



PINAL COUNTY BOARD OF SUPERVISORS
AGENDA FOR WORK SESSION
Wednesday, April 17, 2024

9:30 AM - CALL TO ORDER

PINAL COUNTY ADMINISTRATIVE COMPLEX
BOARD OF SUPERVISORS HEARING ROOM
135 N. PINAL STREET
FLORENCE, AZ 85132

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- (1) Presentation and discussion of preliminary economic impact analysis of the Road Maintenance and Improvement Fund. (Jim Rounds/Leo Lew)
 - (2) Presentation and discussion of the draft 2024 Transportation Improvement and Maintenance Program for Budget Years 2023/2024 through 2027/2028. (AD23-015) (Tara Harman/Joe Ortiz)
 - (3) Work Session to discuss case PZ-C-001-22; Text Amendments to Title 3 Subdivisions of the Pinal County Development Services Code (PCDSC); amending Sections 3.05.010 through Section 3.65.060. The proposed amendments include: the administration of the platting process, definitions, general requirements and procedures for submittal of plats, specifications for plats, general subdivision design standards, required improvements, financial assurances and acceptance of improvements, plat amendments, replat and replat procedures, appeals, modifications and waivers and enforcement of regulations; and

The 2023 Pinal County Subdivision & Infrastructure Design Manual. The Manual sets forth Pinal County standards and policies for infrastructure design and assists in the preparation of the technical plans and reports for submittal to and approval by Pinal County. The 2023 Pinal County Subdivision & Infrastructure Design Manual clarifies and supplements requirements in the Pinal County Codes, including the Subdivision Regulations, Zoning Ordinance, Drainage Ordinance, Stormwater and Floodplain Regulations, and other regulations for land development within the unincorporated areas of Pinal County, pursuant to Title 3 (Subdivisions) of the PCDSC. (AD23-014) (Steve Abraham/Joe Ortiz)

ADJOURNMENT

(SUPPORTING DOCUMENTS ARE AVAILABLE AT THE CLERK OF THE BOARD OF SUPERVISORS' OFFICE AND AT <https://pinal.novusagenda.com/AgendaPublic/>)

NOTE: One or more members of the Board may participate in this meeting by telephonic conference call.

In accordance with the requirement of Title II of the Americans with Disabilities Act (ADA), the Pinal County Board of Supervisors and Pinal County Board of Directors do not discriminate against qualified individuals with disabilities admission to public meetings. If you need accommodation for a meeting, please contact the Clerk of the Board Office at (520) 866-6068, at least (3) three business days prior to the meeting (not including weekends

or holidays) so that your request may be accommodated.

Pursuant to A.R.S. 38-431.02, NOTICE IS HEREBY GIVEN, that the public will have physical access to the meeting room at 9:15 AM.

Notice of Possible Recess: The Board may take a Recess around 12:30 p.m. and the meeting will reconvene around 1:00 p.m.

Meeting Notice of Posting

General Board Meeting Rules of Order



AGENDA ITEM

April 17, 2024 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #:

Dept. Name:

Director:

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Presentation and discussion of preliminary economic impact analysis of the Road Maintenance and Improvement Fund.
(Jim Rounds/Leo Lew)

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

History	Who	Approval
Time		

ATTACHMENTS:

Click to download

☐ [Presentation Forthcoming](#)

☐ [04.17.2024 Presentation](#)

**PRESENTATION SHALL BE PRESENTED AT THE
BOARD MEETING**

*Said document(s) shall be attached to this agenda item for the Record, upon receipt if you would like a copy of the document(s) please email or call:

ClerkoftheBoard@Pinal.gov

(520) 866-6068

Preliminary Analysis of Pinal County's Road Maintenance Fund

April 17, 2024



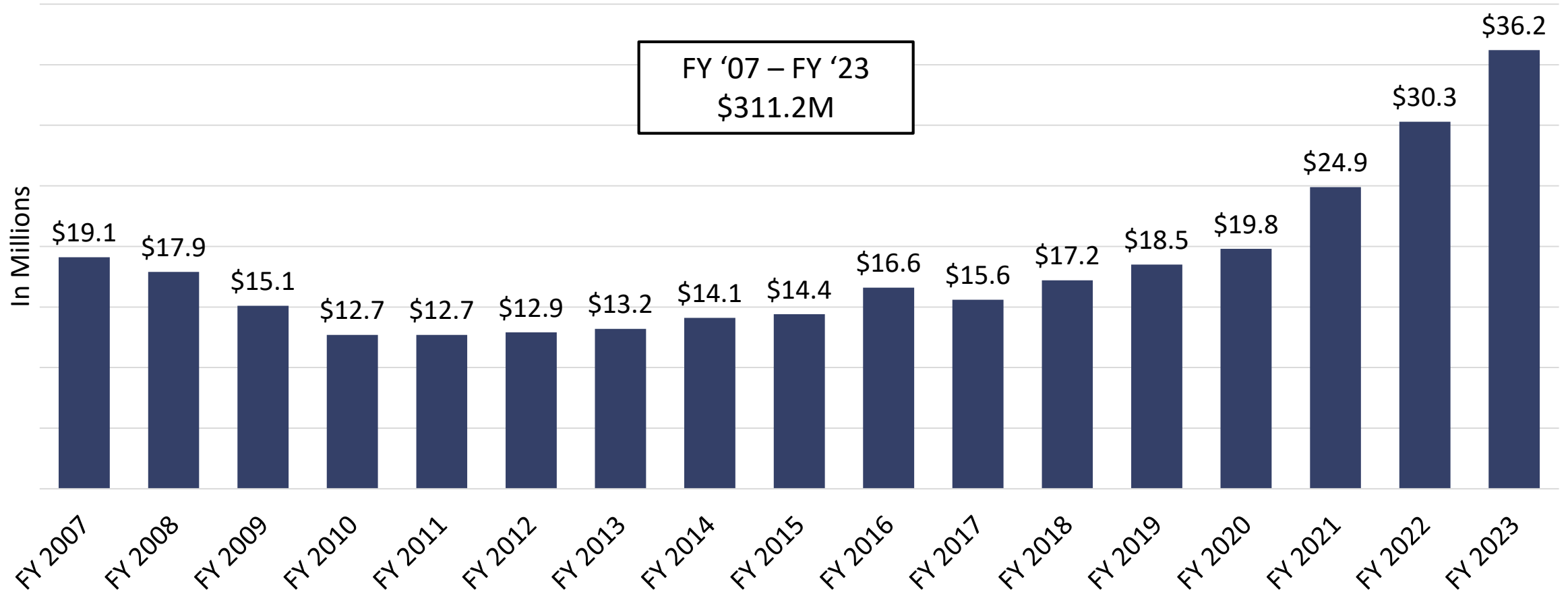
PINAL COUNTY

WIDE OPEN OPPORTUNITY

Presentation Considerations: Road Maintenance Fund

- The revenue forecast is still preliminary and subject to change.
- The estimates are only included to provide perspective into the economic impact scale.
- The Maintenance Fund analysis also captures the extent economic development will decay if County roads deteriorate and new business development is dampened.

Presentation Considerations: Historical Road Maintenance Fund Revenues



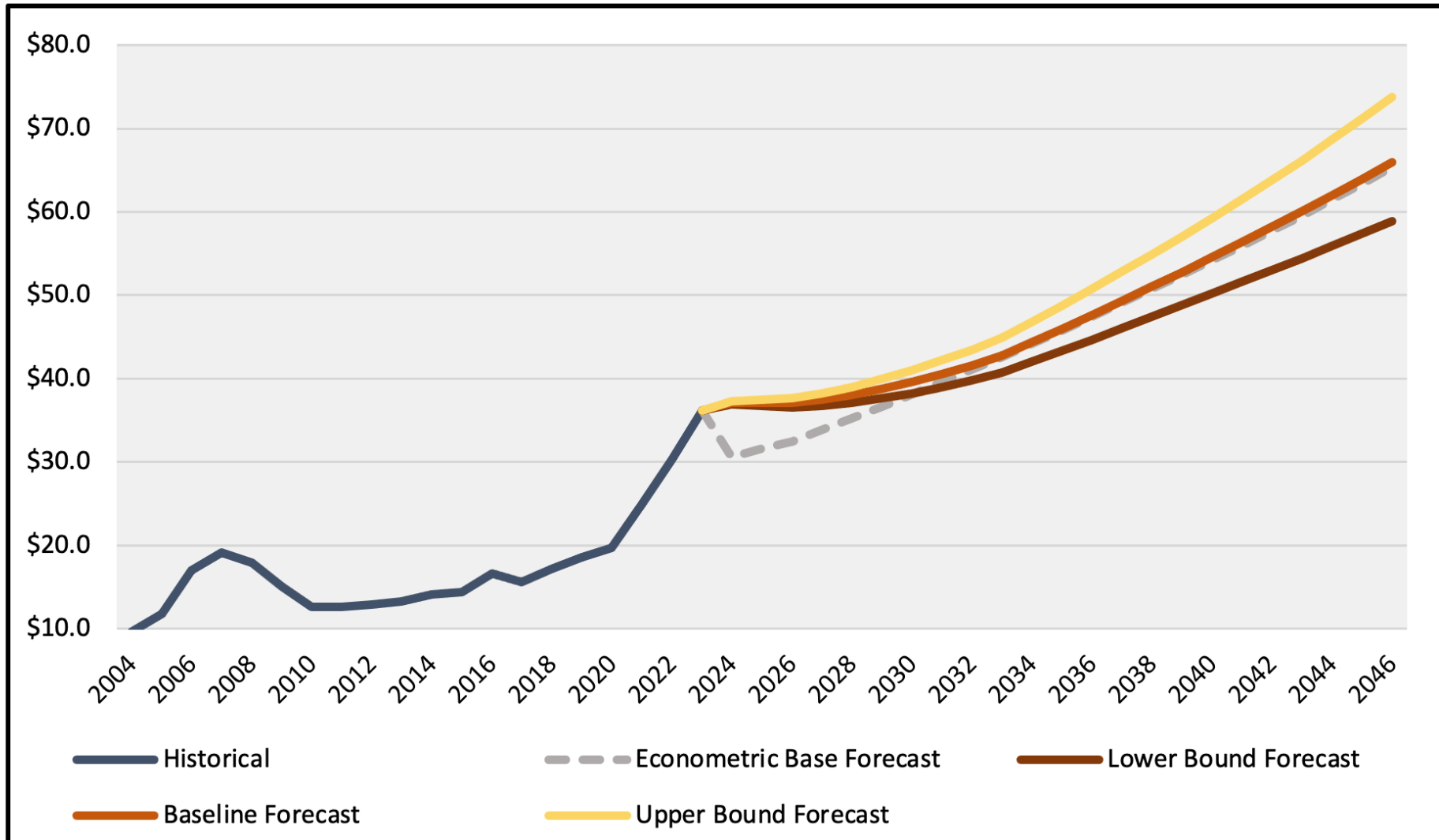
Preliminary Findings: Analysis Considerations

- Current vs. projected changes in population vs. employment.
- The size of the local retail base.
- New road quality keeping pace with demand.
- Higher household incomes moving forward.
- Pinal County growth vs. competing areas such as the Greater Phoenix/West Valley.
- Water and energy supply vs. demand.

Preliminary Findings: Analysis Considerations...Continued

- State level economic conditions.
- National level economic conditions.
- The extent the Federal Government will continue to spend at a high rate.
- The extent the Federal Reserve Board will advance or stall economic activity.
- The impact of a mild recession in 2025 vs. a more severe recession.
- And many others.

Preliminary: Forecasted Total Maintenance Fund Revenues (\$ in millions)

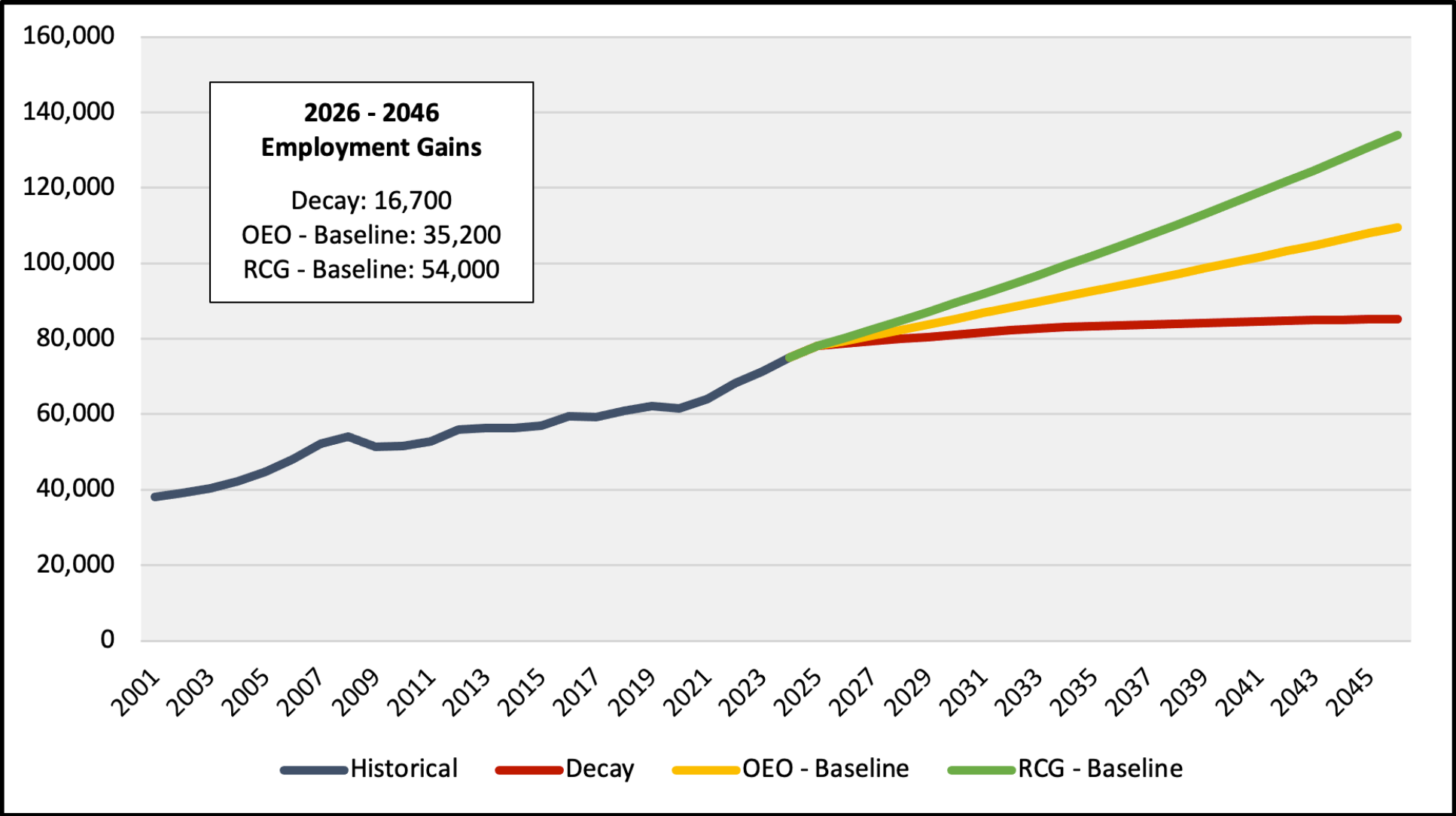


Source: Arizona Treasury Office; Rounds Consulting Group, Inc.

Preliminary Findings: Road Maintenance Fund

- If approved, the extension of Maintenance Fund revenues could generate between \$800M and \$1.2B in revenues for Pinal County and municipalities within the County for prospective maintenance projects between 2026 and 2046.

Preliminary: Forecasted Pinal County Employment Growth



Source: Arizona Office of Economic Opportunity ("OEO"); Rounds Consulting Group, Inc. ("RCG")

Opportunity Cost of Not Extending the Road Maintenance Fund Revenue Source

Between 2026 and 2046

- 215,000 fewer residents.
- 37,000 fewer jobs created.
- 75,000 fewer homes built.



- \$176.6B in lost income.
- Loss of \$4.3B in local government revenues.
- \$447.2B in lost economic activity.

Source: Rounds Consulting Group, Inc.

Thank You!



