2.6. STREET DESIGN

2.6.1. GENERAL DESIGN STANDARDS

A. Streets shall conform to the following design standards:

Table 2.6.1 General Street Design Standards

Road Classification	Right-of-Way Width (ft)	Maximum Grade (%)	Pavement Width (ft)	Minimum Half Street Asphalt Width (ft)	Design Speed (mph) [1]	Centerline Minimum Curvature Radius (ft) [1]	Sidewalk Minimum Width (ft)[4]	Curb Return Radius (ft) [2]
Residential Standard 50'	50	12%[5]	28	26	25	100	5 [3]	20
Residential Alternative 43'	43	12%[5]	28	26	25	100	5 [3]	20
Residential Alternative 38'	38	12%[5]	28	26	25	100	5 [3] (one side)	20
Residential Private Rural	38	12%[5]	26	26	15	70	5 [3]	15
Residential Collector	55	12%[5]	32	26	25	200	5	25
Minor Collector	60	8%	32	26	30	200	5	25
Major Collector	66	8%	42	30	35	400	5	30
Minor Arterial - Center Street	85	8%	60	35	45	700	6	35
Minor Arterial - Western Corridor	90	8%	64	45	45	700	6	35
Major Arterial - Old Highway 91 (3-lanes)	100	8%	50	50	55	1000	6 [or 10' trail]	40

1. Private Residential Roads may use lower design speeds and centerline curve radii.
2. Curb Return Radius shall use the largest street type found at the intersection.
3. See Transportation Master Plan for additional information.
4. Sidewalks in areas of high pedestrian traffic may require greater width.
5. See Ivins City Zoning Ordinance

B. Streets shall be designed to provide adequate stopping and sight distance, degree of curve, and superelevation in accordance to standard engineering practice.

C. Subdivisions and other developments shall be designed to provide future access to adjoining vacant parcels

1. Developments shall also be designed so that existing stub streets in existing developments will be connected to the proposed streets and accesses.

2. Where a stub street is provided which accesses more than 2 lots on each side, a temporary turnaround and public use easement at least 80 feet in diameter shall be provided.

3. The city may require improvements to be installed in temporary turnaround areas.

D. Streets in subdivisions, excluding collector streets, exceeding 80 feet in length are encouraged to be curvilinear or provide sufficient alignment variation to calm traffic and enhance aesthetic appeal in the subdivision.

E. Cul-de-sac streets may not exceed 600 feet in length as measured from the center of the intersection of a connecting through street to the center of the turnaround area.

1. The maximum length of a cul-de-sac street may not be extended by additional turnarounds between the intersecting through street and the cul-de-sac.

2. If the distance from the end of a proposed cul-de-sac to a connecting road is less than 1/3rd the length of the proposed cul-de-sac street, connection to the connecting road shall be required if doing so does not violate requirements of the Ivins City transportation master plan, does not disturb or eliminate any unique geographical feature, and does not prevent full development of approved densities.

2.6.2. CROSS SECTIONS

A. Cross-sections are as approved by the Transportation Master Plan which are attached to this document in Appendix H for reference.

B. All asphalt edges for half street sections shall abut concrete or a 2-foot aggregate base shoulder.

2.6.3. ROAD NETWORKS

A. All streets in a development shall conform to the Ivins City Transportation Master Plan.

B. Curvilinear streets are encouraged to reduce, or eliminate long straight stretches of residential roadways.

C. Streets and accesses to streets should be completed in accordance with the access management standards provided in the Transportation Master Plan.

2.6.4. TECHNICAL DESIGN REQUIREMENTS

A. Street grades:

1. All street grades shall have a maximum grade as shown in Table 2.6.1.

2. A request to increase the maximum street grades shown in Table 2.6.1 may be considered upon submittal of a request and information justifying such a request to the City Engineer. Request for approval must be based upon and in accordance with

the latest edition of AASHTO's "A Policy on Geometric Design of Highways and Streets" guidelines. Any approvals for increased grades must be consistent with access requirements of fire apparatus as defined by the Fire Department. The City Engineer's decision will be final. Cost of construction will not be justification for approval.

