



# List of Approved Products

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# Chapter 1 - Water System Design

## 1.1 POTABLE AND RECLAIMED WATER PIPE MATERIALS

- A. Ductile Iron Pipe (DIP), Pressure Class 350 in accordance with MAG Section 750. Polyethylene encasement is required and must conform to MAG Specification 610.6.
- B. PVC Pipe in accordance with City MAG Supplement Section 751.
  - 4" – 12" diameter must conform to AWWA C900 with a 200 psi pressure rating. May be used in roadway areas.
  - 14" – 24" diameter must conform to AWWA C905, with a 235 psi pressure rating. May only be used outside of roadway areas.
- C. Water pipe less than 4" in diameter must be PVC schedule pipe in accordance with ASTM D1785 or D2241 with a minimum working pressure of 200 psi.

## 1.2 JOINT-RESTRAINING MATERIALS

### APPROVED RESTRAINED JOINTS FOR PIPE:

- A. Field Lok 350 Gaskets and HDSS / TR-Flex Fitting joint products with exact specifications as manufactured by US Pipe (DIP).
- B. American Fast-Grip and Flex-Ring joint as manufactured by American Cast Iron Pipe Company (DIP).
- C. MEGALUG Pipe Restraints as manufactured by EBAA Iron Inc. (DIP or PVC).
- D. McWane Ductile TR Flex joint and McWane Surestop 350 gasket.

### APPROVED RESTRAINED JOINTS FOR FITTINGS:

- A. EBAA Iron MEGALUG: Series 1100 (DIP), Series 2000PV (PVC).
- B. Star Pipe Products StarGrip: Series 3000 (DIP), Series 4000 (PVC).
- C. Sigma ONE-LOK: SLDE Series (DIP), SLCE Series (PVC).
- D. Tyler Union Tufgrip: Series 1000 (DIP), Series 1500 (DIP or PVC), Series 2000 (PVC).

## 1.3 WATER VALVE MANUFACTURERS

- A. Clow Valve Co.
- B. Mueller Co. or products manufactured with the exact specifications i.e. all parts are interchangeable.
- C. Kennedy Valve Co.

D. American Flow Control.

**1.4 WATER VALVE LID MANUFACTURERS**

A. Tri-Skirt style by Sigma (BV2600WLVHD-35) or approved equal by Bingham & Taylor, or Tyler.

**1.5 INSERTION VALVES**

A. PermaSeal Insertion Valve by Mueller Co. LLC.

**1.6 FIRE HYDRANTS**

- A. Mueller Centurian.
- B. Clow Medallion.
- C. Waterous Pacer.
- D. Kennedy Guardian.

**1.7 WATER METER ANGLE BALL VALVES AND CORP STOPS**

- A. Ford.
- B. Mueller.
- C. AY McDonald.
- D. Jones.

**1.8 WATER METER ADAPTORS**

A. The Ford Meter Box Company, Meter Adapters to change meter spud size and/or length.

**1.9 BACKFLOW PREVENTION ASSEMBLIES**

A. Backflow prevention assemblies must conform to the current list issued by the Foundation for Cross Connection Control and Hydraulic Research, University of California and/or the American Society of Safety Engineers and be UL listed or FM approved for fire protection use when used for fire protection systems.

**1.10 COMBINATION AIR/VACUUM ASSEMBLIES (POTABLE & RECLAIMED)**

**16" AND SMALLER MAINS:**

- A. A.R.I. D-040.
- B. Dorot DAV-P-2-NPT-KA.

**MAINS LARGER THAN 16”:**

- A. **A.R.I. D-046.**
- B. **Dorot DAV-MH-KA.**

**1.11 FLOW DETECTION METER (FD102 & FD103)**

- A. **Neptune MACH 10 Ultrasonic Meter (5/8” or 1”)**

**1.12 TRACER WIRE COMPONENTS AND MATERIALS**

**A. Tracer Wire**

- For open cut applications use Copperhead High Strength CCS Tracer Wire by Copperhead Industries or approved equal.
- For directional drilling applications use SoloShot Extra-High Strength CCS Tracer Wire by Copperhead Industries or approved equal.
- For pipe burst applications use SoloShot Xtreme CCS Tracer Wire by Copperhead Industries or approved equal.
- **Approved equals must produce third party ASTM B1010 certification.**

**B. Connections**

- For connecting wire ends together, use twist lock connector (SnakeBite) by Copperhead Industries or approved equal.
- For mainline-to-service connections, use direct bury lug connector by Copperhead Industries or approved equal.