PINAL COUNTY
WIDE OPEN OPPORTUNITY



AGENDA ITEM

April 17, 2024 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #: 295

Dept. #: 311

Dept. Name: Development Services-Public Works

Director: Joe Ortiz

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Presentation and discussion of the draft 2024 Transportation Improvement and Maintenance Program for Budget Years 2023/2024 through 2027/2028. (AD23-015) (Tara Harman/Joe Ortiz)

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

There aren't any expected fiscal consideration or impact to the General Fund associated with this agenda item.

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

There are no expected performance impacts associated with this agenda item.

MOTION:

History		
Time	Who	Approval
4/4/2024 11:00 AM	County Attorney	Yes
4/9/2024 11:02 AM	Budget Office	Yes
4/11/2024 12:54 PM	County Manager	Yes
4/11/2024 2:43 PM	Clerk of the Board	Yes

ATTACHMENTS:

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☐ [Presentation](#)

☐ [Summary Comments](#)



PINAL COUNTY
WIDE OPEN OPPORTUNITY

2024 FIVE-YEAR TRANSPORTATION IMPROVEMENT & MAINTENANCE PROGRAM

2023-2024 THROUGH 2027-2028

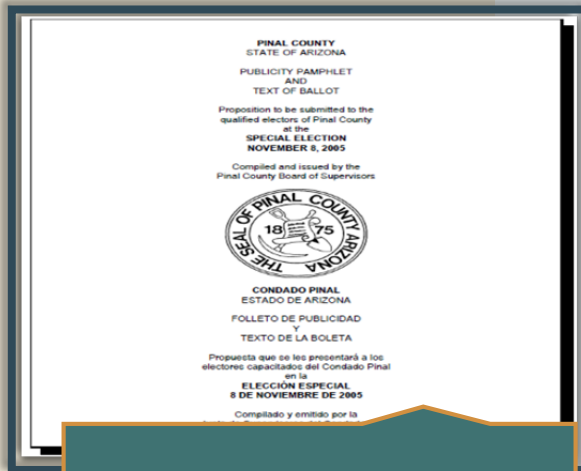
Recommended by the
Transportation Advisory Committee
February 20, 2024

Recommended for Board of Supervisors
Approval
June 5, 2024



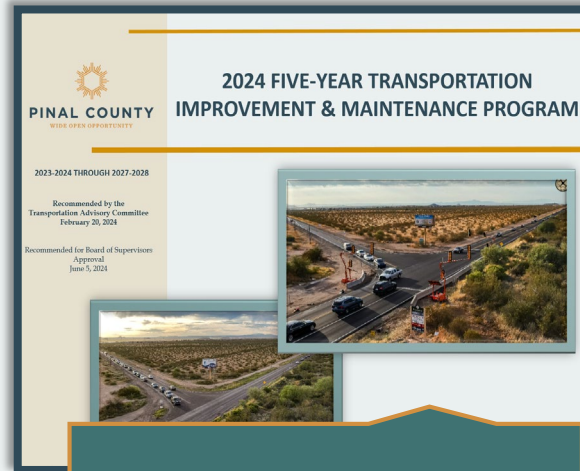
Hunt Highway and Arizona Farms Road
Alignment and Signal Before and After

TRANSPORTATION IMPROVEMENT & MAINTENANCE PROGRAM



The Funding

- Pinal County's Maintenance Fund
- Reauthorized by voters in 2005
- Sunsets Dec. 31, 2026



The Plan

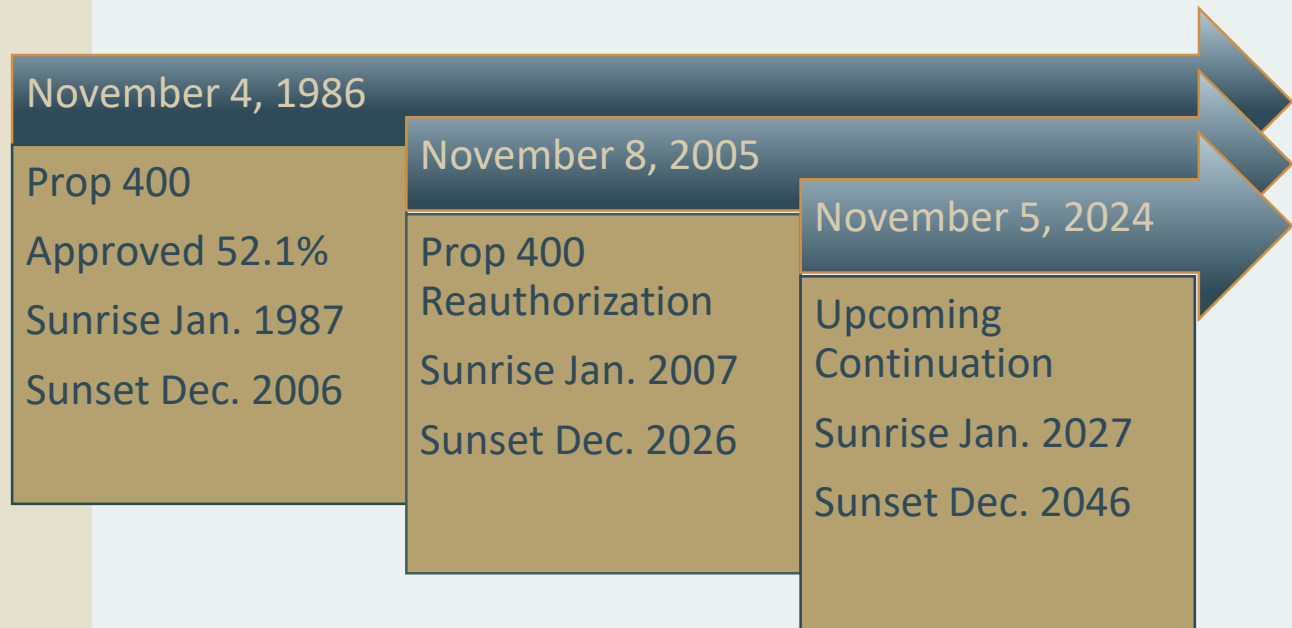
- Pinal County's 5-Year Transportation Program
- 2024 update for Budget Years: 2023-2024 through 2027-2028



The Committee

- Transportation Advisory Committee
- Board appointed panel charged with updating & recommending the plan

Program Funding Continuation



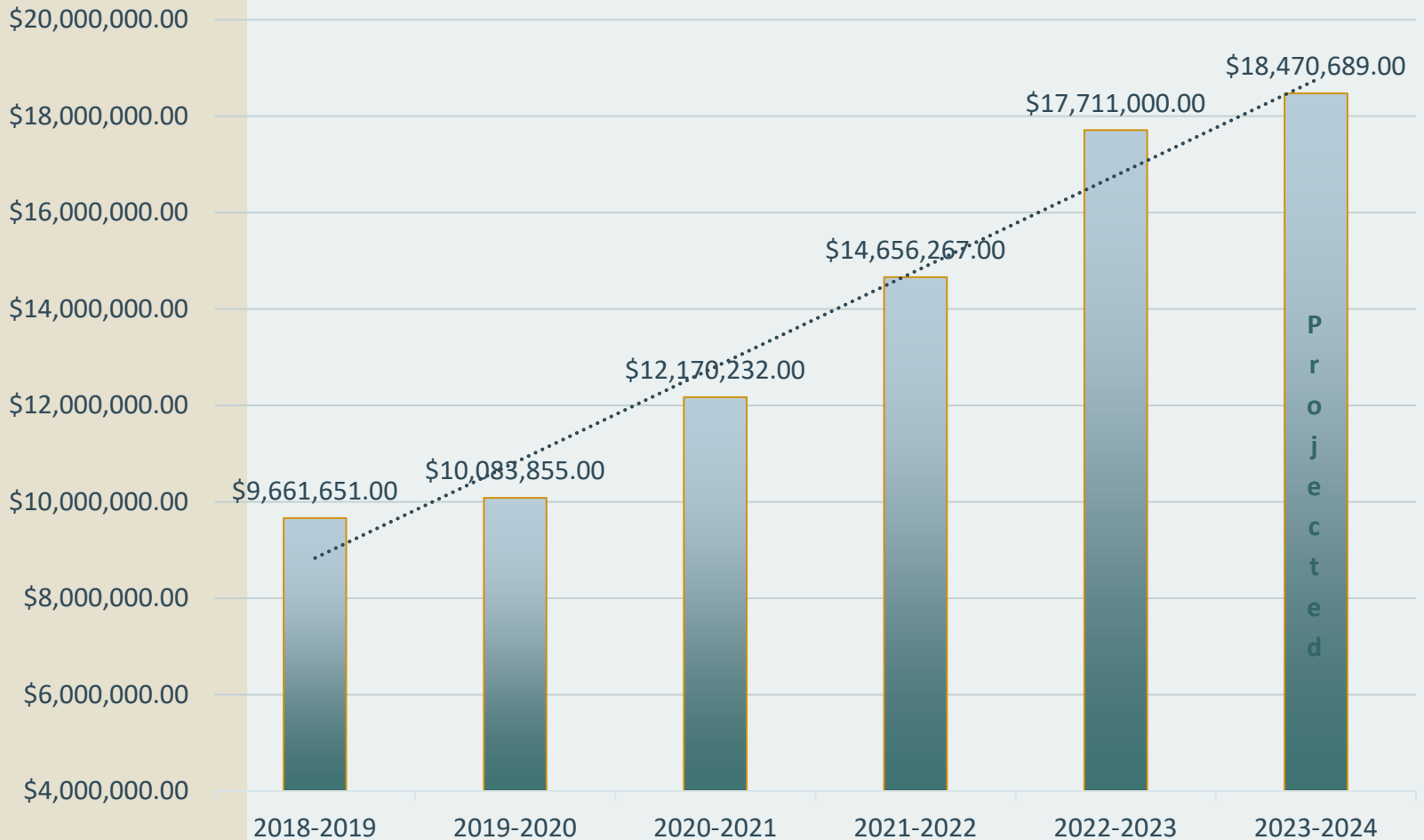


PINAL COUNTY
WIDE OPEN OPPORTUNITY

Program Funding Continuation



Program Funding



Program Priorities



Roadway Maintenance

Maintain the paved roads within Pinal County



Paved Mileage

Increase paved mileage with a greater emphasis on air quality and regionally significant routes



Traffic Flow

Reduce congestion on the arterial transportation network



Economic Development

Develop roadways that support economic development zones

New Projects



Requests are
accepted year-round



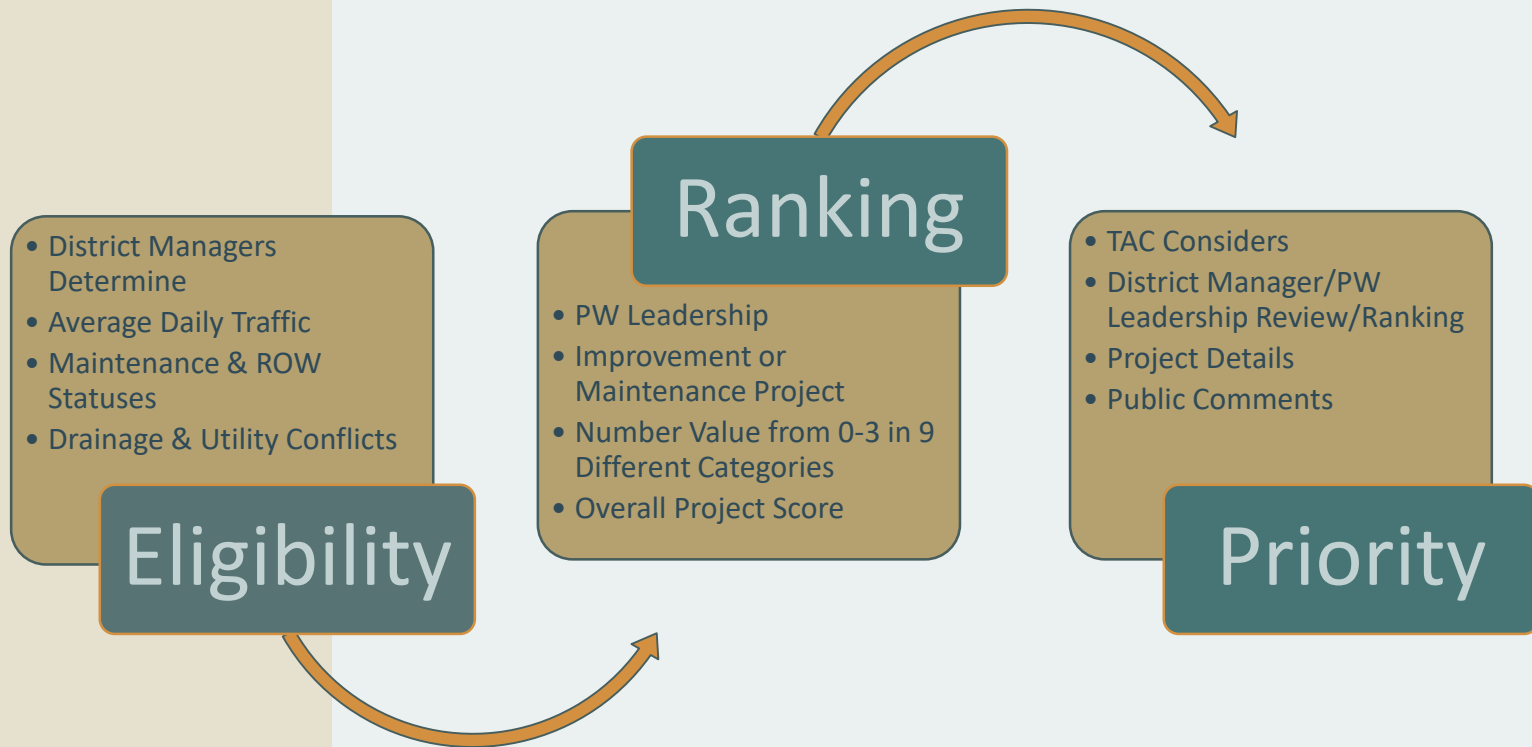
Requests must be
submitted on a
Project Request
Form via mail, email
or online submittal



