

## **CHAPTER 2 – LAND DEVELOPMENT DESIGN AND CONSTRUCTION STANDARDS**

Developments shall provide for vehicle parking, refuse collection, fire department access, landscaping, waste control, on-site water and sewer collection systems, all necessary off-site water and sewer systems, on-site reclaimed water systems, and on-site storm water retention per applicable City of Surprise codes, ordinances, and standards. Detailed information regarding various elements associated with the development process is outlined below.

### **2.1 DEVELOPMENT PLANS AND SUPPORTING DOCUMENTS**

1. The developer shall prepare a complete set of engineering documents including but not limited to the following (refer to Chapter 9 for guidelines and checklists).
  - a. Off-Site Street Lighting (Chapter 2)
  - b. Pavement Construction (Chapter 3)
  - c. Striping and Signage (Chapter 4)
  - d. Traffic Signals (Chapter 4)
  - e. Traffic Impact Analysis (Chapter 4)
  - f. Grading and Drainage (Chapter 5)
  - g. Storm Drain System (Chapter 5)
  - h. Drainage Reports (Chapter 5)
  - i. Storm Water Pollution Prevention Plan (SWPPP) (Chapter 5)
  - j. Potable Water System Construction (Chapter 6)
  - k. Reclaimed Water System Construction (Chapter 6)
  - l. Water Model Report (Chapter 6)
  - m. Reclaimed Water Report (Chapter 6)
  - n. Sanitary Sewer System Construction (Chapter 7)
  - o. Wastewater Report (Chapter 7)
  - p. Geotechnical Investigation (for reference purposes)
  
2. Civil plans may be submitted for review concurrently with a proposed site plan, or at the owner's discretion, submitted following site plan approval. In all cases, civil plans shall be approved prior to final plat approval.

## **2.2 ENGINEERING SERVICES DIVISION REVIEW TIME & FEES FOR DEVELOPMENT PLANS**

Developer shall refer to the Engineering Plan Review and Permitting Application Packet available online at <http://www.surpriseaz.gov> for specific information.

## **2.3 DEVELOPMENT IN PHASES**

The phasing of development will be reviewed on a case by case basis and must be approved by City Management. A narrative and phasing plan shall be submitted in support of each phase of development with specific identification of the following:

1. All lots, tracts, easements, common areas, and other land.
2. All streets, private streets, alleys, and other rights-of-way.
3. All utilities, including potable water, non-potable water, sanitary sewer, storm sewer, and drainage structures.
4. A description of the schedule and sequencing of the proposed phases and how significant delays in the completion of the subdivision and its public improvements will be mitigated.
5. A narrative describing plans for completing critical improvements should there be a termination of subdivision work or improvements for a period of six months.

## **2.4 PROJECT ABANDONMENT**

The termination of permitted construction for a period of one month shall be considered as abandonment of the project. The owner or developer shall be required to complete all approved improvements in full. The city may complete the required improvements per the SUDC, at the owner's/developer's expense through the assurances, if the owner or developer is unable to complete them.

## **2.5 RIGHT-OF-WAY ACQUISITION FOR A PROPOSED DEVELOPMENT**

When required, the acquisition and dedication of public rights-of-way and utility easements shall be coordinated through the city's Real Property Division. Deeds for these rights-of-way, easements and/or parcels shall be prepared by the developer and submitted to the city for approval, recording, and formal council acceptance. A Phase 1 Environmental Site Assessment in accordance with the latest ASTM/EPA standards is required for all rights-of-way to be dedicated to the city.

The property owner is responsible for the dedication of adjacent full streets of rights-of-way and shall provide the adjacent full street improvements including, but not limited to: paving, curb, gutter, sidewalk, landscaping, irrigation, street lighting, signage, signal installation/relocation, drainage infrastructure, and pavement striping. Half-street

dedication and improvements will be allowed when a concession is granted per the requirements in the SUDC.