**C. Termination/Access**

- Access Points with two-terminal switchable lid (SnakePit) by Copperhead Industries or approved equal.
- Fire Hydrant Flange Package (Cobra) by Copperhead Industries or approved equal.

**D. Grounding**

- Drive-in magnesium rod by Copperhead Industries or approved equal.

All tracer wire installations must be in accordance with MAG Section 632.

### 1.13 WATER SERVICE LINE

#### A. Copper

- 1-1/2" and larger - Type 'K' rigid copper with sweat joints.
- 1" – Type 'K' soft copper with flared or compression fittings.

#### B. PEXa Crosslinked Polyethylene

- PEXa as manufactured by REHAU-MUNICIPEX with flared or compression fittings. Must conform to AWWA Std. C904.
- Compression fittings only for the curb stop or angle ball meter valve.
- Stainless steel inserts must be used with compression fittings.

## Chapter 2 - Wastewater and Reclaimed System

### Design

#### 2.1 COMPOSITE FRAMES AND COVERS

##### A. Composite Access Products (CAP), CAP ONE.

Frame and cover must be H-20 traffic certified and per Chandler Detail C-400, including raised City logo.

#### 2.2 COMPOSITE ADJUSTMENT RINGS

##### A. Ladtech, Inc. high density polyethylene (HDPE) manufactured in accordance with ASTM D4976.

Adjustment rings must be interlocking, H-20 traffic certified and installed per manufacturer, and Chandler Detail C-401, TYPE 'B'. Use only approved adjustment rings, no shims of any kind are allowed.

#### 2.3 COMPOSITE OR POLYMER CONCRETE MANHOLES

- A. Containment Solutions, Inc. (fiberglass reinforced polyester).
- B. LFM Fiberglass Structures (fiberglass reinforced polyester).
- C. JPCI Services Inc., Sewer Shield Composites LLC (epoxy resin reinforced with fiberglass)
- D. Armorock, Polymer Concrete.

Manholes must be stand-alone, H-20 traffic certified and installed per manufacturer, MAG and City of Chandler's specifications. Base must be cast-in-place using concrete with approved protective coating.

#### **2.4 CORROSION PROTECTIVE COATING SYSTEMS**

- A. **Sauereisen Sewergard Lining No. 210 as manufactured by Sauereisen Cements, Pittsburgh, PA.**
- B. **Sewer Shield 150 Epoxy Lining as manufactured by Environmental Coatings, Mesa, AZ.**
- C. **Raven 405 Epoxy Lining as manufactured by Raven Lining Systems, Tulsa, OK.**

All coatings must be in accordance with MAG Section 626 and City MAG Section 626 Supplement. The applicator of the corrosion protective coating is required to have a minimum of three years of experience coating wastewater manholes. The City Inspector may request written verification of said experience at any time. The applicator must have written verification from the manufacturer of the corrosion-

protective coating system that is being applied that said applicator is an approved, certified applicator of the manufacturer's products. The City Inspector may request said written documentation at any time. Application must be done in accordance with the City of Chandler's specifications.

#### **2.5 WASTEWATER MANHOLE PESTICIDE COATING SYSTEM**

- A. **Insecta Insecticide Coating.**

#### **2.6 SANITARY SEWER PIPE MATERIALS**

- A. **Polyvinyl Chloride (PVC) SDR 35 in accordance with MAG Section 745.**
  - Greater than 15" diameter is not allowed.
  - Up to 15" diameter is allowed to depths of cover of less than 10'.
- B. **Polyvinyl Chloride (PVC) SDR 26 in accordance with MAG Section 745.**
  - Greater than 15" diameter is not allowed.
  - 15" diameter and smaller is allowed.
- C. **Extra-Strength Vitrified Clay Pipe (VCP) in accordance with MAG Section 743.**

#### **2.7 WASTEWATER FORCE MAIN PIPE MATERIALS**

- A. **PVC Pipe in accordance with City MAG Supplement Section 751.**

- 4" – 12" diameter must conform to AWWA C900 with a 200 psi pressure rating.
  - 14" – 24" diameter must conform to AWWA C905, with a 235 psi pressure rating.
  - PVC may only be used outside of roadway areas.
  - All pipe fittings must be DIP in accordance with MAG Section 750.
- B. **PVC Pressure Pipe SDR-26 in accordance with ASTM D2241. Not allowed under roadway areas.**
- C. **HDPE per Municipal Utilities Department requirements.**