The annual request
cut-off date is
September 30th



New Project Evaluations



2024 Five-Year Plan

BY 2027-2028 Projects

23 Total Projects

• \$15,000,000

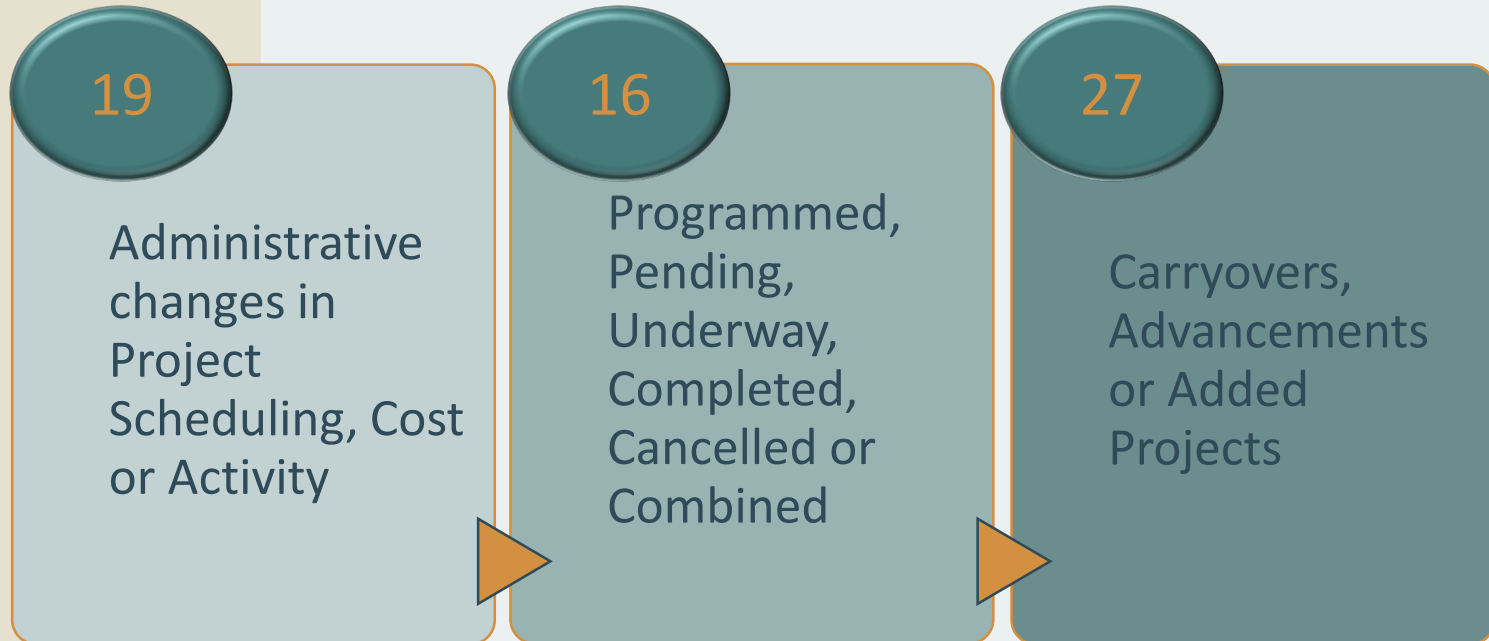
19 New Projects

• \$6,135,000

4 Continued Project

• \$8,865,000

2024 Five-Year Plan Amendments



2024 Five-Year Plan

Budget Year
2023-2024

Budget Year
2024-2025

Budget Year
2025-2026

Budget Year
2026-2027

Budget Year
2027-2028

23 Projects
\$12.6 million

Maintenance
\$3.7 million

Improvement/
Other
\$8.9 million

23 Projects
\$26.8 million

Maintenance
\$10 million

Improvement/
Other
\$16.8 million

25 Projects
\$20.4 million

Maintenance
\$7.6 million

Improvement/
Other
\$12.8 million

14 Projects
\$13 million

Maintenance
\$10.9 million

Improvement/
Other
\$2.1 million

23 Projects
\$15 million

Maintenance
\$9.9 million

Improvement/
Other
\$5.1 million

Plan Approval

Work Session with
the Board of
Supervisors:
April 17, 2024

30-Day Public
Comment Period:
April 18, 2024 –
May 17, 2024

Request Action by
the Board of
Supervisors:
June 5, 2024



Transportation Advisory Committee

District 1

- Robin Davis

District 2

- Shelby Moody

District 3

- Kevin Louis
- Rusty Riggs

District 4

- Sharon Bechman
- Steve Johnson
- David Garcia
- Mark Seidel

District 5

- Maxine Brown
- Lisa Bradford





Committee Meeting Schedule



Sept. 17, 2024

- Orientation and Training
- Project Status Reports



Nov. 19, 2024

- Project Requests Reviews
- Project Discussion



Feb. 18, 2025

- Plan Recommendation
- Officer Elections



Program & Committee Resources

Project Request Form

Transportation Advisory Committee

2023 Proposed TIMP Plan

Works | Programs/Events | Transportation Improvement & Maintenance Program

TRANSPORTATION IMPROVEMENT & MAINTENANCE PROGRAM

MAKE A COUNTY ROADWAY REQUEST THROUGH THE TRANSPORTATION IMPROVEMENT & MAINTENANCE PROGRAM

The Transportation Improvement and Maintenance Program (TIMP) is Pinal County's five-year transportation plan that identifies potential funding and establishes a tentative schedule for planning, construction, and major maintenance projects. You are encouraged to submit a transportation project request. The request will be evaluated and considered for inclusion in the TIMP.

Transportation Project Request

A request can be submitted online. Once a request is submitted it is forwarded to a Public Works area engineer to determine eligibility for the Transportation Improvement and Maintenance Program (TIMP). The area engineer researches the average daily traffic, right-of-way, maintenance status, utility conflicts, and drainage issues of the proposed project. If eligible, the proposed project is further evaluated to determine how it addresses such criteria as minimizing safety risk, reducing fugitive dust or aligning with the regional transportation plan. Eligible and evaluated projects are generally added to the fifth year of the transportation plan. [Make a transportation project request.](#)

Transportation Advisory Committee

Once a request has been added to the Transportation Improvement and Maintenance Program (TIMP), the transportation plan is submitted to the [Transportation Advisory Committee \(TAC\)](#) for prioritization. Public Works staff finalizes the draft TIMP based on the overall priority of the TAC. The TAC is the recommending body to the Pinal County Board of Supervisors on transportation planning, construction, and maintenance projects within the county's jurisdictional boundaries. The TAC annually reviews, updates, and recommends a fiscally constrained, five-year transportation plan.

TAC Meetings

The Transportation Advisory Committee (TAC) consists of ten qualified electors of Pinal County, two members from each of Pinal County's five supervisory districts, to serve a four-year term. TAC meetings are held each September, November, and February. Meetings begin at 2:30 pm and are located in the Pinal County Administrative Complex (1891 Historic Courthouse), Ironwood Room Number 101, 135 Pinal Street, Florence, AZ 85132. All notices and agendas are posted in compliance with Arizona's Open Meeting



Tara Harman
Senior Transportation Planner
Email: Tara.Harman@pinalcountyyaz.gov
Phone: (520) 866-5928

www.pinalcountyyaz.gov/PublicWorks
PCTAC@pinalcountyyaz.gov

- Submit Transportation Project Request
- TAC Meeting Agendas and Minutes
- View the Current Five-Year Plan
- View Project Status Reports
- Information on the Plan and Program
- Information on the Transportation Advisory Committee

Transporation Improvement and Maintenance Program							Budget Year 2023/2024
Project	Project Location	Activity	Status	District	BY Cost	Comments	Page
Vekol Wash Bridge / Ralston Road	at Vekol Wash	Design	Underway	1	\$116,000	Currently finishing up design.	1
Meadowgreenn Road & Hidden Valley Road	Hidden Valley Rd to Warren Rd; Meadowgreen Rd to Barnes Rd	ARDP	Underway	1	\$240,000		2
Arizona Farms Road	Hunt Hwy to Copper Basin RR	Rehabilitation	Complete	1	\$2,026,000	Completed with Hunt Highway and Arizona Farms Rd Alignment and Signal Project.	3
Christensen Road	Martin Rd to Bartlett Rd	Rehabilitation	Underway	1	\$250,000		4
Martin Road	Christensen Rd to Railroad Crossing	Rehabilitation	Underway	1	\$200,000		5
Rahma Road	N of State Route 238	ARDP	Underway	1	\$100,000		6
Kentworthy Road	Combs Rd to Chandler Heights Rd	Construction	Underway	2	\$4,500,000	Construction began Nov. 2023 and will be continued to Budget Year 2024/2025	7
Loveland Lane	Kenworthy Rd to Dustin Ave	ARDP	Underway	2	\$75,000		8
Skyline Drive	Charbray Dr to Gantzel Rd	Design	Pending	2	\$200,000	Continued in Budget Year 2024/2025	9
Ocotillo Rd & Schnepf Rd Signal	Ocotillo Rd & Schnepf Rd Intersection	Design; Construction	Underway	2	\$775,000		10
Martin Road	Bel Air Rd to Cordoniz Ln	Construction	Complete	3	\$34,443	Completed in 2022/2023	11
Picacho Boulevard	Railroad Crossing to Phillips Rd	Rehabilitation	Underway	4	\$250,000	Underway Feb. 2024.	12
Hunt Highway, Phase V	Magma Rd to Franklin Rd	Design; ROW	Underway	4	\$718,000	ROW Acquisition is underway.	13
McNab Parkway	Veterans Memorial Blvd to W. 1st Ave	Construction	Complete	4	\$357,000	Median Improvements on McNab Parkway. Programmed an additional Budget Year in 2024/2025.	14
Mount Lemmon Road	Del Rio Rd to 3C Ranch	Construction	Pending	4	\$0	Moved project to Budget Year 2024/2025.	15
Quail Run Road	Dirt Rd to Orville Rd	Construction	Underway	4	\$300,000	Underway Spring of 2024.	16
Dirt Road	Quail Run Rd to Domenion Rd	Construction	Underway	4	\$105,000	Underway Spring of 2024.	17
16th Avenue	Val Vista Rd to Marlow Rd, Wash Crossing	Study	Complete	5	\$33,701	Study will be completed this Budget Year.	18
Felix Road	Skyline Dr to wash N. of Roberts Rd	Construction	Pending	5	\$250,000		19
Florence-Kelvin Highway	Zellweger Rd, East 1 Mile	Construction	Programmed	5	\$400,000		20
Lost Dutchman Road	Val Vista Rd to Prospector Rd	ARDP	Underway	5	\$200,000		21
Florene-Kelvin Highway	3mi E of Whitlow Rd	Rehabilitation	Underway	5	\$750,000		22
Diversion Dam Road	1 mi E of Quail Run Rd	Rehabilitation	Underway	5	\$250,000		23
Safety Program	Countywide	Direct funding to the Roadway Safety Program	Programmed	7	\$500,000		24
BY 23/24 Total:					\$12,630,144		

Transporation Improvement and Maintenance Program						Budget Year 2024/2025	
Project	Project Location	Activity	Status	District	BY Cost	Comments	Page
Vekol Wash Bridge/Ralston Road	at Vekol Wash	Construction	Pending	1	\$3,500,000	Project continued in Budget Year 2025/2026.	25
Cardinal Road	Warren Rd to Hidden Valley Rd	ARDP	Programmed	1	\$420,000		26
Hickory Road	Century Rd to Pampas Gress Rd	ARDP	Programmed	1	\$240,000		27
Sage Road	LaBarranca Rd to McDavid Rd	ARDP	Programmed	1	\$200,112		28
Schnepf Road	Ocotillo Rd to Germann Rd	Rehabilitation	Programmed	2	\$1,620,000		29
Skyline Drive	Charbray Dr to Gantzel Rd	Construction	Pending	2	\$2,500,000	Project continued in Budget Year 2025/2026.	30
Signal: Ocotillo Rd & Schnepf Rd	Ocotillo Rd & Schnepf Rd Intersection	Construction	Planned	2	\$2,000,000	Project continued in Budget Year 2025/2026.	31
Kenworthy Road	Combs Rd to Chandler Heights Rd	Construction	Underway	2	\$4,000,000		32
Signal: Gary Rd & Don Rd	Gary Rd & Don Rd Intersection	Construction	Pending	2	\$1,500,000		33
Palo Verde Trail	Alsdorf Rd to cul-de-sac	ARDP	Programmed	3	\$60,000	Complete project with AZ City Rehabilitation project.	34
Bianco Road	Interstate 8 to State Route 84	Rehabilitation	Pending	3	\$1,250,000	Moved from Budget Year 2023/2024. Install drainage pipe and grade bar ditch.	35
Cholla Road	Palo Verde Rd to Simple Wy	ARDP	Programmed	4	\$120,000		36
Clemans Road	Hwy 287 to Vah Ki Inn Rd	ARDP	Programmed	4	\$300,000		37
Hunt Highway Widening, Phase V	Magma Rd to Franklin Rd	Design/ROW	Underway	4	\$700,000		38
McNab Parkway	Veterans Memorial Blvd to W. 1st Ave.	Construction	Programmed	4	\$200,000	Project continued in Budget Year 2025/2026.	39
Park Link Drive	Cattle Tank Rd, W. to new pavemetn	Rehabilitation	Programmed	4	\$500,000	Moved from Budget Year 2023/2024. Scheduled to begin July 2024. Project continued in Budget Year 2025/2026.	40
Mount Lemmon Road	Del Rio Rd to 3C Ranch	Construction	Pending	4	\$4,000,000	Moved from Budget year 2023/2024.	41
Picacho Boulevard	Train Track Corssing to Phillips Rd	Rehabilitation	Programmed	4	\$750,000		42
Superstition Boulevard	East of Arroya Rd	Study	Programmed	5	\$150,000		43
Yaqui Lane	Lazy K Rd to the end of Yaqui Ln	ARDP	Programmed	5	\$180,000		44
Florence-kelvin Highway	Continuing E. 1 mile	Construction	Programmed	5	\$200,000		45
Lost Dutchman Road	Val Vista Rd to Prospector Rd	ARDP	Underway	5	\$100,000		46
Safety Program	Countywide	Direct funding to the Roadway Safety Program	Programmed	7	\$500,000		47
Roadway Maintenance	Countywide	Pavement Preservation	Programmed	7	\$5,889,888		48
BY24/25 TOTAL:					\$30,880,000		

Transporation Improvement and Maintenance Program

Budget Year 2025/2026

<i>Project</i>	<i>Project Location</i>	<i>Activity</i>	<i>Status</i>	<i>District</i>	<i>BY Cost</i>	<i>Comments</i>	<i>Page</i>
Avram Place	Shirley Rd to Avram Pl cul-de-sac	ARDP	Programmed	1	\$33,000		49
Mayer Boulevard	Table Top Rd to Hidden Valley Rd	ARDP	Programmed	1	\$423,500		50
Sandhill Road	Hidden Valley Rd to Stonebluff Rd	ARDP	Programmed	1	\$154,000		51
Selma Highway	Midway Rd to Indian Valley Rd	ARDP	Programmed	1	\$165,000		52
Venise Drive	Warren Rd to the dead end	ARDP	Programmed	1	\$55,000		53
Vekol Wash Bridge/Ralston Road	at Vekol Wash	Construction	Pending	1	\$3,500,000		54
Bonanza Lane	Pima Rd to Airport Dr	ARDP	Programmed	2	\$82,500		55
Roadrunner Road	Pima Rd to Airport Dr	ARDP	Programmed	2	\$82,500		56
Skyline Drive	Charbray Dr to Gantzel Rd	Construction	Pending	2	\$2,250,000		57
Signal: Ocotillo Rd & Schnepf Rd	Ocotillo Rd & Schnepf Rd Intersection	Construction	Programmed	2	\$2,000,000		58
Randolph Road W.	Overfield Rd W. to the dead end	ARDP	Programmed	3	\$154,000		59
Papoose Road	Diva Rd to Trading Post Rd	ARDP	Programmed	3	\$187,000		60
Willow Peak Avenue and Lamb Road	Lamb Rd to John Jacob Aster; Willow Peak to Arica	Rehabilitation	Programmed	3	\$385,000		61
Neal Street	to the end of the Right-of-Way	ARDP	Programmed	4	\$82,500		62
Palmer Road	Christensen Rd to Nafziger Rd	ARDP	Programmed	4	\$302,500		63
Cedar Crest Street	Cedar Crest St and surrounding roads	ARDP	Programmed	4	\$253,000		64
McNab Parkway	Veterans Memorial Blvd to W. 1st Ave.	Construction	Programmed	4	\$200,000		65
Park Link Drive	Cattle Tank Rd, W. to new pavement	Rehabilitation	Programmed	4	\$1,750,000		66
Meridian Road	SR 24 alignment to Williams Field Rd	ARDP	Programmed	5	\$220,000		67
Sixshooter Road	Roundup St to Greaseswood St	ARDP	Programmed	5	\$33,000		68
Kings Ranch Road	US 60 to Almameda Rd	ARDP	Programmed	5	\$1,936,000		69
Peralta Road	US 60 to the Elementary School	Rehabilitation	Programmed	5	\$1,710,500		70
Florence-Kelvin Highway	Continuing East 1 mile	Construction	Programmed	5	\$250,000		71
Safety Program	Countywide	Direct Funding to the Roadway Safety Program	Programmed	7	\$500,000		72
Roadway Maintenance	Countywide	Pavement Preservation	Programmed	7	\$3,775,000		73
BY 25/26 TOTAL:					\$20,484,000		

Transportation Improvement and Maintenance Program						Budget Year 2026/2027
<i>Project</i>	<i>Project Location</i>	<i>Activity</i>	<i>Status</i>	<i>District</i>	<i>BY Cost</i>	<i>Page</i>
Century Road	Warren Rd to Hidden Valley Rd	ARDP	Programmed	1	\$225,000	74
Hidden Valley Road	Barnes Rd to Pampas Grass Rd	ARDP	Programmed	1	\$400,000	75
Gantzel Road	Empire Rd to Bella Vista Rd; southboun lanes only	Rehabilitation	Programmed	2	\$2,500,000	76
Arizona City Rehab	Various streets throughout Arizona City	Rehabilitation	Programmed	4	\$600,000	77
Zillesa Drive	Cherry Hills Dr to Overfield Rd	Rehabilitation	Programmed	4	\$250,000	78
Saddlebrooke and Oracle Area Road Safety Assessment	Saddlebrooke and Oracle Area	Safety	Complted	4	\$61,798	79
Estancia Drive	Amber Sunrise Dr to Escondido Way	ARDP	Programmed	4	\$250,000	80
Peralta Road	at Peralta Canyon Drive	Safety	Completed	5	\$29,300	81
Baseline Road	Mohican Rd to Blackhawk Rd	ARDP	Programmed	5	\$50,000	82
Cloudview Avenue	Edgemore Rd, 1700' to the West	ARDP	Programmed	5	\$400,000	83
Canyon Street	Main Dr, West to the dead end	ARDP	Programmed	5	\$80,000	84
Scenic Street	Boyd Rd to Roadrunner Rd	Design	Programmed	5	\$75,000	85
Safety Program	Countywide	Direct funding to the Roadway Safety Program	Programmed	7	\$500,000	86
Roadway Maintenance	Countywide	Pavement Preservation	Programmed	7	\$7,620,000	87
BY26/27 TOTAL:					\$13,041,098	