B. Intersections:

1. Street intersections shall be as near to 90 degrees as possible.

2. Up to 15 degree skew angle may be allowed on a case by case basis if no other reasonable option exists.

3. Street intersection centerline offsets shall be not less than 150 feet.

4. Intersections should be sloped at an angle no greater than 2 percent to accommodate pedestrian crossings. It may be necessary to "table" an intersection in new construction areas.

5. Proper combination of horizontal and vertical alignment should be obtained by engineering study and consideration of the general guidelines listed in AASHTO (Section Titled: Combination of Horizontal and Vertical Alignment, 1990 edition).

6. Intersections should not be located on the interior of, or near, sharp curves. Intersections should be located a sufficient distance from all curves to provide proper sight distance for vehicles on the intersecting road or driveway and on the through road.

7. New intersections with more than four "legs" are generally not permitted.

8. When designing local road networks, "T" and "L" intersections are desired. Four-leg intersections on local road networks are generally discouraged. A development must obtain approval from City Engineer prior to design of the road network.

9. When designing local road networks, block lengths without an intervening connector street shall not exceed eight hundred feet (800') in length unless previous approval has been obtained from the City Engineer. Cul-de-sacs are not considered an intervening connecting street.

10. Accesses must be in accordance with the Access Management as provided in Section 2.7.1.

11. The intersection of two local roads should be designed to operate with minimal traffic control devices. For example, do not design an intersection to operate with a four-way stop or signal control.

12. Direct access will not be allowed for parking, loading or driveway areas that require backing maneuvers onto major collector or higher order streets. This requirement

shall apply to commercial and industrial use regardless of the order or classification of street.

13. Residential and commercial developments are generally required to provide at least two improved accesses to the development depending upon the forecasted traffic volumes and number of homes and lots.

2.6.5. CURB SIDE MAILBOXES

A. All roadside mail boxes should be installed in accordance with applicable postal standards in the following locations:

1. In areas where the sidewalk is next to the curb, install boxes behind the sidewalk so as to not encroach into the sidewalk;

2. In areas where a planter strip is provided, mail boxes may be installed within the strip, provided no part extends into the sidewalk or beyond the back of the curb;

3. In rural areas where no barrier curb is installed, a minimum clear zone of 10 feet from the traveled way should be provided.

B. All mailboxes shall be handicap accessible.

2.6.6. SIGNS AND PAVEMENT MARKINGS

A. All street name and traffic control signs and pavement markings required on the street system within a development or as a result of the development, shall be installed at the developer's expense in accordance with the standard drawings and MUTCD standards.

B. A signing plan should be submitted with the engineering drawings, however, additional signing and traffic control may be added to the project as determined by the City’s Representative.

2.6.7. PAVEMENT

A. All streets, public or private, shall be surfaced to grade, with asphalt concrete pavement, to the required minimum width and thickness in accordance with these specifications.

B. All streets require a fog seal coat to be installed no sooner than 6 months after completion yet prior to release of the warranty bond.

2.6.8. CURB AND GUTTER

A. All public or private streets shall use curb and gutter of the type shown in standard cross-sections unless otherwise approved by the City Engineer.

B. No curb shall be cut for the installation of a driveway without the installation of a concrete apron in accordance with standard details.

2.6.9. TRANSITIONS/TAPERS

A. All streets shall transition with tapers set at a ratio of no less than 12:1.

B. The transition taper area may be installed as a temporary asphalt section with no less than 2 inches of asphalt over 6 inches of roadbase.

2.6.10. CROSS-GUTTERS

A. No cross gutters shall be allowed across major collector or major and minor arterial streets.

B. On commercial and industrial streets, cross gutters are generally not allowed and require approval by the City Engineer for their use.