## Chapter 3 - Storm Drainage System Design

### 3.1 STORM DRAIN PIPE MATERIALS

- A. **Rubber Gasket Reinforced Concrete Pipe (RGRCP) in accordance with MAG Section 735.**
- B. **Polypropylene (PP) Pipe) in accordance with MAG Section 740.**
- At outlet conditions in City right-of-way that include a concrete headwall, the last two lengths of pipe must be RGRCP.
- C. **High Density Polyethylene (HDPE) Pipe in accordance with MAG Section 738.**
- Not allowed in public right-of-way or private streets.
  - Up to 60" diameter allowed in landscape areas and in parking lots.

### 3.2 STORM DRAIN CATCH BASINS

- A. **Catch basins within public right-of-way and private streets must be concrete with a steel grate.**
- B. **Catch basin on private property connected to a private storm drain system within landscape areas or areas subject to wheel loading may be composite or Nyloplast (or approved equal) and must be a manufactured product intended for use as a catch basin.**

### 3.3 UNDERGROUND STORAGE RETENTION FACILITIES

- A. **Polypropylene chambers conforming to ASTM F2418 and F2787 (ADS StormTech, Prinsco HydroStor, or approved equal)**
- B. **Cast In Place Concrete Pipe (CIPP) in accordance with MAG Section 620.**



- Allowed only on private property for retention storage pipe.
  - Not allowed to be used as conveyance pipe for stormwater systems.
  - Allowed in sizes 6' through 10'.
  - Not allowed within public Right-of-way or on City owned property.
- C. **Precast concrete chambers (Oldcastle - StormCapture, StormTrap - Single/DoubleTrap, Southwest Stormwater Solutions - Century Vault or approved equal)**
- D. **High Density Polyethylene (HDPE) Pipe in accordance with MAG Section 738.**
- Not allowed in Public Right-of-way or private streets
  - Up to 60" diameter allowed in landscape areas and in parking lots.
- E. **Corrugated Metal Pipe (CMP) is NOT allowed for use in any storm water retention storage facility application on public or private property.**

**3.4 APPROVED REHABILITATION METHODS FOR CORRUGATED METAL PIPE (CMP) TANKS**

- A. **GeoKrete by Vortex**
- B. **GeoSpray 61 by GeoTree Solutions**

All repairs/methods must be approved and permitted by Development Services.

## Chapter 4 - Street Design and Access Control

### 4.1 DETECTABLE SIDEWALK WARNING DEVICES

- A. **CASTinTACT Wet Set.**
- B. **TekWay Dome Tiles with anchor system.**
- C. **ADA Arcis Tactile.**

Detectable warning must be raised truncated domes, terracotta color and contrast to pavement. Installation must be in accordance with manufacturer's recommendations.

### 4.2 STRIPING OBLITERATION SURFACE SLURRY SEALANT

- A. **Brewer Cote Resurfacer II.**

### 4.3 MEDIAN INTERLOCKING PAVING STONES

- A. **Pavestone: City Stone II type, Old Town Blend color, and Random Ashlar pattern.**
- B. **Phoenix Paver: Standard Paver type, Tierra Norte color, and Random Ashlar Pattern.**
- C. **Belgard: Catalina type, Old Town Blend color, and Random Ashlar pattern.**
- D. **Acker-Stone Industries: Street Stone I (3"x6", 6"x6") / Street Stone II (6"x9") type, Gila River color, and Random Ashlar pattern.**

Pavers may be 6 cm or 8 cm thickness and Random Ashlar pattern using 3"x6", 6"x6" and 6"x9" stones. When approved for use in crosswalks, min. thickness must be 8 cm, and with Polymetric Paver Sand (or approved equal) swept between all joints.

### 4.4 APPROVED EVAC MIX DESIGNS

- A. **Arterial Streets: EVAC ¾" PG 70-10 Mix, and EVAC ½" PG 70-10 Mix (Gyratory Mix Design preferred).**
- B. **Collector and Local Streets: EVAC ½" PG 70-10 Mix (Marshall Mix Design preferred).**

Chandler approved East Valley Asphalt Committee (EVAC) mix designs can be found on the **Conventional Mixes** list ([Link](#)) on the City of Mesa website under the Approved Asphalt Mixes.