Transportation Improvement and Maintenance Program

Budget Year 2027/2028

Project	Project Location	Activity	Status	District	BY Cost	Comments	Page
Century Road & Hidden Valley	Warren Rd to Hidden Valley Rd; Century Rd to Pampas Grass Rd	ARDP	New Project	1	\$300,000		88
Fresno Road	Complete Fresno Rd from Warren Rd to Hidden Valley Rd	ARDP	New Project	1	\$175,000		89
Organ Pipe Road	Warren Rd to Arabian Rd	ARDP	New Project	1	\$200,000		90
Bitter Root Road	Warren Rd to Hickory Rd	ARDP	New Project	1	\$225,000		91
Rio Bravo Road	SR 238 to GRIC Boundary	ARDP	New Project	1	\$135,000		92
Bowlin Road	Warren Rd to Hidden Valley Rd	ARDP	New Project	1	\$150,000		93
State Route 347	Pinal County Limits to Maricopa County Limits (contingent with multiple agency partnerships)	Construction Contribution	New Project	1	\$1,000,000		94
Bella Vista Road	Gantzel Rd to Quail Run Rd	Design	New Project	2	\$500,000		95
Stagecoach Pass Avenue & Sierra Vista Rd	Schnepf Rd to Sierra Vista Rd; Combs Rd to Stagecoach Pass Ave	ARDP	New Project	2	\$150,000		96
Camden Road Sidewalk	Sommerset Rd to Castlegate Blvd	Safety Improvement	New Project	2	Program Safety Fund		97
Stanfield Area Roads	Hopi Wy to Fuqua Rd & SR 84 to Talia Dr	Rehabilitation	New Project	3	\$750,000		98
Bianco Road	SR 84 to Interstate 8	ARDP	New Project	3	\$1,000,000		99
Battleford Drive	Val Vista Blvd to Hopi Dr	Rehabilitation	New Project	3	\$150,000		100
Penworth Drive	Val Vista Blvd to Hopi Dr	Rehabilitation	New Project	3	\$150,000		101
Lamb Road	Arica Rd to Willow Peak Rd (programmed an additional year to compensate additional funding)	Rehabilitation	New Project	3	\$250,000		102
Saddlebrooke Boulevard	Border Dr to 900' West of Catalina Hills Dr	Rehabilitation	New Project	4	\$1,500,000		103
Baumgartner Road	Picacho Hwy to Wheeler Rd	ARDP	New Project	4	\$500,000		104
Edgemore Road	Painted Pony Trl to end of maintenance area	ARDP	New Project	5	\$75,000		105
Mohican Road	Valley View Dr to end of maintenance area	ARDP	New Project	5	\$25,000		106
Shashone Drive	Baseline Ave to Pottery Rd	ARDP	New Project	5	\$75,000		107
Blackhawk Rd	Baseline Ave to end of maintenance area	ARDP	New Project	5	\$75,000		108
Safety Program	Countywide	Direct funding to the Roadway Safety Program	New Project	7	\$500,000		109
Roadway Maintenance	Countywide	Pavement Preservation	New Project	7	\$7,115,000		110

BY 27/28 TOTAL: \$15,000,000



AGENDA ITEM

April 17, 2024 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #: 64

Dept. #: 311

Dept. Name: Development Services-Public Works

Director: Joe Ortiz

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Work Session to discuss case PZ-C-001-22; Text Amendments to Title 3 Subdivisions of the Pinal County Development Services Code (PCDSC); amending Sections 3.05.010 through Section 3.65.060. The proposed amendments include: the administration of the platting process, definitions, general requirements and procedures for submittal of plats, specifications for plats, general subdivision design standards, required improvements, financial assurances and acceptance of improvements, plat amendments, replat and replat procedures, appeals, modifications and waivers and enforcement of regulations; and

The 2023 Pinal County Subdivision & Infrastructure Design Manual. The Manual sets forth Pinal County standards and policies for infrastructure design and assists in the preparation of the technical plans and reports for submittal to and approval by Pinal County. The 2023 Pinal County Subdivision & Infrastructure Design Manual clarifies and supplements requirements in the Pinal County Codes, including the Subdivision Regulations, Zoning Ordinance, Drainage Ordinance, Stormwater and Floodplain Regulations, and other regulations for land development within the unincorporated areas of Pinal County, pursuant to Title 3 (Subdivisions) of the PCDSC. (AD23-014) (Steve Abraham/Joe Ortiz)

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

There aren't any expected fiscal considerations or impacts to the General Fund associated with this agenda item.

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

There are no expected performance impacts associated with this agenda item.

MOTION:

History

Time

4/10/2024 10:31 AM

4/11/2024 10:15 AM

Who

County Attorney

Budget Office

Approval

Yes

Yes

4/11/2024 12:54 PM

County Manager

Yes

4/11/2024 2:44 PM

Clerk of the Board

Yes

ATTACHMENTS:	
Click to download	
☐	Presentation By Staff
☐	Presentation Part 1
☐	Presentation Part 2
☐	Presentation Part 3
☐	Presentation Part 4



PINAL COUNTY

WIDE OPEN OPPORTUNITY

2023 SUBDIVISION AND INFRASTRUCTURE DESIGN MANUAL & TITLE 3 (SUBDIVISIONS)

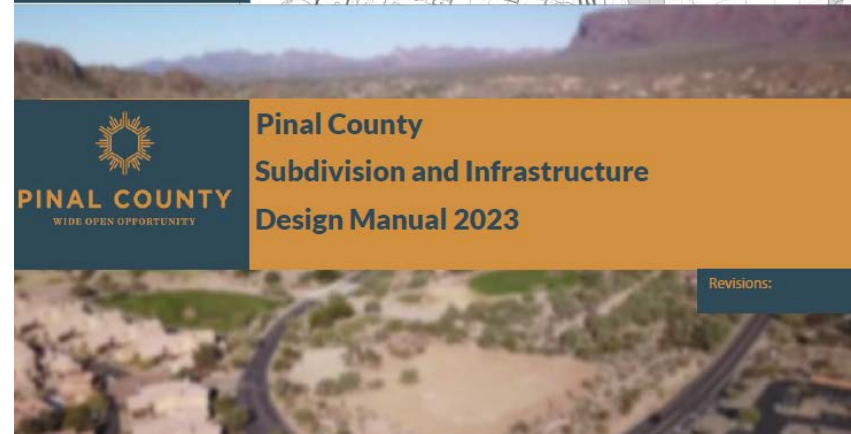
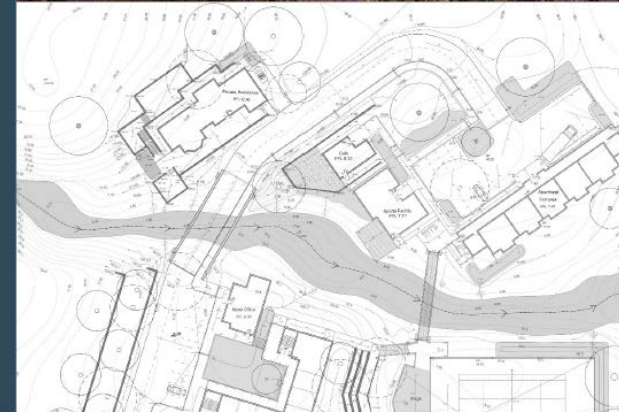
04/17/24

Public Works Department

Page 38

2023 PC SIDM & Title 3

- **Proposal:**
 - ▣ Adopt 2023 Pinal County Subdivision and Infrastructure Design Manual
 - ▣ Adopt Amendments to Title 3 (subdivisions)
- **Location:**
 - ▣ County Wide



2023 PC SIDM & Title 3

□ Purpose:

- ▣ What is the SIDM and Title 3 (subdivisions)
- ▣ Why do we have these documents?
- ▣ Why do they need to be amended?
- ▣ Public participation
- ▣ Steps moving forward

□ Location:

- ▣ County Wide

- What is the SIDM?
 - ▣ Preforms three functions:
 - The Pinal County Subdivision & Infrastructure Design Manual sets forth Pinal County standards and policies for infrastructure design, and assists in the preparation of the technical plans and reports for submittal to and approval by Pinal County.

- The 2023 Pinal County Subdivision & Infrastructure Design Manual clarifies and supplements requirements in the Pinal County Codes including the Subdivision Regulations, Zoning Ordinance, Drainage Ordinance, Storm water and Floodplain Regulations, and other regulations for land development within the unincorporated areas of Pinal County.

2023 PC SIDM

- Provide guidance and direction to the development community in the preparation of subdivision plats and infrastructure improvement plans.



□ Brief History:

- Last adopted in 2008, as a companion to the Subdivision Regulations.
- The SIDM references other technical and engineering manuals from ADOT, MCDOT, MAG, AASHTO (etc.) that have been updated several times since 2008.



- What's Changing?:
 - ▣ A lot
 - ▣ Changes fall into two distinct categories
 - Specifications of Design & Submittal requirements
 - ▣ What's New?
 - Accessing Public ROW
 - Traffic Calming
 - Street Signage/Traffic Signals
 - Street Lighting
 - Material Testing



□ Things To Consider:

▣ Process:

- Design Manual provides specifications for required improvements, not if the improvement is actually required, (Title 3 and Title 2)
- These are standards for construction and design in the Public ROW, meaning County will ultimately be responsible for maintenance
- Engineering and Standards based



□ Things To Consider:

▣ Process:

- Public Involvement: Web site news paper, physical copies, comments need to be based on Engineering related concerns.
- Anticipated public hearing in May, for adoption.
- Visit:
<https://cleargov.com/arizona/pinal/county/projects>
- Click on Design Manual

Procedural

- Staff recommends the Commission forward a recommendation of approval
- Planning Commission Voted unanimously to recommend approval of SIDM at their March meeting.

Title 3 subdivisions

□ Brief History:

- ▣ “Modern” regulations adopted in 2006.
- ▣ Some small spot changes since; tentative plat extensions, third party trusts, re-plat requirements

Title 3 subdivisions

- What's changing:
 - ▣ General Requirements and Procedures for Submittal of plats.
 - ▣ Specifications for Tentative and Final Plats.
 - ▣ Required Improvements.
 - ▣ Financial Assurances.
 - ▣ Acceptance of improvements.
 - ▣ Re-plat procedures.

Title 3 subdivisions

- What's changing:
 - ▣ General Requirements and Procedures for Submittal of plats.
 - Incomplete status
 - Deletion/Elimination of the Coordinating Committee
 - ▣ Specifications for Tentative and Final Plats.
 - TIA requirements and Access Management (RSR)

Title 3 subdivisions

- What's changing:
 - ▣ Required Improvements:
 - Installation with currently adopted standards and details from our standards along with other standards from Transportation agencies.
 - Expiration of Improvement plans

Title 3 subdivisions

□ What's changing:

▣ Financial Assurances & Acceptance of Improvements:

- Elimination of Third party trust program
- Establishment of A Ten Percent Guarantee Bond (post construction warranty)
- Procedure for denial of acceptance of improvements
- Procedure for denial of release of assurances & 10% Bond
- Substitute Assurance procedure

Title 3 subdivisions

□ What's changing:

▣ Re-plat:

- Some changes may be approved with reduced submittal requirements (already allowed but must be done through BOS waiver, this is a more formal process that skips waiver request).

Title 3 (subdivisions)

□ Things To Consider:

▣ Process:

- Public Involvement: Web site news paper, physical copies, comments can be more broad than SIDM
- Anticipated public hearing in May, for adoption.
- Visit:
<https://cleargov.com/arizona/pinal/county/projects>
- Click on Title 3

Title 3 & SIDM

- Things To Consider:
 - ▣ Public Improvements, the County owns them forever
 - ▣ Real Issues, staff time and role of County Staff.
 - ▣ Targeted Audience

Title 3 & SIDM

- Staff recommends **approval** to the Commission
- Planning Commission voted unanimously to recommend approval of Case PZ-C-001-22

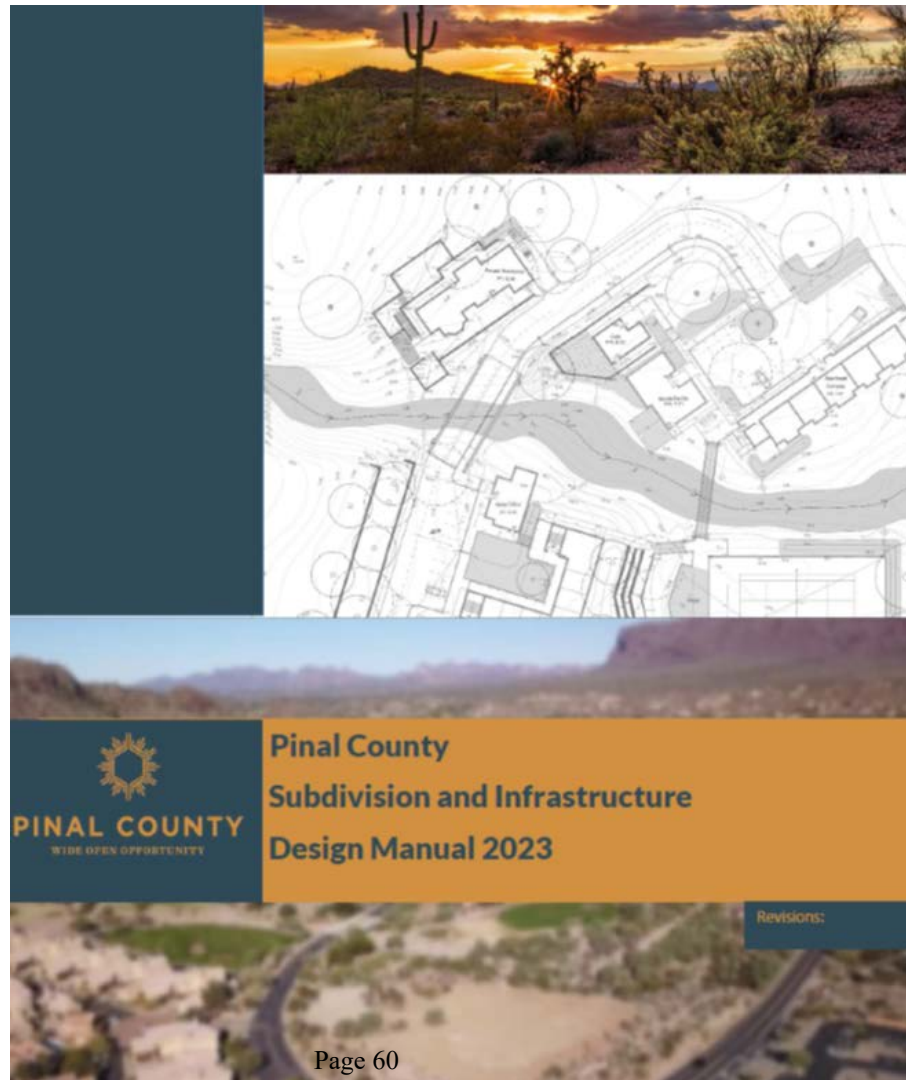
Procedural:

- ❑ Since P&Z: few changes are being proposed:
- ❑ Composition of Asphalt: Asphalt and polymer modified asphalt containing air blown/oxidized asphalt, polyphosphoric acid (PPA), or re-refined/recycled engine oil bottoms (REOB) will not be accepted. (SIDM)
- ❑ Local to local streets may be stop controlled with approval by County Engineer (SIDM)
- ❑ Adding references to Chapter 10 of the Maricopa County Department of Transportation (MCDOT) Roadway Design Manual. (SIDM)
- ❑ Typos and grammar (SIDM)

Procedural

- ❑ PZ-C-001-22: no longer includes amendments to Title 4 or the draft “Community Design Handbook” neither of those two items were discussed in any way as part of this amendment. They will have to be restarted later.
- ❑ Public Hearing notice will need to be done, approximately 5 week comment period, both amendments have already been available for review for months

Procedural:



□ Things To Consider: Public Involvement/Assurances

▣ Include an Assurance called a C of O hold

- Final sign off doesn't occur until infrastructure is installed.
- No cash deposit no actual financial security, no “collateral”
- Several Issues with this arrangement especially with residential
- County assumes all risk; at the end of the day there is no money to actually complete the improvements



MEETING DATE: April 17, 2024

TO: PINAL COUNTY BOARD OF SUPERVISORS

Case No.: PZ-C-001-22 (Title 3 PCDSC) & The *2023 Pinal County Subdivision & Infrastructure Design Manual*

CASE COORDINATOR: Steve Abraham, AICP

Executive Summary: This is a work session for discussion only on:

Case PZ-C-001-22; Text Amendments to Title 3 Subdivisions of the Pinal County Development Services Code; amending Sections 3.05.010 through Section 3.65.060. The proposed amendments include: the administration of the platting process, definitions, General requirements and procedures for submittal of plats, specifications for plats, general subdivision design standards, Required improvements, financial assurances and acceptance of improvements, plat amendments, replat and replat procedures, appeals, modifications and waivers and enforcement of regulations.

