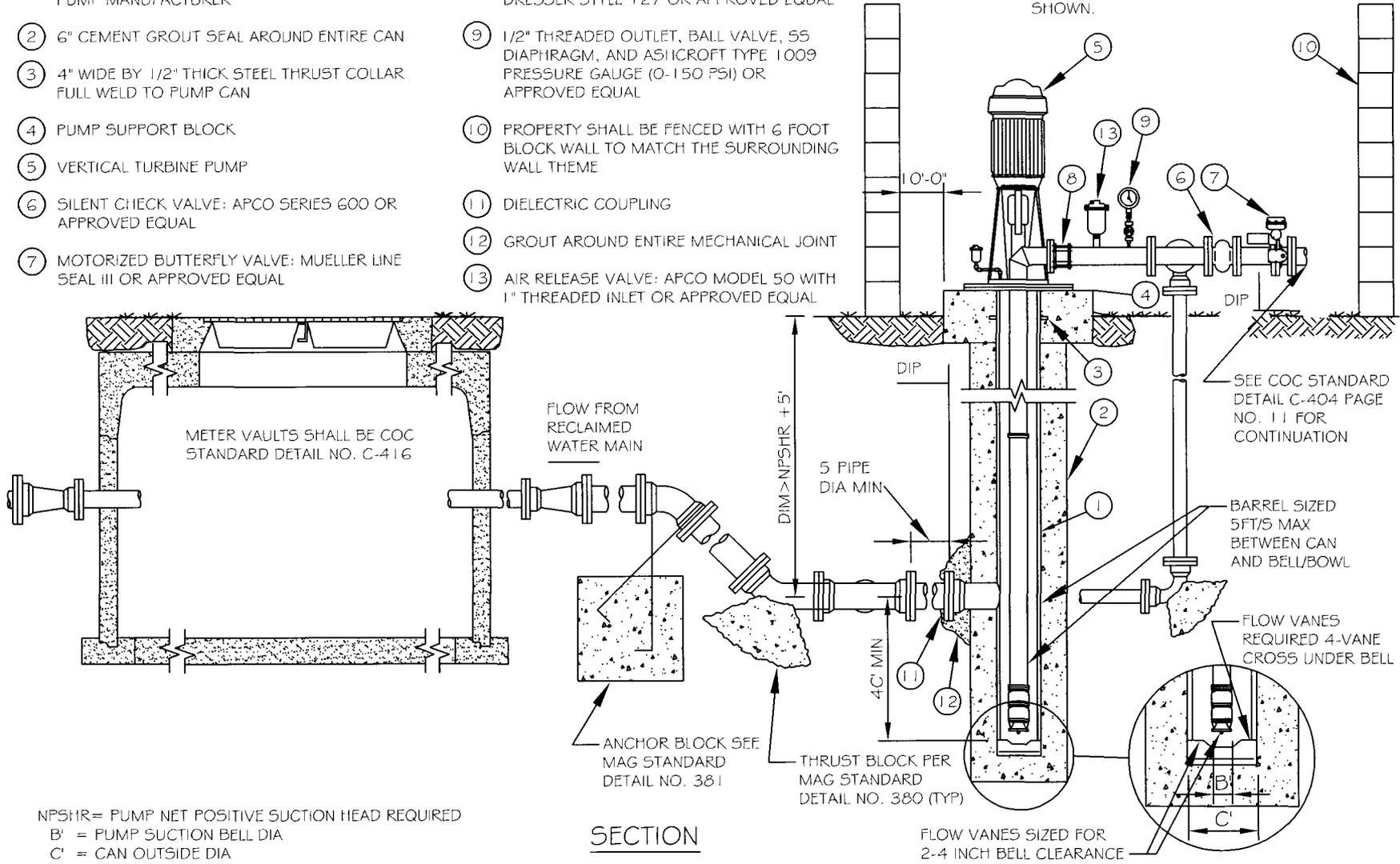
DETAIL NO. <b>C-404</b> PAGE 9 OF 12	 CITY OF CHANDLER STANDARD DETAIL	<b>4" RECLAIMED WATER                  IRRIGATION SERVICE LINE                  CAN PUMP TYPE</b>	APPROVED: _____ CITY ENGINEER DATE: _____	DETAIL NO. <b>C-404</b> PAGE 9 OF 12
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- ① EPOXY LINED STEEL PUMP CAN, THICKNESS PER PUMP MANUFACTURER
- ② 6" CEMENT GROUT SEAL AROUND ENTIRE CAN
- ③ 4" WIDE BY 1/2" THICK STEEL THRUST COLLAR FULL WELD TO PUMP CAN
- ④ PUMP SUPPORT BLOCK
- ⑤ VERTICAL TURBINE PUMP
- ⑥ SILENT CHECK VALVE: APCO SERIES 600 OR APPROVED EQUAL
- ⑦ MOTORIZED BUTTERFLY VALVE: MUELLER LINE SEAL III OR APPROVED EQUAL