## Chapter 5 - Traffic Signal Design

### 5.1 APPROVED PRODUCTS/MODELS

EQUIPMENT	APPROVED PRODUCTS	MODEL NUMBER
TRAFFIC SIGNAL POLES/ARMS	<ul style="list-style-type: none"> <li>• CEMTEC</li> <li>• VALMONT</li> </ul>	SEE CITY OF CHANDLER STANDARD DETAILS
TRAFFIC SIGNAL CONTROLLER	<ul style="list-style-type: none"> <li>• MCCAIN</li> </ul>	<ul style="list-style-type: none"> <li>• ATC eX2 TS2 TYPE 1</li> </ul>
TRAFFIC SIGNAL TS2 CABINET ASSEMBLY	<ul style="list-style-type: none"> <li>• MOBOTREX TS2 TYPE 1</li> </ul>	<ul style="list-style-type: none"> <li>• MOBOTREX SIZE P – EL712 NEMA CABINET</li> <li>• MOBOTREX EL712-BASE MOUNT</li> <li>• MOBOTREX UA242 ANCHOR BOLTS</li> <li>• MOBOTREX TF5012 LOAD BAY</li> <li>• STRUTHERS-DUNN W21ACPXD-5 TRANSFER RELAY</li> <li>• EDI PS-250 POWER SUPPLY</li> <li>• EDI BIU-700</li> <li>• EDI MMU2-16LEip CONFLICT MONITOR UNIT</li> <li>• EDI MODEL 510 LOAD SWITCHES</li> <li>• EDI MODEL 810 FLASHERS</li> <li>• MCCAIN GPS TIME SOURCE STAND ALONE 2070 PLUG-IN (2070-7G) MODULE (GMT-7), 4-FT BNC CONNECTOR, GPS RECEIVER TO 2070-7A, WITH POWER WIRES &amp; CABLE ASSEMBLY</li> </ul>
TRAFFIC SIGNAL ATC CABINET ASSEMBLY	<ul style="list-style-type: none"> <li>• MOBOTREX BRILLIANT P ATC CABINET</li> <li>• MCCAIN ATC 350i CABINET</li> </ul>	<ul style="list-style-type: none"> <li>• EDI ADU MODEL: ADU (ONE PER CABINET)</li> <li>• EDI CMU MODEL: CMUip-2212-HV (ONE PER CABINET)</li> <li>• EDI MONITORKEY PROGRAMMING TOOL WITH TWO DATAKEYS</li> <li>• EDI ATC POWER SUPPLY MODEL: PS-2216-2412-HV (ONE PER CABINET)</li> <li>• EDI SIU MODEL: SIU-2218 (TWO PER CABINET)</li> <li>• EDI SWITCH PACKS MODEL: 2202-HV (NINE PER CABINET)</li> </ul>
TRAFFIC SIGNAL MOUNTING ASSEMBLIES	<ul style="list-style-type: none"> <li>• MCCAIN</li> <li>• PEEK</li> </ul>	<ul style="list-style-type: none"> <li>• MCCAIN VEHICLE SIGNAL MOUNT MAST ARM # M18282</li> <li>• MCCAIN TYPE IV # M25677 (LEFT OF DOOR)</li> <li>• MCCAIN TYPE IV # M18538 (RIGHT OF DOOR)</li> <li>• MCCAIN TYPE V # M25585 (LEFT OF DOOR)</li> </ul>