## **2.6 FIRE DEPARTMENT ACCESS REQUIREMENTS**

All developments shall provide access for Fire Department apparatus and personnel in accordance with the standards presented in this document, with the current SUDC, and with the Fire Department Emergency Access and Detail Guide. Requirements include:

1. A 20-foot minimum driveway width is required for fire truck access per IFC and Fire Department Emergency Access and Detail Guide.
2. Turning radii shall be per AASHTO SU-40 scale at all entrances and interior driveway intersections where fire truck access is required.
3. Buildings shall be located so that a fire department apparatus may be parked within 200 feet of the farthest point on the ground floor of the building. This 200-foot travel distance is measured along the route a person would follow on foot from the truck to any given portion of the building.
4. Specifications for the sprinkler systems vary with the type of development. It is the developer's responsibility to contact the Fire Plan Examiner's Office to determine the specific requirements for the development.
5. The minimum vertical clearance shall be 14 feet.
6. There shall be a minimum 10-foot building setback from fire lanes.
7. Any roadway intended for Fire Department access shall not have a grade greater than 8%.
8. Fire lane "No Parking" signs shall be posted for all fire lanes or stenciled on curbing. (See City of Surprise Standard Detail 4-211).
9. Fire lane signs shall be posted perpendicular to the flow of traffic and shall be visible from both directions of travel. They shall be mounted between 5 and 7 feet above the final grade and at a maximum of 100-foot intervals and at any horizontal changes in direction.
10. When determined by the Fire Department, private security gates shall be equipped with pre-emptive equipment. This device shall satisfy the following conditions:
  - a. In the event of an electrical power loss, the device shall be capable of fail-safe operation. In the event of an emergency, a means shall be provided to leave the gate(s) unlocked in the open position.
  - b. A list of the approved devices may be obtained through the City of Surprise Fire Department.

## **2.7 PUBLIC STREET LIGHTS**

### **2.7.1 Street Light Plan**

Street lights are required in the public right-of-way. Street light layout plans must be prepared by a Professional Electrical Engineer registered in the State of Arizona. Street light plans shall be prepared in accordance with the ANSI/IES Roadway Lighting Manual, the City of Surprise Street Lighting Checklist (see Chapter 9), and Arizona Public Service Company (APS). All street lights must be installed by a qualified contractor and wired by APS/SRP authorized personnel. Upon approval, the owner/developer is responsible to forward the street light plans to APS for design, permits, and installation.

### **2.7.2 Street Light Improvement District (SLID)**

All developments adjacent to local and collector roadways are subject to the formation of a SLID for operation and maintenance of the street lights. The Homeowners' Association for any development with private streets is responsible for all installation, electrical, and operation costs associated with the street lights. Refer to the City of Surprise Street Light Improvement District Application Packet for more details.

## **2.8 SOLID WASTE VEHICLE ACCESS AND ROUTE DESIGN**

1. All solid waste collection routes shall meet engineering design criteria (street width and turning radii) in a manner that allows solid waste collection vehicles access to bin enclosures. The collection routes shall be designed so that collection vehicles can safely access and lift bins without obstructions (ground level or aerial obstructions).
2. To maintain the safety of the site, solid waste collection vehicles shall not be required to back up more than 50 feet when serving a trash bin.
3. No awnings or building projections shall be allowed in the route of the solid waste collection vehicle. A minimum overhead clearance of 14 feet is required along the route and a minimum overhead clearance of 25 feet is required over the bin enclosure area and along the route up to 50 feet from the steel posts.
4. Routes shall be clear of all obstructions (curbs, walls, overhead wires, and awnings) to prevent damage from the collection vehicle.
5. The collection vehicles must be able to travel through a site without backtracking.
6. Bin enclosures shall be located away from entrances and exits so that the collection vehicle does not create a safety hazard by blocking incoming or outgoing traffic.

## **2.9 CONSTRUCTION PERMITS**

1. Civil construction permits are required for any roadway, grading, underground, and on-site improvements. Submittal of the Civil Improvement Plans for review

and acceptance is required to obtain a construction permit. The Engineering Services Division will issue separate Civil Permits for each type of infrastructure improvement required. For further information regarding specific applications and permit fees, refer to [www.surpriseaz.gov](http://www.surpriseaz.gov).

2. All construction shall be in accordance with the approved plans and specifications. Prior to the issuance of a permit, the Contractor shall provide the following:
  - City of Surprise Business License
  - Maricopa County Dust Control Permit
  - Approved plan set
  - An appropriate financial guarantee for the completion of all off-site improvements
  - A copy of the improvement plans in AutoCAD and PDF format (upon approval of the Civil Plans and as outlined in the plan approval letter)
  - A PDF copy of all civil design reports