- ⑧ RESTRAINED EXPANSION COUPLING: DRESSER STYLE 127 OR APPROVED EQUAL
- ⑨ 1/2" THREADED OUTLET, BALL VALVE, 55 DIAPHRAGM, AND ASIICROFT TYPE 1009 PRESSURE GAUGE (0-150 PSI) OR APPROVED EQUAL
- ⑩ PROPERTY SHALL BE FENCED WITH 6 FOOT BLOCK WALL TO MATCH THE SURROUNDING WALL THEME
- ⑪ DIELECTRIC COUPLING
- ⑫ GROUT AROUND ENTIRE MECHANICAL JOINT
- ⑬ AIR RELEASE VALVE: APCO MODEL 50 WITH 1" THREADED INLET OR APPROVED EQUAL

NOTE:

1. ALL PIPING SHALL BE DUCTILE IRON (DIP) AS SHOWN.



NPSHR = PUMP NET POSITIVE SUCTION HEAD REQUIRED  
 B' = PUMP SUCTION BELL DIA  
 C' = CAN OUTSIDE DIA

SECTION

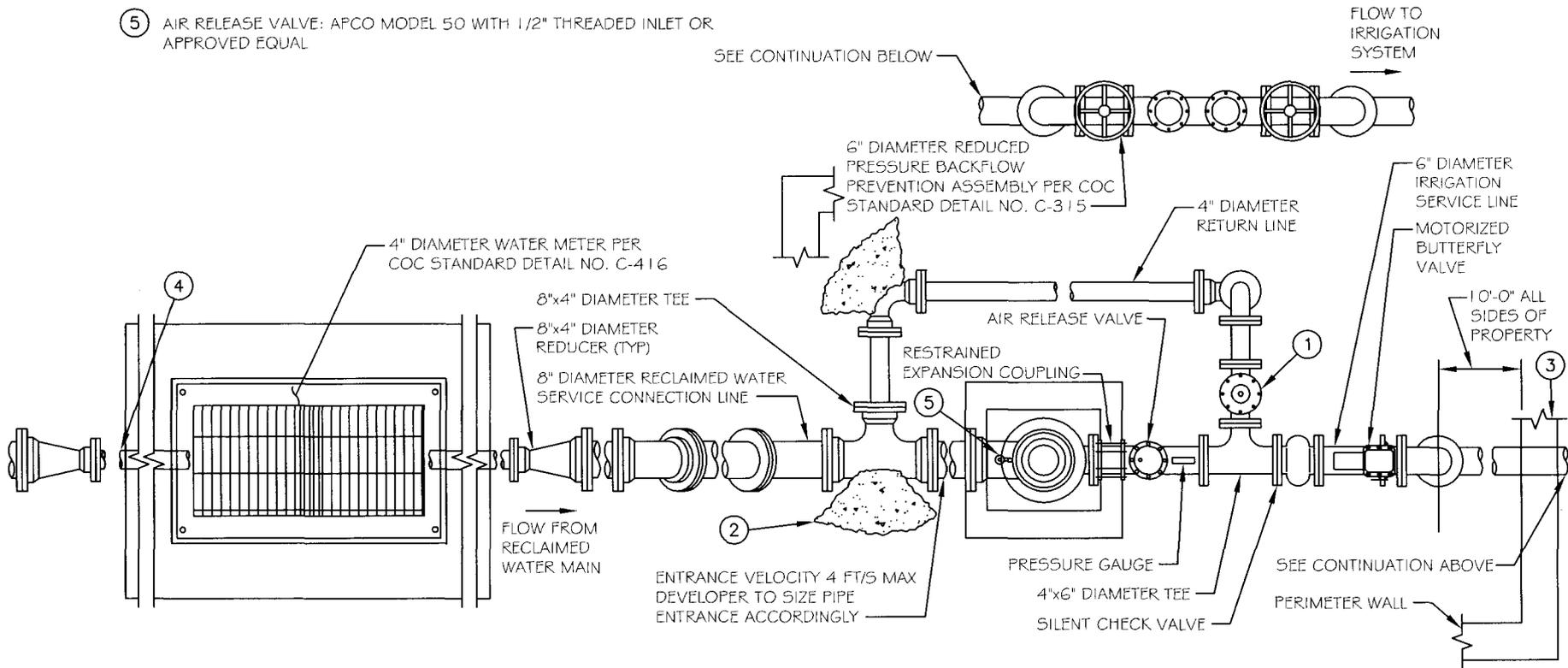
FLOW VANES SIZED FOR 2-4 INCH BELL CLEARANCE