EQUIPMENT	APPROVED PRODUCTS	MODEL NUMBER
		<ul style="list-style-type: none"> <li>MCCAIN TYPE V # M25586 (RIGHT OF DOOR)</li> </ul>
<b>EMERGENCY VEHICLE PREEMPTION (EVP)</b>	<ul style="list-style-type: none"> <li>GTT/OPTICOM</li> </ul>	<ul style="list-style-type: none"> <li>MODEL 138 DETECTOR CABLE (WIRE USED FROM SIGNAL CABINET TO DETECTOR)</li> <li>MODEL 721 DETECTOR (ONE PER APPROACH)</li> <li>MODEL 762 PHASE SELECTOR (TWO PER CABINET)</li> <li>NO AUXILIARY PANEL</li> </ul>
<b>TRAFFIC SIGNAL HOUSINGS</b>	<ul style="list-style-type: none"> <li>MCCAIN</li> <li>PEEK</li> </ul>	<ul style="list-style-type: none"> <li>MCCAIN STANDARD BACKPLATE, FIVE-INCH, LOUVERED, ALUMINUM, BLACK</li> <li>MCCAIN SIGNAL VISORS, ALUMINUM, TUNNEL, BLACK</li> <li>MCCAIN ALUMINUM SIGNAL HOUSINGS</li> <li>MCCAIN PEDESTRIAN HOUSING TYPE V # M30789 (LEFT OF DOOR)</li> <li>MCCAIN PEDESTRIAN HOUSING TYPE V # M30788 (RIGHT OF DOOR)</li> <li>*MUST USE ALUMINIUM SIGNAL HEADS.</li> </ul>
<b>TRAFFIC SIGNAL LED LUMINAIRE</b>	<ul style="list-style-type: none"> <li>PHILLIPS</li> <li>GE</li> <li>COOPER</li> </ul>	<ul style="list-style-type: none"> <li>120 VOLT, MEDIUM CUTOFF</li> </ul>
<b>LED VEHICULAR INDICATIONS</b>	<ul style="list-style-type: none"> <li>DIALIGHT</li> <li>GELCORE</li> <li>LEOTEC</li> </ul>	<p>12-INCH LED INDICATIONS, COMPLY WITH VEHICLE TRAFFIC CONTROL SIGNAL HEAD (VTC SH) STANDARDS OF ITE.</p>
<b>LED PEDESTRIAN SIGNAL INDICATIONS</b>	<ul style="list-style-type: none"> <li>DIALIGHT</li> <li>GELCORE</li> <li>LEOTEC</li> </ul>	<p>18-INCH LED COUNTDOWN INDICATIONS, COMPLY WITH PEDESTRIAN TRAFFIC CONTROL SIGNAL INDICATORS (PTCSI) STANDARDS OF ITE.</p>
<b>PEDESTRIAN PUSH BUTTONS</b>	<ul style="list-style-type: none"> <li>CAMPBELL</li> <li>MCCAIN</li> <li>POLARA</li> </ul>	<ul style="list-style-type: none"> <li>CAMPBELL FOUR HOLE 4EVR BUTTON</li> <li>MCCAIN PUSHBUTTON PLATE # M42648 (R10-4B)</li> <li>MCCAIN PUSHBUTTON FRAME AND COVER ASSEMBLY # M47437</li> <li>POLARA BDL3, BULLDOG III RBDL3AX-B-2H, X NEEDS L FOR LEFT, R FOR RIGHT</li> </ul>
<b>ACCESSIBLE PEDESTRIAN SIGNALS (APS) PEDESTRIAN PUSH BUTTONS</b>	<ul style="list-style-type: none"> <li>CAMPBELL</li> </ul>	<ul style="list-style-type: none"> <li>GUARDIAN 5.0 FS 912 WITH BLUETOOTH MODULE (501-0650)</li> </ul>