AND

The *2023 Pinal County Subdivision & Infrastructure Design Manual*. The Manual sets forth Pinal County standards and policies for infrastructure design and assists in the preparation of the technical plans and reports for submittal to and approval by Pinal County. The *2023 Pinal County Subdivision & Infrastructure Design Manual* clarifies and supplements requirements in the Pinal County Codes, including the Subdivision Regulations, Zoning Ordinance, Drainage Ordinance, Stormwater and Floodplain Regulations, and other regulations for land development within the unincorporated areas of Pinal County, pursuant to Title 3 (Subdivisions) of the PCDSC.

If This Request is Approved:

Although no action is requested today, the amendments to the subdivision regulation herein will apply to all subdivision proposals County after adoption by the BOS and the effective date of the Ordinance. This Manual and the guidelines, requirements and specifications will be applied to all development proposals after the effective date of the BOS Resolution adopting this item.

Staff Recommendation/Issues for Consideration/Concern:

Board Members please review this information and prepare your questions, comments and concerns for the April 17, 2024 Board meeting. Staff will present a power point and specific items for consideration within Title 3, and the manual. Staff will present a detailed description of new sections, public participation and steps moving forward.

REQUESTED ACTION & PURPOSE: Worksession and discussion only

LOCATION: County Wide

HISTORY/ANALYSIS:

The “Modern” Subdivision regulations were adopted in 2006. Since that time there have been relatively few amendment that dealt with Tentative plat extensions, third party trusts (non cash assurances) and replat requirements. Over the last 18 years, changing development trends and novel regulatory situations have prompted a review of the regulations.

Upon review, the BOS will notice that most changes are relatively ministerial in nature, but there are three topic areas that require substantial consideration and discussion with the Commission, regarding *Required Improvement’s, Financial Assurances, and the Acceptance into the County’s Maintenance System of those public improvements*, after construction is complete. Or, in other words the public improvements the County will have to maintain when the subdivision is complete and how the financial end of that process is managed.

In particular regarding the three points above staff is proposing to:

- Eliminate the “Third Party Trust” program and replace it with a more traditional bonding or financial surety arrangement
- Create a particular methodology to evaluate weather the improvements should be accepted and if primary assurances should be returned.
- Create a process to require a 10% deposit to ensure public infrastructure is not damaged after the primary assurances have been returned. In addition, there will be a methodology to determine if and when the 10% will be returned.

The current Subdivision & Infrastructure Design Manual (SIDM) adopted in 2008. It was originally adopted as a companion to Title 3 (subdivisions) and no revisions have occurred since. Conceptually, The SIDM guides development in two primary areas, one, Standards and Specifications for Public Improvements and Two, plan preparation for submittal to Pinal County for review.

Because these standards address public improvements and private improvements that directly interface with public infrastructure, it is important to have detailed modern standards for construction and plan submission because the County will have to maintain the improvement in perpetuity.

In the attached exhibits there are two version one titled “legislative”, which shows the changes, with strikeouts representing deletions and underlines representing additions. Please do not mind the high lighting or superscripts they were formatting items that we could not remove prior to hearing. The Other “clean version” is meant to show what the final document will look like after substantial reformatting and re-tabulation.

The changes are too numerous to mention in the Staff report but every section and nearly every page is undergrouding a change, staff will highlight the more notable changes and the justification if need be of all changes throughout the document as part of the presentation.

Public Participation:

Website posting October of 2023

Legal Notice: March 6th, 2024

Public Outreach: throughout, no official comments received.

Commission Action:

The Planning Commission at their regular meeting on March 21, 2024 voted to unanimously recommend approval of both amendments. They made minor changes to the document as described below:

Section 3.15.110.B by adding new subsection 5 (Section 3.15.110.B.5) read:

5. Where permitted, applicant may file all necessary documents electronically. Such submittals shall be of high quality to ensure legibility and shall be in a format that can be easily printed. These formats include, but are not limited to .pdf, .docx, .xlsx, .jpg. Only when specifically requested will .dwg or .skp files be accepted. It is recommended that the applicant contact the Planning Division to ensure acceptability of a file format if different than those described herein. Applicants may submit all materials electronically using the County's ePlan Review / ePermitting online submittal portal (<https://citizenaccess.pinalcountyz.gov/CitizenAccess/Default.aspx>, or as amended) provided on the Community Development Department website.

And in the Manual:

Amending Section 13.2.2.K to read:

"All signs will be installed using ADOT Signing and Marking Standards (Detail S-3)."

Staff has included several other amendments since the commission review as well:

- 5.2.1 reference to the MUTCD should be the adopted and not the most current.
- In section 6.1.2 Civil Engineering Standards: the most current Uniform Standard Specifications and Details for Public Works Construction as published by Maricopa Association of Governments (MAG) engineering standards for construction of public infrastructure, the US Department of Transportation, Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways, the Standard Specifications for Road and Bridge Construction, Arizona Department of Transportation and the State of Arizona Department of Transportation Signing and Marking Standard Drawings, Chapter 10 of the Maricopa County Department of Transportation (MCDOT) Roadway Design Manual.
- 16.5.2 Asphaltic Concrete - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction. Asphalt and polymer modified asphalt containing air blown/oxidized

asphalt, polyphosphoric acid (PPA), or re-refined/recycled engine oil bottoms (REOB) will not be accepted.

and in

- 16.6.1 All pavement and curbs and gutters shall be constructed to the grades set by the Engineer of the project per the approved plans. Asphalt and polymer modified asphalt containing air blown/oxidized asphalt, polyphosphoric acid (PPA), or re-refined/recycled engine oil bottoms (REOB) will not be accepted.

also under bullet

- b. Asphaltic concrete shall conform to MAG Specification Sections 321 and 710. Asphalt and polymer modified asphalt containing air blown/oxidized asphalt, polyphosphoric acid (PPA), or re-refined/recycled engine oil bottoms (REOB) will not be accepted.

Title 3 Legislative version
Case PZ-C-001-22

Title 3 SUBDIVISIONS^[BB1]

CHAPTER 3.05. TITLE, PURPOSE AND ADMINISTRATION

3.05.010. Title.

These regulations may be cited and referred to as the "Pinal County Subdivision Regulations."

(Ord. No. 120606-SR , § 101)

3.05.020. Authority.

The Pinal County Subdivision Regulations are authorized by A.R.S. §§ 11-8~~2102~~ and 11-8~~2206~~, and are hereby declared to be in accordance with all provisions of these statutes.

(Ord. No. 120606-SR , § 102)

3.05.030. Jurisdiction.

- A. These ~~R~~regulations shall apply to all ~~S~~ubdivisions of land as defined herein, located within the unincorporated areas of Pinal County, Arizona (the "~~C~~ounty").
- B. No land shall be considered subdivided within the unincorporated areas of the county until the ~~S~~ubdivider or ~~their his~~ agent complies with these regulations; obtains approval of the ~~final plat~~Final Plat by the ~~board of supervisors~~Board of Supervisors (the "~~board~~Board"); and ~~until~~ the final-approved ~~Final p~~Plat is filed with and recorded by the office of the ~~county~~County recorder-Recorder of Pinal County, Arizona.

(Ord. No. 120606-SR , § 103)

3.05.040. Purpose.

The purpose of these regulations is to provide for the orderly growth and harmonious development of Pinal County; to be in conformance with the intent of the Pinal County ~~comprehensive plan~~Comprehensive Plan; to preserve, promote and protect the health, safety, convenience and general welfare of the public; to foster healthy and highly livable neighborhoods; to regulate the subdivision of all lands within the unincorporated area of Pinal County; to set minimum requirements and standards for improvements; to secure ~~and provide for the proper arrangement of streets or other highways in relation to adequate traffic circulation through coordinated street systems in relation to~~ existing or planned streets, highways or bicycle facilities; to provide for the proper arrangement of hiking and equestrian trails in relation to existing or planned streets; ~~to provide for adequate and convenient open spaces for traffic, utilities, drainage, access of firefighting apparatus, recreation, light, and air;~~ to achieve individual property lots of reasonable utility; to secure adequate provisions for water supply and distribution; to ensure installation of streets, utilities, drainage, flood control and improvements meeting established minimum standards of design and construction; to consider adequate sites for schools, parks and recreation ~~facilities areas~~, and other public facilities; to promote conveyance of land by accurate legal description; and to provide practical procedures for the achievement of this purpose.

(Ord. No. 120606-SR , § 104)

3.05.050. Pending applications.

All applications for ~~S~~ubdivision approval that have been accepted as complete, including tentative or ~~final~~ ~~plat~~Final Plats, and are under ~~e~~County review on the effective date of the ordinance codified in this title shall be reviewed under ~~e~~County regulations existing at the time of acceptance, except that these regulations will apply if, during ~~p~~lat review, any approvals lapse or processing deadlines expire.

(Ord. No. 120606-SR , § 105)

3.05.060. Administration.

The ~~planning director~~Community Development Director is hereby authorized to accept and process ~~tentative~~ ~~plat~~Tentative Plats in accordance with these regulations. The ~~P~~planning and ~~Z~~oning ~~C~~ommission (the "~~commission~~Commission") is hereby authorized to act on ~~tentative-plat~~Tentative Plats in accordance with these regulations. The county ~~planning director~~Community Development Director shall collect and distribute input from the ~~county~~County engineerEngineer, the county ~~public~~Public works-Works departmentDepartment, ~~environmental~~Environmental health-Health departmentDepartment, and any other county department whose input is deemed necessary by the ~~commission~~Commission or the ~~board~~Board. The ~~planning~~Community Development Department is hereby charged with the duty of investigating and reporting upon matters referred to them in accordance with these regulations.

(Ord. No. 120606-SR , § 106)

3.05.070. Subdivision and ~~I~~nfrastructure ~~D~~esign ~~M~~manual.

- A. A companion 2023 Pinal County Subdivision and Infrastructure Design Manual, hereinafter referred to as ~~t~~he "~~D~~esign ~~M~~manual" ~~has been may be~~ adopted separately by resolution of the Pinal County ~~board of supervisors~~Board of Supervisors after 15-day notice and a public hearing. The ~~D~~esign ~~M~~manual may include standards of uniform application regarding requirements for streets, storm drains, water systems, wastewater systems, traffic signals, signs, hillside development and installation of underground utilities in dedicated right-of-way for subdivision plats within Pinal County's area of jurisdiction.
- B. Upon recommendation by the ~~county engineer~~County Engineer, the ~~D~~esign ~~M~~manual may be subsequently amended by a ~~R~~esolution of the Pinal County ~~board of supervisors~~Board of Supervisors after 15-day notice and a public hearing. The ~~D~~esign ~~M~~manual will not be published as part of the Pinal County ~~S~~ubdivision ~~R~~egulations, but shall be published as a separate document. Copies of the ~~D~~esign ~~M~~manual will be available for inspection and purchase ~~from at the~~ Pinal County Development Services ~~Counter~~.
- C. The County Engineer may approve alternate specifications to the standard specifications enumerated within the Design Manual provided:
 1. There are special circumstances or conditions applicable to the property referred to in the application for subdivision that do not apply to other property in that immediate area..
 2. That the strict application of the standard specifications would work an unnecessary nonfinancial hardship or be incompatible or detrimental to planned infrastructure improvements.
 3. That the granting of such application will not materially affect the health or safety of persons residing or working in the neighborhood and will not be materially detrimental to the public welfare or injurious to property, improvements or public infrastructure
 4. That the special circumstances or conditions referred to in subsection (C)(1) of this section are not self-imposed and are not a matter of mere inconvenience or personal preference.

D.. The County Engineer may approve, deny, or approve with modifications to a request for alternate specifications based on the provisions in subsection C of this section. A Subdivider may request an appeal of any decision of the County Engineer following the procedures in Chapter 3.60 PCDSC.

(Ord. No. 120606-SR , § 107)

3.05.080. County Subdivision processing fees.

The submission of ~~tentative plat~~Tentative Plats, ~~final plat~~Final Plats and requests to initiate other procedures under these regulations shall include payment to ~~the Pinal~~ County of fees for processing and review services performed by various county departments according to the adopted ~~planning and~~Community Development ~~services~~ and ~~P~~ublic ~~W~~orks fee schedules.

(Ord. No. 120606-SR , § 108)

3.05.090. Notice to Subdivider.

Reference in these regulations to any type of notice to Subdivider means Subdivider or Subdivider's agent.

(Ord. No. 120606-SR , § 109)

3.05.100. Interpretation, conflict, and severability.

- A. *Interpretation.* In their interpretation and application, the provisions of these regulations shall be held to be the minimum standards and requirements for the promotion of the public health, safety, and general welfare. The ~~planning director~~Community Development Director is responsible for the interpretation of the intent and application of these Regulations. Appeals ~~of to~~ the ~~planning director~~Community Development Director's interpretation may be filed in accordance with ~~chapter~~Chapter 3.60 PCDSC.
- B. *Conflict.* These Regulations are not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law except as provided in these Regulations. Where any provision of these Regulations imposes restrictions different from those imposed by any other provision of law, the provision that is more restrictive or imposes higher standards upon the development and use of land shall control.
- C. *Severability.* If any section, subsection, sentence, clause, phase, term, part or provision of these ~~R~~egulations or the ~~design manual~~Design Manual or application thereof to any ~~P~~erson or circumstances is held to be invalid or unconstitutional by the final decision of any court of competent jurisdiction, such decision shall be confined in its operation to the section, subsection, sentence, clause, phase, term, part or provision or application directly involved in the controversy and such decision shall not affect or impair the constitutionality or validity of the remaining portions of these regulations or the application thereof to other persons or circumstances.

(Ord. No. 120606-SR , § 110)

3.05.110. Amendment of ~~S~~ubdivision ~~R~~egulations.

For the purpose of providing for the public health, safety and general welfare, the ~~board~~Board may from time to time amend the provisions imposed by these ~~R~~egulations in accordance with Arizona Revised Statutes.

(Ord. No. 120606-SR , § 111)

3.05.120. Permits.

No permits for grading, clearing, building, or installation of improvements shall be issued for property that is the subject of a ~~S~~ubdivision application, unless approved by the ~~building official~~Building Official and ~~C~~ounty ~~E~~ngineer as applicable.

(Ord. No. 120606-SR , § 112)

CHAPTER 3.10. DEFINITIONS

3.10.010. General rules.

For the purpose of these regulations, and when not inconsistent with the context:

- A. Words used in the present tense shall include the future.
- B. Words used in the singular shall include the plural.
- C. Words in the plural shall include the singular.
- D. Words in the masculine gender shall include the feminine gender, corporate or other form.
- E. The word "shall" is mandatory and not discretionary.
- F. The word "may" is permissive.
- G. The particular controls the general.
- H. Enumeration is not limited.
- I. The word "herein" means "in these ~~R~~egulations" and the word "regulations" means "these ~~R~~egulations."
- J. The word "person" includes a corporation, a partnership, and an unincorporated association of persons such as a club.
- K. The words "used" or "occupied" as applied to any land or building shall be construed to include the words "intended, arranged, or designed to be used or occupied."

