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**MEMORANDUM** **Transportation & Development – Council Memo No. TDE13-005**

**DATE:** FEBRUARY 14, 2013

**TO:** MAYOR AND CITY COUNCIL

**THRU:** RICH DLUGAS, CITY MANAGER
PAT MCDERMOTT, ASSISTANT CITY MANAGER
R.J. ZEDER, TRANSPORTATION & DEVELOPMENT DIRECTOR
SHEINA HUGHES, CITY ENGINEER

**FROM:** WARREN WHITE, PRINCIPAL ENGINEER

**SUBJECT:** INTRODUCTION OF ORDINANCE NO. 4429 ADOPTING UPDATED VERSIONS OF EXISTING DESIGN AND CONSTRUCTION STANDARDS AND AMENDING CHAPTER 43, SECTION 43-4.5, SUBSECTIONS 43-4.5.A, 43-4.5.B, 43-4.5.C, 43-4.5.E AND 43-4.5.I, CODE OF THE CITY OF CHANDLER.

RECOMMENDATION: Staff recommends introduction and tentative approval of Ordinance No. 4429 adopting updated versions of existing design and construction standards and amending Chapter 43, Section 43-5, Subsections 43-4.5.A, 43-4.5.B, 43-4.5.C, 43-4.5.E and 43-4.5.I, Code of the City of Chandler.

BACKGROUND/DISCUSSION: The City maintains and publishes Standard Details and Specifications and Technical Design Manuals which have been developed to guide developers and City staff on the design and construction of the City's infrastructure. These documents are adopted by City Council.

The Engineering Design Standards Committee, with cross-departmental representation, reviews proposed changes to our design standards and makes recommendations for yearly updates. This process also involves reviewing the Maricopa Association of Governments (MAG) Specifications and Standards and their yearly-proposed revisions and when possible, removing City standards in favor of MAG standards.

This Ordinance would amend the following editions of the design standards:

- February 2012 Standard Details and Specifications Manual,
- February 2012 Technical Design Manual #1 & 2, Water & Wastewater System Design,
- February 2012 Technical Design Manual #3, Storm Drainage System Design,
- February 2012 Technical Design Manual #5, Traffic Signal Design,
- In addition, this Ordinance would adopt the 2013 revisions to the MAG Uniform Standard Specifications and Details with certain modifications.

The recommended revisions have been reviewed and approved by the Engineering Design Standards Committee consisting of Engineering, Offsite Inspection, Transportation, Water/Wastewater and Planning divisions. The revisions were provided to members of the industry including the Homebuilders Association, Multihousing Association and engineering design consultants. Comments received were incorporated into these revisions where appropriate.

The complete set of revised Standard Details and Specifications are on file with the City Clerk and available for review. A detailed summary of the changes is also attached.

FINANCIAL IMPLICATIONS: None.

PROPOSED MOTION: Move that Council introduce and tentatively approve Ordinance No. 4429 adopting updated versions of existing design and construction standards and amending Chapter 43, Section 43-5, Subsections 43-4.5.A, 43-4.5.B, 43-4.5.C, 43-4.5.E and 43-4.5.I, Code of the City of Chandler.

ATTACHMENTS:
Ordinance No. 4429
Change Summary 2013

**ORDINANCE NO. 4429**

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CHANDLER, ARIZONA, ADOPTING UPDATED VERSIONS OF PREVIOUSLY ADOPTED DESIGN AND CONSTRUCTION STANDARDS AND AMENDING CHAPTER 43, SECTION 43-4.5, SUBSECTIONS 43-4.5.A, 43-4.5.B, 43-4.5.C, 43-4.5.E AND 43-4.5.I, CODE OF THE CITY OF CHANDLER, RELATING TO THE ADOPTION OF THESE UPDATED DESIGN AND CONSTRUCTION STANDARDS.

**WHEREAS**, the City of Chandler has previously adopted certain documents establishing minimum design and construction standards and specifications and believes it to be prudent to adopt the updated versions of those documents; and

**WHEREAS**, Chapter 43, Code of the City of Chandler, needs to be amended to reflect adoption of those updated documents.

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

**Section 1.** That those documents identified below, three copies of each to remain on file in the Office of the City Clerk, each are hereby adopted by reference, with the additions, insertions, deletions and changes set forth herein, and each are hereby declared to be a public record.

A. City of Chandler Standard Details and Specifications, March 2013 edition.

B. City of Chandler Technical Design Manual Numbers 1 and 2; Water and Wastewater System Design, March 2013 edition.

C. City of Chandler Technical Design Manual Number 3, Drainage Policies and Standards, March 2013 edition.

D. City of Chandler Technical Design Manual Number 5, Traffic Signal Design, March 2013 edition.

F. Uniform Standard Specifications and Details for Public Works Construction Sponsored and Distributed by the Maricopa Association of Governments, 2012 Edition, Arizona (includes 2013 revisions).