EQUIPMENT	APPROVED PRODUCTS	MODEL NUMBER
<p><b>VIDEO DETECTION SYSTEM</b></p>	<ul style="list-style-type: none"> <li>• FLIR</li> </ul>	<ul style="list-style-type: none"> <li>• FLIR TRAFISENSE2 DUAL (ONE PER APPROACH)</li> <li>• TI BPL2 EDGE BIU&amp;SIU INTERFACES (TWO PER TRAFFIC SIGNAL CABINET)</li> <li>• SDR-240-48 MEAN WELL POWER SUPPLY, &amp; CABLES. (ONE POWER SUPPLY FOR FOUR SENSORS MAX)</li> <li>• ONE 10" STEEL DIN RAIL AND TWO UNISTRUT CLIPS WITH SCREWS (PER POWER SUPPLY)</li> <li>• PHOENIX CONTACT GROUND TERMINAL BLOCK MFR # 3044092 (ONE PER CAMERA)</li> <li>• PHOENIX CONTACT WHITE TERMINAL BLOCK MFR # 3045075 (ONE PER CAMERA)</li> <li>• PHOENIX CONTACT BLACK TERMINAL BLOCK MFR # 3045088 (ONE PER CAMERA)</li> <li>• ALTECH CORP FUSEBLOCK MFR # CF4U (ONE PER POWER SUPPLY)</li> <li>• LITTELFUSE SLOW BLOW 3.15A 5X20MM GLASS CARTRIDGE 250VAC MFR 02183.15HXP (ONE PER FUSEBLOCK)</li> <li>• PELCO ASTRO-BRAC PRODUCT # AG-0169-74-96-PNC (ONE PER APPROACH AND MOUNT ON MASTARM OF SIGNAL)</li> <li>• BELDEN 1036A 18-1T STR BC PVC O/A FOIL SHD PVC JKT 105C 300V BLK/WHT/RED UL PLTC OR ITC</li> </ul>
<p><b>CCTV SYSTEM</b></p>	<ul style="list-style-type: none"> <li>• AXIS</li> </ul>	<ul style="list-style-type: none"> <li>• P5655-E</li> <li>• T91L61 MOUNT</li> <li>• T8134 60W MIDSPAN POE</li> <li>• BELDEN 7929A CAT5E CABLE</li> <li>• SHIELDED EZ-RJ45 CONNECTOR ON BOTH ENDS</li> <li>• TWO STEEL UNISTRUT WITH TWO U-BOLTS WITH STEEL LOCK WASHERS. U-BOLT SIZE DEPENDENT ON LUMINAIRE ARM DIAMETER</li> </ul>
<p><b>GATOR PATCH CABLE</b></p>	<ul style="list-style-type: none"> <li>• FIBER CONNECTIONS INC.</li> </ul>	<ul style="list-style-type: none"> <li>• G620J012LNB-##-0, ## LENGTH IN METERS DETERMINED BY FIELD MEASUREMENT FROM THE NEAREST SPLICE LOCATION TO THE CABINET.</li> <li>• ADD 50 FEET OF SLACK LOOP IN EACH #7 EXTENTION PULL BOX</li> </ul>

EQUIPMENT	APPROVED PRODUCTS	MODEL NUMBER
		<ul style="list-style-type: none"> <li>• ADD 100 FEET OF SLACK LOOP IN EACH #9 VAULT</li> <li>• CONTRACTOR SHALL EMAIL FIBER MANAGER (<a href="mailto:OSPFIBER@CHANDLERAZ.GOV">OSPFIBER@CHANDLERAZ.GOV</a>) FOR FIBER RELATED QUESTIONS AND FOR SPLICING DETAILS FOUR WEEKS PRIOR TO SPLICING ACTIVITY.</li> </ul>
<b>FIBER &amp; WIRELESS NETWORK SWITCH</b>	<ul style="list-style-type: none"> <li>• ETHERWAN</li> </ul>	<ul style="list-style-type: none"> <li>• FIBER SWITCH: EX78934E-0VB</li> <li>• EPOW-54-600 600W (ONE PER EX78934E-0VB SWITCH)</li> <li>• SFP TRANSCEIVERS SFPGIS20M (DDM) (FOUR PER TRAFFIC SIGNAL CABINET)</li> <li>• FOUR FOOT CAT6 BOOTED COMMERCIALY PRODUCED CABLES (SEVEN PER TRAFFIC SIGNAL CABINET)</li> </ul>
<b>FIBER PATCH COORDS</b>	<ul style="list-style-type: none"> <li>• COMMERCIALY PRODUCED OS2 9/125µm SINGLE MODE FIBER PATCH CABLE, 3 METERS LONG, <b>LC/UPC - SC/UPC DUPLEX</b>, IL: ≤0.3dB, RL: ≥50dB, 1310/1550nm, 2.0mm CABLE DIAMETER. (TWO PER TRAFFIC SIGNAL CABINET, DEPENDANT ON CONNECTION TYPE IN CABINET.)</li> <li>• COMMERCIALY PRODUCED OS2 9/125µm SINGLE MODE FIBER PATCH CABLE, 3 METERS LONG, <b>LC/UPC - ST/UPC DUPLEX</b>, IL: ≤0.3dB, RL: ≥50dB, 1310/1550nm, 2.0mm CABLE DIAMETER. (TWO PER TRAFFIC SIGNAL CABINET, DEPENDANT ON CONNECTION TYPE IN CABINET.)</li> <li>• COMMERCIALY PRODUCED OS2 9/125µm SINGLE MODE FIBER PATCH CABLE, 3 METERS LONG, <b>LC/UPC - LC/UPC DUPLEX</b>, IL: ≤0.3dB, RL: ≥50dB, 1310/1550nm, 2.0mm CABLE DIAMETER. (TWO PER TRAFFIC SIGNAL CABINET, DEPENDANT ON CONNECTION TYPE IN CABINET.)</li> </ul>	
<b>TWISTED PAIR NETWORK SWITCH</b>	<ul style="list-style-type: none"> <li>• ETHERWAN</li> </ul>	<ul style="list-style-type: none"> <li>• TWISTED PAIR SWITCH: ED3575-622</li> <li>• TWISTED PAIR SWITCH POWER SUPPLY: EPOW-24-60 (ONE PER SWITCH)</li> <li>• FOUR FOOT CAT6 BOOTED COMMERCIALY PRODUCED CABLES (SEVEN PER TRAFFIC SIGNAL CABINET)</li> </ul>
<b>ARID DEVICES (ONE EACH PER CABINET)</b>	<ul style="list-style-type: none"> <li>• ITERIS</li> </ul>	<ul style="list-style-type: none"> <li>• ITERIS VELOCITY ARID TS2 RACK MOUNT PRODUCT # VELOCITY-RM</li> <li>• ITERIS VELOCITY ARID BLUETOOTH PRODUCT # VEL-ADAPTER-BT</li> <li>• ITERIS VELOCITY ARID WIFI PRODUCT # VEL-ADAPTER-WIFI</li> <li>• ITERIS VELOCITY ARID ANTENNA PRODUCT # VEL-ANT-NO-BKT</li> </ul>