(Ord. No. 120606-SR , § 201)

3.10.020. Definitions.

For the purpose of these regulations, certain words, phrases, terms, and abbreviations shall have special meaning as defined herein, unless the context requires otherwise:

ADEQ means the Arizona Department of Environmental Quality.

All-weather Access, ~~all-weather~~, means roadway access that is constructed in conformance with the requirements of the ~~design manual~~Design Manual and provides access during certain weather events.

~~Access, paved, means permanent, legal, usable and physical access, including ingress and egress from the subdivision, to any public roadway, that conforms to the design manual~~Design Manual.

~~Access, permanent, means perpetual legal, usable and physical access to and from the subdivision to any public roadway.~~

~~ADEQ means the Arizona Department of Environmental Quality.~~

~~Board~~Board means the ~~board of supervisors~~Board of Supervisors of Pinal County.

Building Official means the Pinal County Building Official or Director of the Department of Building Safety.

Clerk of the ~~board~~Board means the clerk of the Pinal County Board of Supervisors.

Commission means the Pinal County Planning and Zoning Commission.

Common elements means, in accordance with A.R.S. § 33-1202, all portions of a condominium other than the units.

Common elements, limited, means a portion of the common elements specifically designated as a limited common element in the declaration and allocated by the declaration or by operation of A.R.S. § 33-1212, or its successor, for the exclusive use of one or more but fewer than all of the units.

Community Development Director means the director of the Pinal County Community Development Department or his/her designee.

Conditionally Approved Tentative Plat, means a Tentative Plat with conditional approval. (See *Tentative Plat*, for definition of a Tentative Plat).

Contiguous means lots, parcels or fractional interests that share a common boundary line greater than eight feet in length.

County means Pinal County, a political subdivision of the State of Arizona.

County ~~building code~~ Building Code means the Pinal County Building Code, as amended from time to time.

~~County engineer~~ County Engineer means the Pinal ~~County Engineer~~ County Engineer or designee.

County ~~R~~ecorder means the ~~R~~ecorder of Pinal County, Arizona.

County reviewing departments means county ~~department of planning and development services~~ Community Development, county ~~department~~ Department of ~~P~~ublic ~~W~~orks, county ~~environmental~~ Environmental Health ~~Health department~~ Department, and any other county department the ~~commission~~ Commission and/or ~~board~~ Board determine to be applicable.

County zoning ordinance means Pinal County Zoning Ordinance as amended.

~~Cul-de-sac refers to a non-through road or street, typically with only one access point and with a large radius at its terminus for vehicle to turn around. Such roads may be augmented with landscaped islands, parking, or similar features intended to minimize the effects of an otherwise large paved surface.~~

~~*Design manual*~~ *Design Manual* means the Pinal County Subdivision and Infrastructure Design Manual.

~~“Director of planning and development services” or “director of planning and development” or “planning director” or “planning and development services director” means the director of the Pinal County Community Development Department or his/her designee.~~

Drainage Report identifies current and anticipates potential future drainage problems, and generates development guidelines to alleviate potential flooding problems. Flooding solutions will include drainage design policies, standards, and guidelines.

Engineer of ~~R~~ecord means the Arizona-registered engineer who signs and seals plans, taking responsibility for the project's design.

Engineer's ~~O~~pinion of ~~P~~robable ~~C~~ost means a certified estimate of construction costs for all required improvements, including a contingency amount.

~~Exception means any parcel of land located within the boundaries of a subdivision that is not included as a part of the plat.~~

Final Plat, means a map of all or part of a Subdivision providing substantial conformance to a conditionally approved Tentative Plat, prepared in accordance with these Regulations and approved by the Board before recordation.

Flag Lot, means a lot having frontage or access to a street or place only by a narrow strip of land.

Fractional interest means an undivided interest in improved or unimproved land, lots or parcels of any size created for the purpose of sale or lease and evidenced by any receipt, certificate, deed or other document conveying such interest. Undivided interests in land, lots or parcels created in the names of a husband and wife as community property, joint tenant or tenants in common, or in the names of other persons who, acting together as part of a single transaction, acquire such interests without a purpose to divide such interests for present or future sale or lease shall be deemed to constitute only one fractional interest.

Hillside Lot, means any lot or portion of a lot where the terrain has a natural cross-slope of greater than 15 percent (for example, 15.1 percent).

Hillside Subdivision, ~~hillside~~, means a subdivision, or any portion of a subdivision, located on natural terrain having a natural cross-slope greater than 15 percent (for example, 15.1 percent).

Incomplete Status means any Tentative or Final Plat application or any part thereof that does not meet the minimum submittal requirements or standards described in Title 3 or Subdivision and Infrastructure Design Manual or any Tentative or Final Plat application that has been reviewed by County staff, returned to the subdivider along with a notice requesting revisions to the Tentative Plat, Final Plat or related data, documents or exhibits.

Lot combination commonly refers to the combination of two or more parcels of land under single ownership into a single parcel of land, but also the combination of multiple parcels of land into a smaller number of parcel, though not necessarily into one parcel.

Lot, flag means a lot having frontage or access to a street or place only by a narrow strip of land.

Lot, hillside, means any lot or portion of a lot where the terrain has a natural cross-slope of greater than 15 percent (for example, 15.1 percent).

-Lot split see Minor Land Division.

Master drainage report~~Drainage Report~~ identifies current and anticipates potential future drainage problems, and generates development guidelines to alleviate potential flooding problems. Flooding solutions will include drainage design policies, standards, and guidelines.

Minor Land Division refers to all land divisions into five or fewer parcels or fractional interests, any of which is 10 acres or smaller in size, within the unincorporated areas of Pinal County, excluding land governed by tribal authority and lands outside the authority of Pinal County.

MOA means a Map of Abandonment

Owner means the person or persons holding title by deed to land or condominium unit.

Paved, Access, means permanent, legal, usable and physical access, including ingress and egress from the Subdivision, to any public roadway, that conforms to the Design Manual.

Permanent, Access, means perpetual legal, usable and physical access to and from the subdivision to any public roadway.

Person means any individual, firm, corporation, partnership, association, syndicate, trust, or company or other legal entity, or an unincorporated association of persons such as a club and any other form of multiple organizations for carrying on business, foreign or domestic.

~~Planning department~~Planning Division means Pinal County Department of ~~Planning and Community Development~~ Department Services.

~~Planning director~~ means the duly appointed director of the Pinal County Department of Planning and Development Services or his duly authorized representative.

Planning staff means the staff of the Pinal County ~~Department/Division of the~~ Community Development ~~Department~~Planning and Development Services.

Plat means a map of a ~~s~~Subdivision ~~that~~ includes a ~~T~~Tentative Plat or ~~F~~Final plat ~~subdivision~~ or ~~R~~Replat.

Plat, Ffinal, means a map of all or part of a subdivision providing substantial conformance to a conditionally approved tentative plat Tentative Plat, prepared in accordance with these regulations and approved by the board Board before recordation.

Plat, recorded, means a final plat Final Plat approved by the board Board and bearing all of the certificates of approval required in these regulations and duly recorded in the Pinal County Recorder's Office.

Plat, Ttentative, means a preliminary map, including supporting data, of all or part of a proposed subdivision, prepared in accordance with these regulations.

Public roadway means a public right-of-way and/or easement owned by, or reserved to, the public for present or future public use.

Public works department means the Pinal County Department of Public Works.

Public works director means the Pinal County Public Works Director or his designee.

Recorded Plat, means a Final Plat approved by the Board and bearing all of the certificates of approval required in these Regulations and duly recorded with the Pinal County Recorder.

Regulations means the Pinal County Subdivision Regulations.

Replat means a map indicating the replacement of all or a portion of an existing, recorded subdivision plat with a new and different subdivision plat.

Resubdivision is another term for a replat.

Sight ~~V~~isibility ~~T~~riangle ~~e~~Easement (SVTE) means an easement on private property adjacent to a street intersection that remains clear of any visual obstructions in order to provide reasonable visibility for roadway users.

State means the State of Arizona.

Storm ~~d~~rain means a constructed conduit necessary, useful or convenient for the collection and carrying of surface waters to a drainage course.

~~Street, local service or local access, means that part of a major street right-of-way, existing or proposed, separated from the main flow of through traffic and designated exclusively or primarily to provide access to abutting properties.~~

~~Street, major, means such major street, highway, thoroughfare, parkway or boulevard and all section lines so designated on the comprehensive plan~~Comprehensive Plan.

~~Street, perimeter, means any existing or proposed street to which the land to be subdivided abuts on only one side.~~

Subdivider means the ~~pp~~erson, firm, corporation, partnership, association, syndicate, trust or other legal entity that makes application and initiates proceedings for the subdivision of land in accordance with these regulations, not including any authorized agent, professional engineers, licensed surveyors, attorneys, planners, or other professionals engaged to perform work for others pursuant to the requirements of law; or a public agency or officer authorized by law to create ~~s~~ubdivisions.

Subdivision means improved or unimproved land or lands divided or proposed to be divided for the purpose of sale or lease, whether immediate or future, into six or more lots, parcels or fractional interests. The term "~~S~~ubdivision" includes a stock cooperative, lands divided or proposed to be divided as part of a common promotional plan and residential condominiums and does not include the exceptions as listed in A.R.S. § 32-2101.

~~Subdivision, hillside, means a subdivision, or any portion of a subdivision, located on natural terrain having a natural cross slope greater than 15 percent (for example, 15.1 percent).~~

Ten Percent Guarantee Bond means an assurance in an amount of ten percent of the Engineer's Opinion of Probable Cost, excluding water, sewer and utility costs, as approved by the County Engineer.

Tentative Plat, means a preliminary map, including supporting data, of all or part of a proposed Subdivision, prepared in accordance with these Regulations.

~~Tentative plat~~Tentative Plat, conditionally approved, means a tentative plat~~Tentative Plat with conditional approval. (See Plat, tentative, for definition of a tentative plat~~Tentative Plat).

Tract means a defined area of land created during subdivision for a specific purpose such as retention, open space, etc.

~~Traffic impact analysis~~Traffic Impact Analysis means a report that assesses the impact of a proposed development on the transportation system.

~~Water, nonpotable, means water that does not meet Federal Environmental Protection Agency drinking water standards for human consumption.~~

~~Water, potable, means water that meets Federal Environmental Protection Agency drinking water standards for human consumption.~~

(Ord. No. 120606-SR , § 202)

CHAPTER 3.15. GENERAL REQUIREMENTS AND PROCEDURES FOR SUBMITTAL OF PLATS

3.15.010. Purpose.

This chapter establishes general requirements and procedures for the submission of ~~T~~tentative and ~~final~~ ~~plat~~Final Plats for ~~S~~ubdivisions.

(Ord. No. 120606-SR, § 301)

3.15.020. Approval.

Before any land is subdivided, the ~~S~~ubdivider shall apply for and secure approval of the proposed ~~s~~ubdivision in accordance with the procedures set forth in these ~~R~~egulations. It is the responsibility of the ~~S~~ubdivider to comply with these ~~R~~egulations and other applicable laws and ordinances.

(Ord. No. 120606-SR, § 302)

3.15.030. Compliance with zoning.

All proposed ~~s~~ubdivisions shall be designed to meet the requirements for the zoning district within which it is located and all lots shall be consistent with the zoning requirements. Approvals may be required for zoning, rezoning, ~~P~~lanned ~~A~~rea ~~D~~evelopment, or use permits. Processes for these approvals are separate from these ~~R~~egulations. The ~~commission~~Commission and the ~~board~~Board shall not take any action on a ~~tentative~~ ~~plat~~Tentative Plat or a ~~final-plat~~Final Plat until action has previously been taken on these issues, unless otherwise stated in these regulations. Action on a tentative or final subdivision plat shall be placed on an agenda subsequent to zoning, ~~planned-area-development~~Planned Area Development or use permit approval.

(Ord. No. 120606-SR, § 303)

3.15.040. Preapplication stage.

- A. ~~Tentative-plat~~Tentative Plat preapplication review. Since compliance with ~~e~~County ordinances and regulations is required for the ~~tentative-plat~~Tentative Plat, it is required that the ~~S~~ubdivider review the initial design concept for the subdivision with the ~~planning-department~~Planning Division and the ~~public~~ ~~Public works-Works department-Department~~ prior to preparation of a ~~tentative-plat~~Tentative Plat. A preapplication review meeting will be scheduled at which the ~~S~~ubdivider will present to the ~~planning~~ ~~Community Development~~ and ~~public~~ ~~Public works-Works departments-Departments~~ a general outline of the ~~s~~ubdivider's proposal, which shall include sketch plans and concepts regarding land use, street and lot arrangement, lot sizes, open space and tentative proposals regarding utilities, grading and drainage, stormwater retention and street improvements. At the review meeting, the ~~S~~ubdivider must submit copies of all documents relating to any planning and zoning actions including ~~County~~ ~~comprehensive~~ ~~plan~~Comprehensive Plan amendments and ~~P~~lanned ~~A~~rea ~~D~~evelopments (PADs), ~~approved Master Plans located in L-MPC and MP-CMP Zoning Districts~~, and any development agreements in place for the subject property. The purpose of the preapplication review meeting is to provide to the ~~S~~ubdivider general information on the purpose and effect of these ~~R~~egulations, the ~~C~~ounty ~~comprehensive~~ ~~plan~~Comprehensive Plan, zoning, and municipal and other ~~e~~County planning, engineering, drainage, sewage,

water systems, flood control and similar standards, requirements and plans while the ~~s~~Subdivider's plans are still being formulated.

- B. *Subdivision planning.* In addition to the general subdivision design standards contained in ~~chapter~~Chapter 3.35 PCDSC, some of the factors to be considered by the ~~S~~ubdivider in planning a subdivision are as follows:
1. Need for additional residential sites in the area;
 2. Type of homes to be built;
 3. Lot sizes most adaptable to the use proposed;
 4. Areas to be reserved for nonresidential use;
 5. Special scenic locations or areas of historical or archaeological importance which need to be reserved;
 6. School sites;
 7. Parks, trails and recreation facilities that are needed;
 8. Access features which may be desirable along major arterial and collector streets;
 9. Areas subject to flooding;
 10. Suitability of land for the proposed development;
 11. Water, sanitary sewer, solid waste disposal, storm sewer, electric and gas utility services to be provided; and if not on an individual septic system, sufficient evidence that a third party shall be utilized to accept responsibility and liability for construction, maintenance, operation, and control of all private sewers located in private sewer easements or private rights of way. The third party must be the sole owner and/or responsible party for the sewer system;
 12. Fire and police protection; and
 13. Integration of the subdivision with existing and proposed development.

(Ord. No. 120606-SR , § 304)

3.15.050. ~~Tentative plat~~Tentative Plat.

The ~~tentative plat~~Tentative Plat process for the subdivision of land includes detailed ~~s~~Subdivision planning by the ~~S~~ubdivider; application submittal; review of the plat by the ~~planning department~~Planning Division, other county departments, agencies and interest groups; and conditional approval by the ~~commission~~Commission.