**Section 2.** Subsection 43-4.5.A. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.A *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", ~~February 2012~~ March 2013 edition, is hereby adopted by reference and made a part hereof as if set forth at length herein.

**Section 3.** Subsection 43-4.5.B. of Section 43-5 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

> 43-4.5.B. *City of Chandler Technical Design Manual, Numbers 1 and 2: Water and Wastewater System Design.* That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Numbers 1 and 2: Water and Wastewater System Design", ~~February 2012~~ March 2013 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 4.** Subsection 43-4.5.C. of Section 43-5 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

> 43-4.5.C. *City of Chandler Technical Design Manual, Number 3:* Drainage Policies and Standards. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Number 3: Drainage Policies and Standards", ~~February 2012~~ March 2013 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 5.** Subsection 43-4.5.E. of Section 43-5 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

> 43-4.5.E. *City of Chandler Technical Design Manual, Number 5:* Traffic Signal Design. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Number 5: Traffic Signal Design", ~~February 2012~~ March 2013 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 6.** Subsection 43-4.5.I. of Section 43-5 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

> 43-4.5.I. *MAG Uniform Standard Specifications and Details.* That certain document on file with the City Clerk marked, known and designated as Uniform Standard Specifications and Details for Public Works Construction, Sponsored and Distributed by the Maricopa Association of Governments, ~~1998 Arizona edition (includes revisions through 2012)~~ 2012 Edition, Arizona (includes 2013 revisions) ~~(MAG Uniform Standard Specifications and Details)~~ is hereby adopted by reference and made a part hereof as though set forth at length herein with the additions, insertions, deletions and changes set forth below.
>
> 1. The Public Works Director/designee is authorized to increase standard street cross sections, both pavement and right-of-way widths, as necessary to maintain required traffic service levels when a traffic analysis indicates the need for additional lanes of traffic.
>
> 2. Where MAG refers to corrective actions for deviations from standards and provides options for "When the contracting agency is the owner" or "When the contracting agency is not the owner (i.e. permits)", the Public Works Director/designee is authorized to utilize

any of the corrective actions listed regardless of whether the City is the contracting agency or not.

INTRODUCED AND TENTATIVELY APPROVED by the City Council this 14th day of February 2013.

ATTEST:

_____ _____

CITY CLERK MAYOR

PASSED AND ADOPTED by the City Council of the City of Chandler, Arizona this _____ day of _____, 2013.

ATTEST:

_____ _____

CITY CLERK MAYOR

CERTIFICATION

I HEREBY CERTIFY that the above and foregoing Ordinance No. 4429 was duly passed and adopted by the City Council of the City of Chandler, Arizona, at a regular meeting held on the _____day of _____, 2013 and that a quorum was present thereat.

_____

CITY CLERK

APPROVED AS TO FORM:

_____

CITY ATTORNEY

PUBLISHED:

| Document No. | Title | Sponsor | Revision Summary |
|---|---|---|---|
| Streets/Traffic Details | | | |
| C-223, Pg 2 | ULTIMATE MAJOR ARTERIAL/MAJOR ARTERIAL INTERSECTION RIGHT-OF-WAY, STREET DIMENSIONS | Paul Young | Graphical updates to details for ADA ramp updates. Also, changes to dimensions related to median nose for consistency. |
| C-225 | GENERAL MEDIAN DESIGN | Mike Mah | Changes to dimensions related to median nose for consistency. |
| C-226 | "LEFT IN ONLY" MEDIAN DESIGN 16' WIDE MEDIAN | Mike Mah | Changes to dimensions related to median nose for consistency. |
| C-227 | "LEFT IN ONLY" MEDIAN DESIGN 40' WIDE MEDIAN | Mike Mah | Bull Nose radius dimension changed to 6.5'. |
| C-249 | ACCESSIBLE RAMP ALIGNMENT | Sheina Hughes | Revisions to clarify acceptable configurations. Removed the "OPTIMAL" situation. |
| C-258 | DIRECTIONAL SIDEWALK RAMP | Jason Richardson | Revisions to include Arterial (Page 1), Collector (Page 2) and Local (Page 3) configurations, showing curb and right-of-way. Also, added single ramp option for where applicable. |
| C-256 | TYPICAL RAISED CROSSWALK | Paul Young | Graphical updates to details for ADA ramp updates. |
| C-606 | ILLUMINATED STREET NAME SIGN | Mike Mah | Changes to font: Second to last line - replace "Typestyle: Helvetica Medium U & L/C Std." with "Typestyle: Clearview Font & L/C Std." |
| C-607 | ILLUMINATED STREET NAME SIGN - BRACKET ASSEMBLY | Mike Mah | Graphical updates for Clearview font and removal of redundant note. |
| C-608 | ILLUMINATED STREET NAME SIGN - J/R POLE MOUNTING | Mike Mah | Graphical updates for Clearview font. |
| C-616 | RIGHT TURN LANE DROP | Paul Young | Graphical updates to details for ADA ramp updates. Changes to placement of stop bar striping. |
| C-618 | TYPICAL SIGNS AND MARKINGS ARTERIAL ROAD | Mike Mah | Dimensional changes for bullnose. |
| C-619 | TYPICAL LANE WIDTHS - ARTERIAL ROAD WITH DOUBLE LEFT TURNS | Mike Mah | Dimensional changes for bullnose. |
| C-619 | TYPICAL LANE WIDTHS - ARTERIAL ROAD WITH DOUBLE LEFT TURNS | Paul Young | Graphical updates to details for ADA ramp updates. |
| C-623 | INTERSECTION MARKINGS (WITH MEDIANS) | Paul Young | Graphical updates to details for ADA ramp updates. Changes to placement of stop bar striping. |
| Water/Wastewater/Reclaimed Details | | | |
| C-301 | WATER SERVICE INSTALLATION / | Lori McCallum | Revisions related to depth of meter placement and additional Page 2. |
| C-301 Pg 2 of 2 | MULTI-METER WATER SERVICE INSTALLATION | Doug Toy | Proposed NEW multi-meter service detail for consistent standard from stubouts. |