EQUIPMENT	APPROVED PRODUCTS	MODEL NUMBER
<b>METER PEDESTAL</b>	<ul style="list-style-type: none"> <li>• MYERS</li> <li>• TESCO</li> </ul>	<ul style="list-style-type: none"> <li>• MEUG16-M100 (MOD FOR CHANDLER)</li> </ul>
<b>ILLUMINATED STREET NAME SIGNS</b>		<ul style="list-style-type: none"> <li>• LED</li> </ul>
<b>FIBER OPTIC BACKBONE CABLE</b>	<ul style="list-style-type: none"> <li>• CORNING OR</li> <li>• APPROVED EQUAL</li> </ul>	<ul style="list-style-type: none"> <li>• CORNING 144ER4-T3122A20</li> <li>• CONTRACTOR MUST EMAIL FIBER MANAGER (<a href="mailto:OSPFIBER@CHANDLERAZ.GOV">OSPFIBER@CHANDLERAZ.GOV</a>) FOR FIBER RELATED QUESTIONS AND FOR SPLICING DETAILS FOUR WEEKS PRIOR TO SPLICING ACTIVITY.</li> </ul>
<b>SPLICE CLOSURE</b>	COMMSCOPE	<ul style="list-style-type: none"> <li>• FOSC 450-D6</li> </ul>
<b>WIRELESS RADIO UNITS</b>	<ul style="list-style-type: none"> <li>• ENCOM</li> </ul>	<ul style="list-style-type: none"> <li>• E-LITE PRODUCT # E LITE 5.8 INT (MUST INCLUDE TWO RADIOS WITH TWO POE)</li> <li>• BELDEN 7929A CAT5E CABLE (IF NOT USING MANUFACTURER'S CABLE)</li> <li>• SHIELDED EZ-RJ45 CONNECTOR ON BOTH ENDS (IF NOT USING MANUFACTURER'S CABLE)</li> <li>• FOUR FOOT CAT6 BOOTED COMMERCIALY PRODUCED CABLES (ONE PER TRAFFIC SIGNAL CABINET)</li> </ul>
<b>SCHOOL FLASHER (STAND ALONE POLE MOUNTED)</b>	<ul style="list-style-type: none"> <li>• TAPCO</li> </ul>	<ul style="list-style-type: none"> <li>• TAPCO 500039, SOLAR CHARGER CONTROLLER (ONE EACH)</li> <li>• TAPCO 2180-BRKT-R, CABINET BRACKET (ONE EACH)</li> <li>• TAPCO SLR-55-B, 55W/12V SOLAR PANNEL, TOP OF POLE MOUNT (ONE EACH)</li> <li>• TAPCO 101494 BATTERY, DEKA 12V SOLAR BATTERY (ONE EACH)</li> <li>• TAPCO 2180-BBSAY-LU, AMBER BLINKER BEACON SINGLE ASSEMBLY (TWO EACH)</li> <li>• TAPCO 2180-TIMECLOCK (ONE EACH)</li> <li>• TAPCO 2180-20002, CIRCUIT PROGRAMMING KIT (ONE EACH)</li> <li>• TAPCO 109482, ALUMINUM SQUARE COLLAR BASE (ONE EACH)</li> <li>• TAPCO 101920-18, POLE PACKAGE (ONE PER POLE)</li> </ul>
<b>SCHOOL FLASHER (STREETLIGHT MOUNTED)</b>	<ul style="list-style-type: none"> <li>• TAPCO</li> </ul>	<ul style="list-style-type: none"> <li>• TAPCO 500039, SOLAR CHARGER CONTROLLER (ONE EACH)</li> <li>• TAPCO 2180-BRKT-R, CABINET BRACKET (ONE EACH)</li> <li>• TAPCO SLR-55-A, 55W/12V SOLAR PANNEL, SIDE OF POLE MOUNT (ONE EACH)</li> </ul>