- A. *Initiation of ~~tentative plat~~Tentative Plat process.* To initiate the ~~tentative plat~~Tentative Plat process, the subdivider shall cause to be filed with the ~~planning department~~Planning Division the following:
1. Application for conditional approval of ~~tentative plat~~Tentative Plat, on forms provided by the ~~e~~County. If applicant is not the ~~property O~~wner, the application must be accompanied by a notarized statement from the ~~property O~~wner that they~~he~~ consents to the filing of the application and the proposed ~~S~~ubdivision ~~of land~~;
 2. Eight prints of the ~~tentative plat~~Tentative Plat, unless submitting digital application;
 3. It is the responsibility of the ~~S~~ubdivider to determine the location of the proposed ~~S~~ubdivision relative to municipal boundaries and municipal planning areas and to include such documentation with the plat submittal;
 4. Filing fee, as set forth in the ~~planning and Community D~~evelopment-services and ~~public~~Public ~~W~~orks Department fee schedules;

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5. Additional related data, documents or exhibits as specified in ~~chapter~~Chapter 3.20 PCDSC; and
6. If ~~the s~~Subdivider is to be represented by an agent, a written, notarized letter of authorization for said agent from the ~~s~~Subdivider must be on file with the ~~P~~planning ~~department~~Division prior to appearance of ~~S~~subdivider's agent at any ~~commission~~Commission or ~~B~~board meeting on behalf of the ~~S~~subdivider. The notarized letter of authorization shall state the extent of the agent's authority.
7. Where permitted, applicant may file all necessary documents electronically. Such submittals shall be of high quality to ensure legibility and shall be in a format that can be easily printed. These formats include, but are not limited to .pdf, .docx, .xlsx, .jpg. Only when specifically requested will .dwg or .skp files be accepted. It is recommended that the applicant contact the ~~Planning Department~~Planning Division to ensure acceptability of a file format if different than those described herein. Applicants may submit all materials electronically using the County's ePlan Review / ePermitting online submittal portal (<https://citizenaccess.pinalcountyz.gov/CitizenAccess/Default.aspx>, or as amended) provided on the Community Development Department website.
- B. *Acceptance for processing.* The ~~tentative plat~~Tentative Plat application will not be considered accepted for processing until all required information as described in these ~~R~~regulations is provided to the ~~planning director~~Community Development Director and appropriate fees are paid. If the ~~tentative plat~~Tentative Plat application does not meet the requirements of these regulations, the ~~planning director~~Community Development Director shall inform, in writing, the ~~S~~subdivider or ~~S~~subdivider's agent of the corrections necessary and return the application and all materials to the ~~s~~Subdivider. Applications which, for any reason, remain in incomplete status for more than thirty (30) consecutive days shall be deemed expired, thereby requiring all materials and fees to be returned to the ~~S~~subdivider or authorized agent. In the event an application is deemed expired the Subdivider or their authorized agent must submit a complete new application in order to pursue a plat. The new application, if submitted, will be assigned a new queue position.
- ~~C. Subdivision coordinating committee. A subdivision coordinating committee comprised of representatives from county reviewing departments, applicable agencies and utility and service providers is hereby established. Membership of the committee is composed of those departments and agencies listed in PCDSC 3.15.120 and 3.15.130. The purpose of this committee is to review and resolve with all affected parties technical issues and problems with the proposed subdivision before review and conditional approval by the commission. The subdivider or his representative is required to attend the subdivision coordinating committee meeting. More than one subdivision coordinating committee meeting may be required.~~
- ~~1. County representatives shall provide, at a minimum, written, preliminary review comments and recommendations on tentative plats at the time of the subdivision coordinating committee meeting.~~
- ~~2. Applicable agencies, and utility and service providers are invited to submit comments and recommendations and requested to send a representative to the subdivision coordinating committee. Comments and recommendations are requested to be submitted five days before the meeting.~~
- CD. Review. Upon acceptance of the ~~tentative plat~~Tentative Plat application for processing, the ~~planning director~~Community Development Director shall assign a case number to the application, and forward copies of the ~~tentative plat~~Tentative Plat and supporting documents to the ~~C~~ounty reviewing departments and applicable agencies and interest groups as set forth in these ~~R~~regulations. ~~and~~

~~schedule the tentative plat for review at the next available subdivision coordinating committee meeting. The subdivision coordinating committee meeting shall be scheduled no sooner than 14 calendar days after the distribution of copies of the tentative plat and supporting documents. The Planning departmentDivision, County reviewing departments and applicable agencies shall review the tentative platTentative Plat and related data, documents and exhibits for conformance to these Regulations as it relates to those requirements within their jurisdiction.~~

DE. *Revisions.* If the ~~planning director~~Community Development Director, based on departmental and agency review comments, finds that the ~~tentative plat~~Tentative Plat or supporting information does not conform to the requirements of these regulations, then notice requesting revisions to the ~~tentative plat~~Tentative Plat or related data, documents or exhibits, shall be sent to the ~~S~~subdivider. Needed revisions shall be made in the form of a revised ~~tentative plat~~Tentative Plat that is submitted to the ~~C~~County for further review. The revised ~~tentative plat~~Tentative Plat will not be scheduled for ~~commission~~Commission review until the revised plat submittal is reviewed and determined ~~by the~~ Community Development Director in compliance with these ~~R~~regulations.

1. If ~~tentative plat~~Tentative Plat revisions are initiated by the ~~s~~Subdivider, review of the revisions shall be subject to additional plat review fees in accordance with adopted ~~Community planning and Development-services~~ and ~~P~~ublic ~~W~~orks fee schedules.
2. All subsequent submittals of a revised ~~tentative plat~~Tentative Plat or related data, documents or exhibits, other than a revised second submittal as requested by the ~~planning director~~Community Development Director (i.e., third, fourth, etc., reviews), prior to ~~tentative plat~~Tentative Plat conditional approval, must be accompanied by the appropriate fees for processing and review.

EF. *Compliance.* The ~~tentative plat~~Tentative Plat will not be scheduled by the ~~planning director~~Community Development Director for review before the ~~commission~~Commission unless:

- ~~1. 1. All department and agency review comments have been received by the Community Development Director; It contains all the required information;~~
- ~~2. The Tentative Plat contains all information required by these Regulations; and~~
- ~~2. Written responses have been received from county departments with representatives on the subdivision coordinating committee; and~~
3. The ~~tentative plat~~Tentative Plat includes all revisions requested by the Community Development Director is in satisfactory form.

~~Scheduling of a tentative platTentative Plat for commissionCommission review will additionally be dependent upon adequacy of information presented and completion of review by all agencies concerned.~~

G. *Commission meeting.* The ~~planning director~~Community Development Director shall prepare a comprehensive report, including comments and stipulations from the ~~subdivision coordinating committee, and~~ reviewing departments and agencies, for presentation to the ~~commission~~Commission. The ~~planning director~~Community Development Director shall submit the report and ~~tentative plat~~Tentative Plat for review and action at the ~~commission~~Commission's next regularly scheduled meeting; provided, that at least six days' prior notice has been given to the ~~S~~subdivider or his agent of the date and time of the meeting or the notice time period has been waived in writing by the ~~S~~subdivider or his agent. The ~~planning director~~Community Development Director shall transmit the report and stipulations to the ~~s~~Subdivider at least six days prior to the ~~commission~~Commission meeting. The ~~s~~Subdivider or his agent and his engineer shall be present at the meeting.

H. *Commission action.*

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1. *Findings.* The ~~commission~~Commission shall hear and consider all evidence relating to the ~~tentative plat~~Tentative Plat and make findings as to the conformity of the ~~tentative plat~~Tentative Plat with these regulations. The ~~commission~~Commission may request changes to the type and extent of improvements to be made. The ~~commission~~Commission shall consider the following criteria in conditionally approving or denying a ~~tentative plat~~Tentative Plat. The ~~commission~~Commission may consider other criteria in addition to the criteria listed below, and may deny approval of a ~~tentative plat~~Tentative Plat if conformance is not found with one or more of the following:
 - a. Whether the proposed subdivision is consistent and in conformance with ~~these the Pinal County S~~ubdivision Regulations and other applicable ordinances and regulations.
 - b. Whether the proposed ~~S~~ubdivision is consistent with the approved zoning, ~~or P~~lanned ~~A~~rea ~~D~~evelopment (PAD) ~~or approved Master Plan~~, if applicable.
 - c. Whether the design of the proposed ~~S~~ubdivision is suitable to the environment or causes substantial environmental damage or presents serious public health problems.
 - d. Whether the design of the proposed ~~S~~ubdivision is compatible with the physical features of the site including, but not limited to, natural slopes greater than 15 percent, floodplains and habitat areas.
 - e. Whether the proposed ~~s~~Subdivision will have adequate permanent access.
 - f. Whether the proposed ~~s~~Subdivision will place an unreasonable burden on the ability of the county or other local governments to provide for streets, water, sewage, fire, police, hospital, solid waste, education, housing, recreation and other services, that is not offset by improvements associated with the proposed subdivision. If not on an individual septic system, sufficient evidence that A Third party shall be utilized to accept responsibility and liability for construction, maintenance, operation, and control of all private sewers located in private sewer easements or private rights of way. The third party must be the sole owner and/or responsible party for the sewer system.
 - g. Whether the design of the proposed ~~S~~ubdivision promotes the safety, health, and general welfare of the public.
 2. *Action by the ~~commission~~Commission.*
 - a. The ~~commission~~Commission may take any of the following actions on a ~~tentative plat~~Tentative Plat application:
 - i. Continue the matter pending:
 - (A) Specific revisions to the ~~tentative plat~~Tentative Plat, or its supporting documentation; or
 - (B) The provision of additional information deemed relevant to compliance with these regulations and the findings listed herein;
 - ii. Conditionally approve the ~~tentative plat~~Tentative Plat; or
 - iii. Deny the ~~tentative plat~~Tentative Plat.
 - b. If the ~~tentative plat~~Tentative Plat is conditionally approved, a notation of conditional approval shall be stamped on three copies of the ~~tentative plat~~Tentative Plat and the conditions of approval shall be part of the notation. One copy shall be returned to the ~~S~~ubdivider, one copy shall be retained by the ~~public~~Public ~~works~~Works

~~department~~Department, and one copy shall be retained in the permanent file of the ~~planning department~~Planning Division.

- c. If the ~~tentative plat~~Tentative Plat is denied, the ~~commission~~Commission shall state on the record the reasons for denial, including citation of or reference to the provision or regulation with which the ~~Tentative p~~Plat fails to comply. The ~~planning director~~Community Development Director shall return a copy of the ~~Tentative p~~Plat and the ~~commission~~Commission's findings to the ~~S~~subdivider.
- d. If the ~~commission~~Commission is unable to make findings to conditionally approve or deny the ~~tentative plat~~Tentative Plat because additional information is necessary, the ~~commission~~Commission may continue the review on the ~~tentative plat~~Tentative Plat to the ~~commission~~Commission's next regularly scheduled meeting or other such meeting as appropriate.

(Ord. No. 120606-SR , § 305)

3.15.060. Appeals.

The ~~S~~subdivider may appeal ~~as provided for in chapter~~Chapter 3.60 PCDSC to the ~~board~~Board any action of the ~~commission~~Commission with respect to the ~~tentative plat~~Tentative Plat as provided for in Chapter 3.60 PCDSC.

(Ord. No. 120606-SR , § 306)

3.15.070. Authorization to proceed with preparation of ~~final plat~~Final Plat.

The ~~commission~~Commission's ~~tentative plat~~Tentative Plat conditional approval and completion of conditions as determined by the ~~planning director~~Community Development Director, constitutes authorization for the ~~S~~subdivider to proceed with the preparation of the ~~final plat~~Final Plat and the improvement plans following the layout and specifications of the conditionally approved ~~tentative plat~~Tentative Plat. Conditional approval of a ~~tentative plat~~Tentative Plat does not constitute approval of the ~~final plat~~Final Plat and is not a guarantee that a ~~final plat~~Final Plat will be approved.

(Ord. No. 120606-SR , § 307)

3.15.080. New filing following denial.

In the event a ~~tentative plat~~Tentative Plat is denied, ~~any~~ new application for conditional approval of filing of a Tentative pPlat for the same parcel, or any part thereof, may be filed no sooner than six months from the date of denial. A substantially different ~~tentative plat~~Tentative Plat, or one that sufficiently addresses the issue causing denial, as determined by the ~~planning director~~Community Development Director, may be filed without delay. Any new application filing shall follow the ~~normal~~ ~~tentative plat~~Tentative Plat procedure and be subject to the current ~~S~~subdivision regulations at the time of filing and to the required fees.

(Ord. No. 120606-SR , § 308)

3.15.090. Withdrawal by ~~S~~subdivider.

A ~~S~~subdivider may withdraw the ~~tentative plat~~Tentative Plat at any time prior to and at the time of a ~~commission~~Commission meeting on the ~~tentative plat~~Tentative Plat, by filing a written statement to such effect with the ~~planning director~~Community Development Director. Refiling after withdrawal shall follow the

~~aftermentioned tentative plat~~Tentative Plat procedure and be subject to the current Subdivision Regulations and required fees at the time of filing the required fees.

(Ord. No. 120606-SR , § 309)

3.15.100. Conditional approval effective one year; extensions.

Conditional approval of the ~~tentative plat~~Tentative Plat is valid for a period of one year from the date of conditional approval by the ~~commission~~Commission. If the ~~final plat~~Final Plat is not approved by the Board submitted acceptable for recording to the county within that period, the conditional approval of the ~~tentative plat~~Tentative Plat shall expire. The ~~S~~subdivider shall then be required to file a new ~~tentative plat~~Tentative Plat subject to these the current subdivision rRegulations and other applicable county ordinances and regulations. Prior to expiration and upon written request for extension by the ~~S~~subdivider filed with the ~~planning director~~Community Development Director, conditional approval of the ~~tentative plat~~Tentative Plat may be extended for additional one-year periods. The total conditional approval time period, including extensions, shall not exceed ~~three~~ four years from the original date of conditional approval by the ~~commission~~Commission. Such extensions may be granted by the ~~planning director~~Community Development Director if the ~~S~~subdivider is actively processing the ~~final plat~~Final Plat and if, in the opinion of the ~~planning director~~Community Development Director, there has been no change in conditions within or adjoining the ~~tentative plat~~Tentative Plat that would warrant a revision in the design of the original or extended ~~tentative plat~~Tentative Plat.

(Ord. No. PZ-C-001-17 , § 1; Ord. No. 120606-SR , § 310)

3.15.110. ~~Final plat~~Final Plat.

The final stage of land subdivision includes submittal for approval of the ~~final plat~~Final Plat to the ~~planning~~Planning departmentDivision; review by the appropriate county departments and agencies; ~~b~~Board action; and if approved, recording of the ~~final plat~~Final Plat with the ~~C~~county Rrecorder.

- A. ~~Final plat~~Final Plat preparation. Before the issuance of any building permit, the ~~S~~subdivider shall cause to be prepared a ~~final plat~~Final Plat as specified in ~~C~~chapter 3.20 PCDSC, and in substantial compliance with the conditionally approved ~~tentative plat~~Tentative Plat and in a form for recording, as hereinafter provided in ~~C~~chapter 3.20 PCDSC.
- B. Initiation of ~~final plat~~Final Plat process. To initiate the ~~final plat~~Final Plat process, the ~~S~~subdivider shall file with the ~~planning director~~Community Development Director the following:
 1. Three copies of the ~~final plat~~Final Plat;
 2. Related data, documents or exhibits as specified in ~~e~~Chapter 3.20 PCDSC;
 3. ~~Final plat~~Final Plat filing fees, as set forth in the ~~planning and~~Community Ddevelopment services and ~~P~~public Wworks fee schedules; and
 4. Documentation from the ~~S~~subdivider itemizing the revisions stipulated by the conditionally approved ~~tentative plat~~Tentative Plat and an explanation of how those revisions were addressed by the ~~S~~subdivider.
 5. Where permitted, applicant may file all necessary documents electronically. Such submittals shall be of high quality to ensure legibility and shall be in a format that can be easily printed. These formats include, but are not limited to .pdf, .docx, .xlsx, .jpg. Only when specifically requested will .dwg or .skp files be accepted. It is recommended that the applicant contact the Planning Division

to ensure acceptability of a file format if different than those described herein. Applicants may submit all materials electronically using the County's ePlan Review / ePermitting online submittal portal (<https://citizenaccess.pinalcountya.gov/CitizenAccess/Default.aspx>, or as amended) provided on the Community Development Department website.