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| C-311 | RPP BACKFLOW PREVENTION ASSEMBLY INSTALLATION - 3" AND UNDER | Lori McCallum | Revisions to prevent backflow prevention assemblies being oversized based on meter. Add note "Backflow Prevention Assembly shall have at least the same cross-sectional area as the meter but no more than one size larger than the meter." |
| C-315 | RPP ASSEMBLY 3", 4", 6", 8", 10" | Lori McCallum | Revisions to prevent backflow prevention assemblies being oversized based on meter. |
| C-322 | POTABLE WATER METER SAMPLING STATION CONVERSION | Jackson Kellso | NEW Construction detail for converting a potable meter set location to a sampling station when service is no longer needed and being replaced by reclaimed. Locking Polymer Concrete box per Carson Industries Inc. H Series, H2463 or approved equal. |
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| Technical Design Manuals | | | |
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| TDMs #1&2 | Water and Wastewater | Doug Toy | Update specific to reclaimed to reflect new State reuse regulations, provide clarity on the Chandler's design standards, as-built certification, backflow assembly requirements, and Chandler's reclaimed water operations. |
| TDMs #1&2 | Water and Wastewater | Doug Toy | Revision to Potable Water, Section IV Backflow Prevention requirements. |
| TDMs #1&2 | Water and Wastewater | Jackson Kellso | Revised Pg 9 reference to valve requirements to use resilient wedge gate valves for all sizes. |
| TDMs #1&2 | Water and Wastewater | Jackson Kellso | Update specific to converting a potable meter set location to a sampling station when service is no longer needed and being replaced by reclaimed. Locking Polymer Concreted box. New Construction Detail C-322. |
| TDMs #1&2 | Water and Wastewater | Jason Richardson/Bob Fortier | Review and revise pg 17 paragraph pertaining to 6" sewers. Design requirements, inspection requirements. Also, make any consistent updates to Sewer Construction Notes. Although building inspection ends 5' outside of building, want to ensure all sewer is inspected. Possibly a matrix could be inserted. TBD |
| TDMs #1&2 | Water and Wastewater | Sheina Hughes | Review and revise reclaimed section to include note stating "Private irrigation lines are not allowed in City maintained medians. The City owns and maintains the median landscape and all associated irrigation equipment. The onsite private irrigation system shall not be tied into City maintained medians in any way." |
| TDM #3 | Drainage Policies and Standards | Donald Kirby | Updates to allow for Underground Stormwater Retention at Non-Commercial Sites. |
| TDM #5 | Traffic Signal Design | Paul Young | Changes to detail TS-8 pertaining to location of Pec Socket. |
| TDM #5 | Traffic Signal Design | Mike Mah | Graphical updates to TS-1. Removed all the bold lines on this drawing since they are not relevant to traffic signals. Removed the "State Route 87" reference also. |
| TDM #5 | Traffic Signal Design | Mike Mah | Graphical updates to TS-20 for ADA ramp revisions. |

| Standard Specifications (Supplements to MAG) | | | |
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| Section 610 | WATERLINE CONSTRUCTION | Jackson Kellso | Revision to Section 610.7 Valves. Updated valve requirements. |
| Section 340 | CONCRETE CURB, GUTTER, SIDEWALK, SIDEWALK RAMPS, DRIVEWAY, AND ALLEY ENTRANCE | Mark Behrendt | Clarification needed to specify the change only applies to expansive soils. |
| Section 601 | TRENCH EXCAVATION, BACKFILLING, AND COMPACTION | Mark Behrendt | Clarification needed on who is to review the provided shoring and bracing plan. Revision to specify contractor to provide to City Project Manager or Inspector a bracing plan that adheres to OSHA requirements. |
| Section 610 | WATERLINE CONSTRUCTION | Mark Behrendt | Clarification needed to Section 610.15 Testing regarding who is to bring the pressure testing gauges. Revision for contractor to provide the necessary gauges. |