C. The City Engineer may prohibit construction of cross gutters on any street deemed necessary.

2.6.11. SIDEWALKS

A. Widths shall be in accordance with Table 2.6.1.

B. A maximum grade of 5%, or 2% greater than the existing/proposed street grade, whichever is less, shall be required as measured along the running length of a meandering sidewalk.

C. If the existing/proposed street grade is greater than 5%, then a meandering sidewalk shall not be permitted.

D. Whenever any sidewalk connects with any trails, paths and/or other sidewalks that are larger or smaller in width, a transitional area will be required for design and safety standards.

E. Sidewalk and bike paths shall be meandering on streets 66 feet wide or wider.

F. Meandering sidewalks shall be carefully laid out on the construction plans as follows:

1. Distance between inflection points of meander shall be typically spaced 200 to 300 feet.

2. In no case shall the distance be less than 100 feet unless necessary to avoid an obstacle as approved by the City.

3. Meander should not curve at a radius less than 200 feet unless nessessary to avoid an obstacle as approved by City.

G. Additional easements may be required for the placement of serpentine sidewalks along the rights-of-way.

H. All pedestrian accesses shall conform to ADA standards.

2.6.12. CONCRETE COLOR

A. If the developer chooses to color required curb, gutter, and sidewalks, the color shall be either Davis 160-Sunset Rose, or Davis 641-Yosemite Brown.

2.6.13. PLANTER STRIPS

A. Must be landscaped with at least 50%, by area of matured plant, of live vegetation.

B. Shall not be filled with any impervious material.

C. Shall be sloped at a minimum of 2% and a maximum of 12%.

2.6.14. ASPHALT TRAILS /PATHS

A. Shared use trails shall be installed in accordance with the Transportation Master Plan.

B. Provide a 10-foot wide trail with 2.5-inches of asphalt over 4-inches of roadbase.

C. Meandering trails should comply with the meandering requirements of sidewalks.

2.7. TRAFFIC

2.7.1. ACCESS MANAGEMENT

A. Corner Spacing

1. Access distance from corners is as given in the following table:

Table 2.7.1 Access Distance from Corner According to Facility Type.

Facility Type	Public Street Spacing	Required Sight Distance	Minimum Driveway Spacing	
			Same Side Upstream, Downstream, & Opposing Upstream	Opposing Downstream
Major Arterial	1320’	500’	250’	150’
Minor Arterial	660’	500’	200’	150’
Major Collector	660’	400’	175’	150’
Minor Collector	250’	400’	150’	125’
Residential Collector	250’	300’	100’	75’
Residential Standard	150’	300’	50’	50’

Notes:
1. All access is determined by City and distances shown may be adjusted on a case-by-case basis if warranted by specific traffic conditions.
2. Measurement of public streets spacing shall be from centerline of right-of-way to centerline of right-of-way.
3. Measurement of driveway spacing shall be from centerline of proposed access to corner/edge of nearest driveway or road.
4. When two or more accesses serve the same multi-family/commercial development, distance between shall be at least 300 feet on Arterials and Major Collectors and 200 feet for all other roads.
5. When non-residential driveways cannot be separated with the spacing shown above they should be combined into a shared access with necessary access easements and agreements.

2. Access to corner lots should be from the lesser-classified road at the greatest distance possible from the intersection, and should not be less than the distances shown in the table above.

3. Accesses should be aligned directly with existing access on opposite side of parcel.

4. Where it is not feasible to align driveways, major driveways on opposite side of the street should not be offset less than 150 feet.

5. Where commercial lots are not large enough to allow access on opposite sides of the street to be aligned, the center of driveways not in alignment should be offset a minimum of 250 feet on all collector streets, and 300 feet on all major and arterial streets.

6. Greater distances may be required if needed for left-turn storage lanes.

7. Where two or more accesses serve the same or adjacent non-single family residential development, the minimum distance between the centerlines of accesses should be at