DETAIL NO. <b>C-404</b> PAGE 10 OF 12	 CITY OF CHANDLER STANDARD DETAIL	<b>4" RECLAIMED WATER          IRRIGATION SERVICE LINE          CAN PUMP TYPE</b>	APPROVED: _____ CITY ENGINEER DATE: _____	DETAIL NO. <b>C-404</b> PAGE 10 OF 12
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NOTES:

- ① PRESSURE RELIEF VALVE - CLA VAL MODEL 6506-01B OR APPROVED EQUAL
- ② THRUST BLOCK PER MAG STANDARD DETAIL NO. 380 (TYP)
- ③ PROPERTY SHALL BE FENCED WITH 6 FOOT BLOCK WALL TO MATCH THE SURROUNDING WALL THEME
- ④ PROVIDE 8"x4" REDUCER FOR CONTINUATION OF INSTALLATION OF 8" DIAMETER WATER SERVICE CONNECTION LINE, REDUCER SHALL BE LOCATED 2' MAX FROM METER VAULT
- ⑤ AIR RELEASE VALVE: APCO MODEL 50 WITH 1/2" THREADED INLET OR APPROVED EQUAL

- 1. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
- 2. DEVELOPER SHALL PROVIDE UTILITY SERVICES TO THE FACILITY AS REQUIRED.
- 3. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
- 4. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.



DETAIL NO.  
**C-404**  
PAGE 11 OF 12



CITY OF  
CHANDLER  
STANDARD  
DETAIL

**6" RECLAIMED WATER  
IRRIGATION SERVICE LINE  
CAN PUMP TYPE**

APPROVED: \_\_\_\_\_  
CITY ENGINEER  
DATE: \_\_\_\_\_

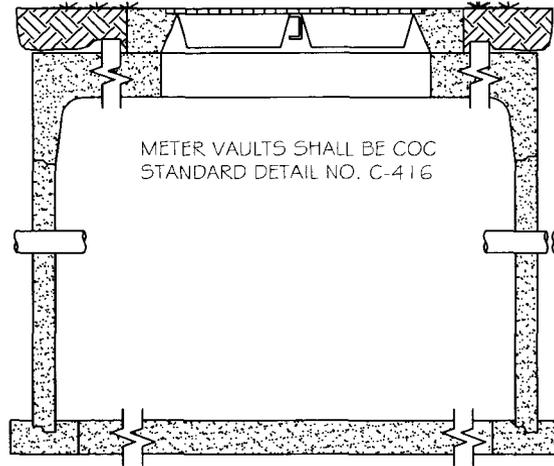
DETAIL NO.  
**C-404**  
PAGE 11 OF 12

- ① EPOXY LINED STEEL PUMP CAN, THICKNESS PER PUMP MANUFACTURER
- ② 6" CEMENT GROUT SEAL AROUND ENTIRE CAN
- ③ 4" WIDE BY 1/2" THICK STEEL THRUST COLLAR FULL WELD TO PUMP CAN
- ④ PUMP SUPPORT BLOCK
- ⑤ VERTICAL TURBINE PUMP
- ⑥ SILENT CHECK VALVE: APCO SERIES 600 OR APPROVED EQUAL
- ⑦ MOTORIZED BUTTERFLY VALVE: MUELLER LINE SEAL III OR APPROVED EQUAL