EQUIPMENT	APPROVED PRODUCTS	MODEL NUMBER
		<ul style="list-style-type: none"> <li>• TAPCO 101494 BATTERY, DEKA 12V SOLAR BATTERY (ONE EACH)</li> <li>• TAPCO 2180-BBSAY-LU, AMBER BLINKER BEACON SINGLE ASSEMBLY (TWO EACH)</li> <li>• TAPCO 2180-TIMECLOCK (ONE EACH)</li> <li>• TAPCO 2180-20002, CIRCUIT PROGRAMMING KIT (ONE EACH)</li> </ul>

## Chapter 6 - Streetlight Design

### 6.1 APPROVED PRODUCTS

EQUIPMENT	APPROVED PRODUCTS
<b>LUMINAIRE</b>	<ul style="list-style-type: none"> <li>• PHILLIPS ROADFOCUS</li> <li>• COOPER ARCHEON</li> <li>• GE EVOLVE</li> </ul>
<b>LED CONTROL NODE</b>	<ul style="list-style-type: none"> <li>• PHILLIPS LLC7812/00 CITY TOUCH CONTROL NODE (GRAY STREETLIGHT)</li> <li>• PHILLIPS LLC7811/00 CITY TOUCH CONTROL NODE (BRONZE STREETLIGHT)</li> </ul> <p>Note – Control Nodes must be commissioned to the City of Chandler with a 10-year City Touch Service Agreement and 10-year system hardware warranty.</p>
<b>POLES SL-1, SL-6, SL-8, SL-16 AND SL-17</b>	<ul style="list-style-type: none"> <li>• CEM-TEC CORPORATION</li> <li>• AMERON</li> <li>• SOUTHWEST FABRICATION</li> </ul>
<b>PAINT</b>	<p><b>A. POLE SL-16; COLOR: VALSPAR V40-07 DARK BRONZE OR EQUIVALENT</b></p> <ul style="list-style-type: none"> <li>• SHERWIN WILLIAMS (POLYURETHANE ENAMEL)</li> <li>• PITTSBURGH PAINT (PITTHANE-ACRYLIC URETHANE ENAMEL)</li> <li>• VAL SPAR PAINT (HIGH SOLID -URETHANE, 40 SERIES OR GREATER)</li> </ul> <p><b>B. POLE SL-1 (FOR MAINTENANCE PURPOSES ON EXISTING POLES)</b></p> <ul style="list-style-type: none"> <li>• SHERWIN WILLIAMS RAL7035 LIGHT GREY (ACROLON ULTRA) OR APPROVED COLOR MATCH.</li> </ul>
<b>CONDUIT</b>	<ul style="list-style-type: none"> <li>• CARLON</li> <li>• FINN INDUSTRIES, INC.</li> </ul>



## Chapter 7 - Traffic Barricade Design

No approved products for this chapter.

## Chapter 8 - Landscape Design of City Owned

### R.O.W. and Retention Basins

#### 8.1 DECOMPOSED GRANITE

- A. Desert Gold, preferred
- B. Sunset Gold
- C. Arizona Gold

Typically, 2.5" minimum depth, 1 ¼" screened material.

## Chapter 9 - Survey and Vertical Control

### Benchmarks

No approved products for this chapter.