- ⑧ RESTRAINED EXPANSION COUPLING: DRESSER STYLE 127 OR APPROVED EQUAL
- ⑨ 1/2" THREADED OUTLET, BALL VALVE, 55 DIAPHRAGM, AND ASHCROFT TYPE 1009 PRESSURE GAUGE (0-150 PSI) OR APPROVED EQUAL
- ⑩ PROPERTY SHALL BE FENCED WITH 6 FOOT BLOCK WALL TO MATCH THE SURROUNDING WALL THEME
- ⑪ DIELECTRIC COUPLING
- ⑫ GROUT AROUND ENTIRE MECHANICAL JOINT
- ⑬ AIR RELEASE VALVE: APCO MODEL 150 WITH 1" THREADED INLET OR APPROVED EQUAL

NOTE:

1. ALL PIPING SHALL BE DUCTILE IRON (DIP) AS SHOWN



FLOW FROM RECLAIMED WATER MAIN

METER VAULTS SHALL BE COC STANDARD DETAIL NO. C-416

ANCHOR BLOCK SEE MAG STANDARD DETAIL NO. 38 I

THRUST BLOCK PER MAG STANDARD DETAIL NO. 380 (TYP)

DIM > NPSHR + 5'

5 PIPE DIA MIN

4' MIN

SECTION

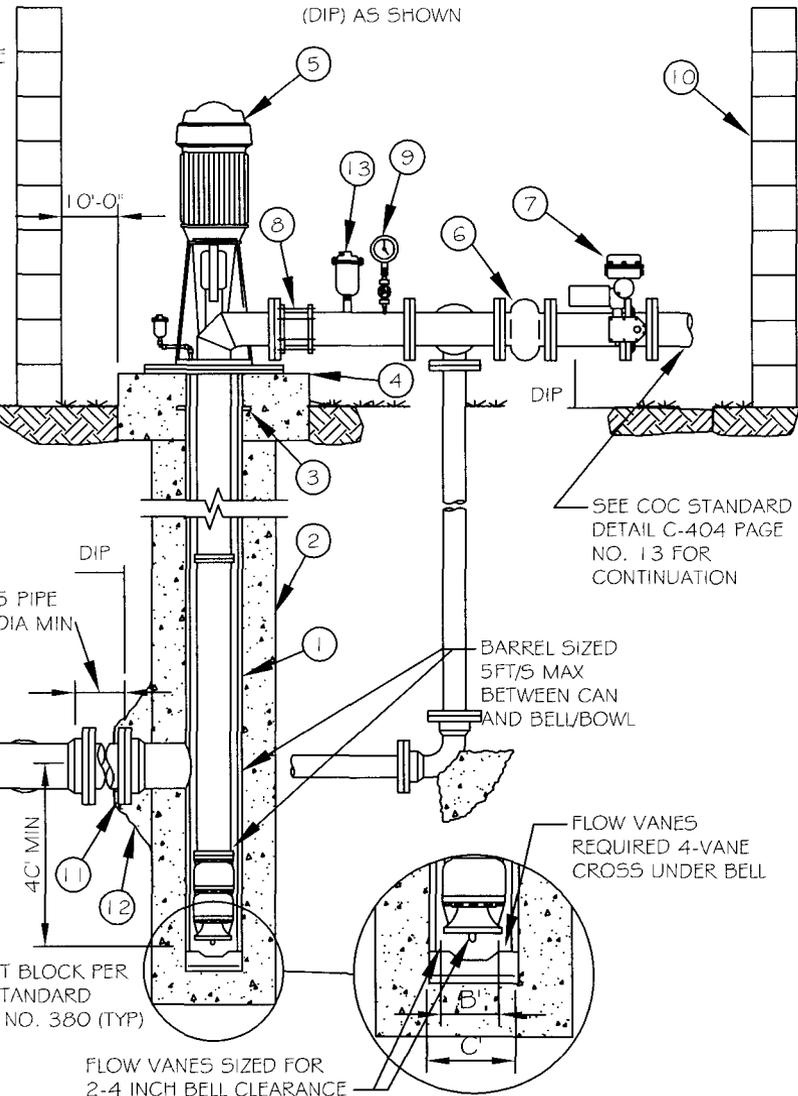
FLOW VANES SIZED FOR 2-4 INCH BELL CLEARANCE

BARREL SIZED 5FT/5 MAX BETWEEN CAN AND BELL/BOWL

FLOW VANES REQUIRED 4-VANE CROSS UNDER BELL

SEE COC STANDARD DETAIL C-404 PAGE NO. 13 FOR CONTINUATION

NPSHR = PUMP NET POSITIVE SUCTION HEAD REQUIRED  
 B' = PUMP SUCTION BELL DIA  
 C' = CAN OUTSIDE DIA



DETAIL NO.  
**C-404**  
 PAGE 12 OF 12

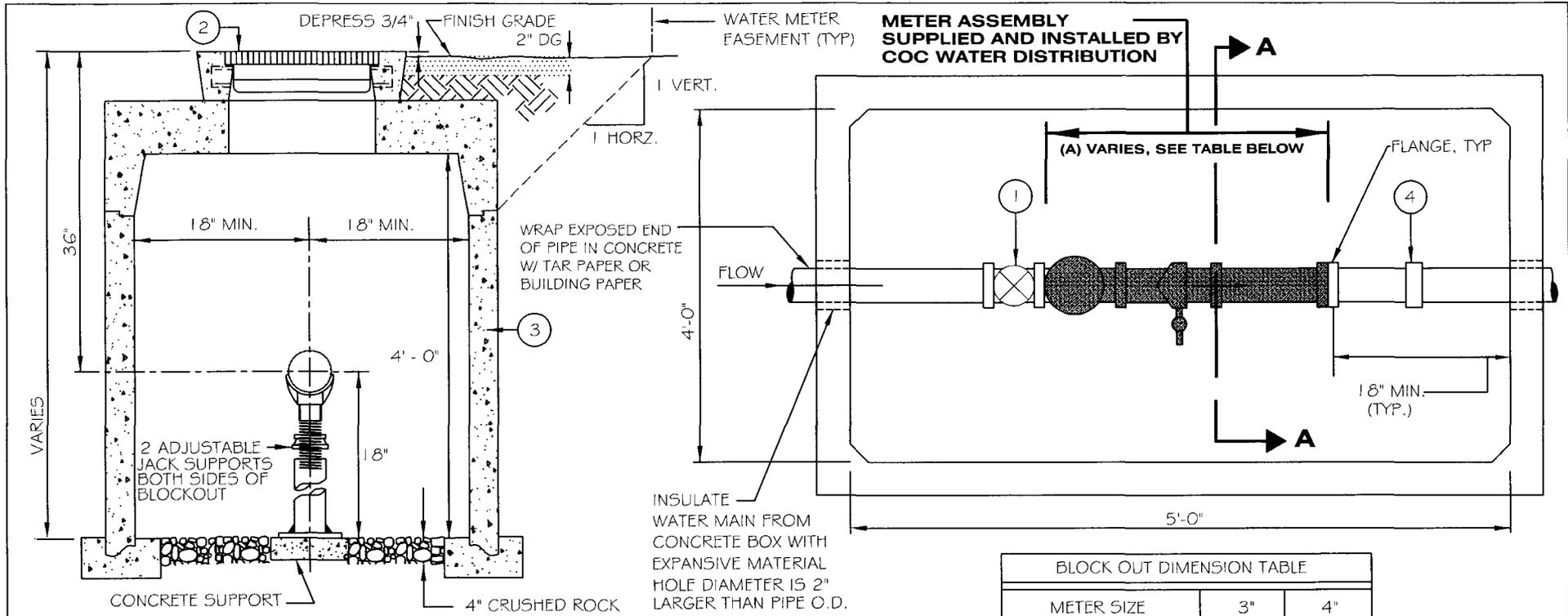


CITY OF  
 CHANDLER  
 STANDARD  
 DETAIL

**6" RECLAIMED WATER  
 IRRIGATION SERVICE LINE  
 CAN PUMP TYPE**

APPROVED: \_\_\_\_\_  
 CITY ENGINEER  
 DATE: \_\_\_\_\_

DETAIL NO.  
**C-404**  
 PAGE 12 OF 12



DETAIL NO.  
**C-416**  
NTS



**3" AND 4" RECLAIMED  
WATER METER VAULT**

APPROVED: \_\_\_\_\_  
CITY ENGINEER  
DATE: \_\_\_\_\_

DETAIL NO.  
**C-416**  
NTS