- C. *Acceptance for processing.* The ~~final-plat~~Final Plat will not be considered accepted for processing until all required information as described in these ~~R~~regulations is provided to the ~~planning director~~Community Development Director and appropriate fees are paid. If the ~~final-plat~~Final Plat is not in complete conformance with the conditionally approved ~~tentative-plat~~Tentative Plat, or if the ~~final-plat~~Final Plat application does not meet the requirements of these regulations, the ~~planning director~~Community Development Director shall inform ~~in writing~~ the ~~S~~ubdivider or ~~s~~Subdivider's agent ~~in writing~~ of the corrections necessary and return the ~~final-plat~~Final Plat and all materials to the ~~S~~ubdivider. Applications which, for any reason, remain in incomplete status for more than thirty (30) consecutive days shall be deemed expired, thereby requiring all materials and fees to be returned to the Ssubdivider or thier authorized agent. In the event an application is deemed expired the Subdivider or authorized agent must submit a complete new application in order to pursue a plat. The new application, if submitted, will be assigned a new queue position.
- D. *Departmental review.* Upon acceptance of the ~~final-plat~~Final Plat for processing, the ~~planning director~~Community Development Director shall ~~immediately~~ transmit copies of the ~~final-plat~~Final Plat, improvement plans and all submitted documents to the ~~e~~County reviewing departments and applicable agencies. The ~~P~~planning ~~department~~Division, ~~C~~ounty reviewing departments and applicable agencies shall review the ~~final-plat~~Final Plat and submitted documents for matters within their jurisdictions. Said departments and agencies shall transmit their ~~final-plat~~Final Plat comments in writing to the ~~planning director~~Community Development Director for distribution to the ~~s~~Subdivider. Comments on improvement plans and other documents under review will be distributed to the ~~S~~ubdivider by the ~~public~~Public ~~works~~Works ~~department~~Department.
- E. *Revisions.* If revisions are necessary to the ~~final-plat~~Final Plat based on reviews by the ~~e~~County department or the applicable agencies, a revised ~~final-plat~~Final Plat and a transmittal reflecting those changes shall be submitted to the ~~planning director~~Community Development Director for review.
1. If the ~~final-plat~~Final Plat revisions are initiated by the ~~S~~ubdivider, review of the revisions shall be subject to additional plat review fees in accordance with adopted ~~Community~~planning and ~~D~~evelopment ~~services~~ and ~~P~~ublic ~~W~~orks fee schedules.
 2. All subsequent submittals of the revised ~~final-plat~~Final Plat or related data, documents or exhibits, other than a revised second submittal as requested by the ~~planning director~~Community Development Director (i.e., third, fourth, etc., reviews), prior to ~~final-plat~~Final Plat approval must be accompanied by the appropriate ~~Community~~planning and ~~D~~evelopment~~services~~ and ~~P~~ublic ~~W~~orks fees for processing and review.
- F. *Board meeting.*
1. If the ~~final-plat~~Final Plat conforms in all respects to the conditionally approved ~~tentative plat~~Tentative Plat and, upon receipt of all comments and recommendations from reviewing departments and agencies, the ~~planning director~~Community Development Director shall prepare a summary report, including said recommendations, on the ~~final-plat~~Final Plat for presentation to the ~~board~~Board. The ~~planning director~~Community Development Director shall transmit the report and ~~final-plat~~Final Plat to the ~~board~~Board for review and action at its next regularly scheduled meeting; as long as provided, that at least seven days' notice has been given to the ~~S~~ubdivider of the date and time of the meeting. The ~~planning director~~Community Development

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- Director shall transmit the summary report and any stipulations of approval to the Subdivider at least five days prior to the ~~board~~Board meeting.
2. The Subdivider and his engineer shall be present at the meeting.
- G. *Board action.* The ~~board~~Board may approve the ~~final plat~~Final Plat, if the ~~board~~Board determines the following:
1. The ~~final plat~~Final Plat is in compliance with the conditionally approved ~~tentative plat~~Tentative Plat and all conditions related thereto, if any.
 2. The ~~final plat~~Final Plat is in conformance with the requirements of these regulations and all other applicable county ordinances and regulations.
 3. The assurances for the improvements have been filed with the ~~county engineer~~County Engineer and meets with the ~~board~~Board's approval.
 4. The subdivision plat promotes the health, safety, and general welfare of the public.
- H. *Board rejection.* If the ~~board~~Board determines the ~~final plat~~Final Plat is not in conformance with the provisions of subsection G of this section, it shall reject the ~~final plat~~Final Plat, express its reasons for the rejection within the minutes of the meeting, including citation or reference to the provision or regulation with the Final Plat fails to comply and instruct the ~~planning director~~Community Development Director to attach a copy of that portion of the minutes to the ~~Final p~~Final Plat and return the plat to the Subdivider.
- I. *Signature and recording of ~~final plat~~Final Plat.*
1. Upon approval of the ~~final plat~~Final Plat by the ~~board~~Board, the chairman of the ~~board~~Board shall have the authority to sign the endorsement of approval on the ~~final plat~~Final Plat Mylar and the Clerk of the ~~board~~Board shall attest such action upon the ~~final plat~~Final Plat.
 2. After assurances have been received as required in these regulations, the ~~final plat~~Final Plat approved by the ~~board~~Board and signed by the chairman of the ~~board~~Board, will be transmitted by the ~~planning director~~Community Development Director to the county Recorder's Office for recording. The subdivider shall be responsible for recording fees.

(Ord. No. 120606-SR , § 311)

3.15.120. List of county reviewing departments.

The following county departments are included in the distribution and review of Tentative and Final subdivision plats:

- A. ~~Planning~~Community Development ~~D~~epartment;
- B. Public ~~works~~Works ~~d~~epartmentDepartment;
- C. Environmental ~~H~~health ~~D~~epartment;
- D. Parks and Recreation Department; and
- E. Any other eCounty department deemed applicable by the ~~planning director~~Community Development Director, ~~commission~~Commission or the ~~board~~Board.

(Ord. No. 120606-SR , § 312)

3.15.130. List of reviewing agencies.

Agencies or interest groups that may be determined by the ~~planning director~~Community Development Director, ~~commission~~Commission or the ~~board~~Board to be "applicable agencies" for review purposes include, but are not limited to, the following:

- A. Pinal County Flood Control District;
- B. All interested utilities;
- C. Any city, county, or incorporated town within a three-mile radius, or, if ~~the s~~Subdivision is within an established municipal planning area;
- D. Arizona Department of Transportation if ~~the s~~Subdivision is adjacent to a state highway;
- E. School district in which proposed ~~the s~~Subdivision is located;
- F. Fire district in which proposed ~~the s~~Subdivision is located;
- G. U.S. Forest Service if subdivision is adjacent to forest land;
- H. Appropriate homeowners association;
- I. Military bases;
- J. U.S. Army Corps of Engineers;
- K. Federal Bureau of Reclamation;
- L. Natural Resources Conservation Service;
- M. Arizona State Land Department or Federal Bureau of Land Management, if subdivision is adjacent to state or federal public lands;
- N. Federal Aviation Administration, if subdivision is ~~within 3 miles in close proximity~~ to an airport; ~~or identified by a Board adopted JLUS.~~
- O. State Historic Preservation Office (SHPO), if appropriate;
- P. Any special district close to proposed ~~the S~~Subdivision, i.e., irrigation district;
- Q. Flood protection district;
- R. Any private entity that provides or intends to provide service to the ~~s~~Subdivision; and
- S. Any other agency or interest group deemed applicable by the ~~planning director~~Community Development Director, ~~commission~~Commission or ~~board~~Board.

(Ord. No. 120606-SR , § 313)

3.15.140. Development of forms, permits.

The ~~C~~eounty reviewing departments may develop such forms, checklists, guidelines, permits, etc., as needed to carry out the intent of these ~~R~~egulations.

(Ord. No. 120606-SR , § 314)

CHAPTER 3.20. SPECIFICATIONS FOR TENTATIVE AND FINAL PLATS

3.20.010. Design ~~M~~anual.

In addition to the specifications found in this chapter, the required ~~p~~lat is required to include information ~~shall be~~ as specified in the ~~design manual~~ Design Manual. The ~~D~~esign ~~M~~anual is adopted and amended in accordance with ~~chapter~~ Chapter 3.05 PCDSC.

(Ord. No. 120606-SR , § 401)

3.20.020. ~~Tentative plat~~ Tentative Plat additional data.

Additional related data, documents or exhibits to be submitted with the ~~tentative plat~~ Tentative Plat, as applicable, include:

- A. *Zoning and PAD.* ~~Provide a~~ A copy of the ~~board~~ Board resolution and the ordinance that rezoned the property, together with any stipulations for any zoning or rezoning case, including any ~~board~~ Board-approved ~~P~~lanned ~~A~~rea ~~D~~evelopment (PAD) that applies to the subject property in whole or in part.
- B. *County ~~comprehensive plan~~ Comprehensive Plan and ~~A~~rea ~~P~~lans.* ~~Submit a~~ A copy of any adopted ~~comprehensive plan~~ Comprehensive Plan amendments, area, community, village, neighborhood, special area or other land use plans that include the subject property.
- C. *Development agreements.* ~~Submit a~~ A copy of any ~~board~~ Board-adopted development agreements that affect the subject property.
- D. *County action.* ~~Provide a~~ A copy of official documentation for any county action connected to the subdivision development.
- E. *Preliminary ~~drainage report~~ Drainage Report.* Three copies of a ~~P~~reliminary ~~drainage report~~ Drainage Report in accordance with current ~~P~~ublic ~~W~~orks ~~Department~~ requirements and the current version of ~~C~~hapter 8.05 PCDSC, ~~D~~rainage, shall be submitted.
- F. *Preliminary ~~traffic impact analysis~~ Traffic Impact Analysis (TIA).* Three copies of a ~~P~~reliminary ~~traffic impact analysis~~ Traffic Impact Analysis per the Pinal County transportation plan, and completed by an independent traffic engineer registered in the State of Arizona shall be submitted for review. The preliminary Traffic Impact Analysis shall be prepared in accordance with the Pinal County Traffic Impact Analysis Guidelines & Procedures, the Pinal County Regionally Significant Routes for Safety and Mobility, and the Pinal County Access Management Manual. The traffic impact analysis ~~Traffic Impact Analysis shall be in accordance with the Pinal County Department of Public Works Regulations and Standards.~~
- G. *ALTA/ACSM survey.* A current ALTA/ACSM survey ~~shall be submitted~~.
- H. *Computer disk.* ~~Provide a~~ One disk with a digital drawing of the ~~tentative plat~~ Tentative Plat in either AutoCAD dwg or dxf format or other format deemed acceptable by the ~~county engineer~~ County Engineer, ~~to be submitted with the application for tentative plat~~ Tentative Plat. Data layers required on the disk include: lot lines, lot numbers, rights-of-way, all dimensions, street names, section lines and subdivision perimeter boundary.
- I. ~~CC&Rs. Copy of preliminary draft of protective covenants, conditions, and restrictions (CC&Rs), if any.~~

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- ~~J~~L. *Refuse disposal*. A service agreement letter or tentative service agreement letter from the refuse disposal provider to serve the proposed subdivision.
- ~~J~~K. *Street names*. Proposed street names for all new streets shall be labeled on the ~~tentative plat~~Tentative Plat, ~~and further~~, a list of the proposed ~~subdivision~~subdivision street names for the ~~final plat~~Final Plat shall be submitted. Proposed names will be checked for duplication, correct usage, and compliance with ~~chapter~~Chapter 12.05 PCDSC, ~~street naming and property numbering~~. Proposed non-English language street names will be checked for correct syntax and appropriate usage.
- ~~K~~L. *Lot numbering*. In numbering lots on the ~~tentative plat~~Tentative Plat, the following rules shall be adhered to:
1. Each lot shall be designated by an Arabic numeral.
 2. If block designations are not used, numbering shall be in consecutive sequence beginning with the number "1" and said numbering shall follow in a continuous fashion.
 3. When block designations are used, numbering shall be in consecutive sequence within each block area commencing with the number "1" for each block.
 4. Tracts shall be designated by capital letters and be designated in sequence within a subdivision starting with the letter "A."

(Ord. No. 120606-SR , § 402)

3.20.030. ~~Final plat~~Final Plat additional data.

Additional and/or related data, documents or exhibits to be submitted with the ~~final plat~~Final Plat, unless as otherwise specified below:

- A. *Water source*. A certificate of assured water supply from the Arizona Department of Water Resources or a letter of commitment to supply water to the subdivision from an Arizona Department of Water Resources designated water provider as required by A.R.S. § 45-576.
- B. *Improvement plans*. Two sets of prints of all improvement plans in accordance with required county design standards.
- C. *Off-site improvement plans*. Two sets of prints of all off-site improvement plans in accordance with required ~~C~~eounty design standards.
- D. *Final ~~drainage report~~Drainage Report*. Three copies of a ~~F~~final ~~drainage report~~Drainage Report prepared in accordance with current ~~public~~Public works-~~Works~~ ~~department~~Department requirements and the current version of ~~chapter~~Chapter 8.05 PCDSC, ~~drainage, shall be submitted~~.
- E. *Final ~~traffic impact analysis~~Traffic Impact Analysis*. Three copies of a ~~F~~final ~~traffic impact analysis~~Traffic Impact Analysis (TIA) per Pinal County standards, ~~and~~ completed by an independent traffic engineer registered in the State of Arizona shall be submitted. The ~~Final traffic impact analysis~~Traffic Impact Analysis shall be prepared in accordance with the Pinal County TIA Guidelines & Procedures, the Pinal County Regionally Significant Routes for Safety and Mobility and the Pinal County Access Management Manual. Recommendations provided in the approved Traffic Impact Analysis must be reflected in the improvement plans. Any previously approved agreements for installation of improvement recommendations shall be submitted with the Final Traffic Impact Analysis~~with Pinal County Department of Public Works Regulations and Standards~~.
- F. *Geotechnical report*. Two copies of a geotechnical report completed by an independent soils engineer ~~shall be submitted~~.

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- G. *Stormwater ~~P~~ollution ~~P~~revention ~~P~~lan (SWPP)*. One copy of a ~~stormwater~~ Stormwater Pollution Prevention Plan ~~shall be submitted~~.
 - H. *Notarized ~~L~~etter of ~~I~~ntent (LOI)*. ~~Provide a~~ A notarized ~~L~~etter of ~~I~~ntent addressed to the ~~county engineer~~ County Engineer as to the tentative date and type of improvements proposed for the subdivision streets.
 - I. *Computer boundary closure*. One copy of a computer-based ~~s~~ubdivision boundary.
 - J. *Assurances ~~and~~ Guarantee Bonds*. Assurances, ~~and~~ Guarantee Bond as required in ~~C~~hapter 3.40 PCDSC, shall be posted with the ~~C~~ounty to assure the installation of specified improvements in compliance with these ~~R~~egulations and other applicable ~~e~~County, ~~s~~State and ~~F~~ederal ordinances and regulations, and plans approved by the ~~county engineer~~ County Engineer.
 - K. *Title ~~R~~eport*. Title ~~R~~eport no more than three months old. The ~~T~~itle ~~R~~eport will provide a legal description of the property to be subdivided or developed. Copies of all existing right-of-way and easement documents will be attached.
 - L. *Street names*. A list of the proposed subdivision street names for the ~~final plat~~ Final Plat ~~shall be submitted~~. Previously reviewed and any new proposed names will be confirmed for compliance with ~~C~~hapter 12.05 PCDSC, ~~street naming and property numbering~~. Proposed non-English language street names will be checked for correct syntax and appropriate usage.
 - M. *CC&Rs*. ~~If an Owners association is designated to own and or maintain Subdivision common areas,~~ A ~~draft~~ copy of ~~C~~ovenants, ~~C~~onditions and ~~R~~estrictions (CC&Rs) in form for recording shall be provided with the ~~final plat~~ Final Plat.
 - N. *Engineer's ~~O~~pinion of ~~p~~robable ~~C~~ost*. Provide an original sealed, signed and dated Engineer's Opinion of Probable Cost ~~estimate of the construction costs~~ for all required improvements including a 30 percent contingency.
 - O. *Approved improvement plans and Mylars*. Upon approval by the ~~county engineer~~ County Engineer, the ~~S~~ubdivider shall submit three copies and one Mylar of the approved improvement plans.
 - P. *Recording fee*. At the time of recording, the fee for recording the ~~final plat~~ Final Plat in the form of a check made payable to the Pinal County Recorder.

(Ord. No. 120606-SR, § 403)

3.20.040. Additional requirements.

All other tentative and ~~final plat~~ Final Plat specifications and requirements for additional data, documents and exhibits are found in the ~~design manual~~ Design Manual.

(Ord. No. 120606-SR, § 404)

CHAPTER 3.25. HILLSIDE SUBDIVISION REQUIREMENTS

3.25.010. Purpose and applicability.

The purpose of hillside ~~S~~subdivision requirements is to allow reasonable and beneficial use of private property within areas with a natural cross-slope greater than 15 percent, as identified in the ~~Pinal~~ County ~~Comprehensive Plan~~ Comprehensive Plan, while promoting the public health, safety and general welfare of citizens of ~~the Pinal~~ County and maintaining the character, identity and image, such as preserving ridgelines of hillside areas which are seen as valuable scenic resources. The regulations of this ~~e~~Chapter 3.25 shall apply to all parcels or lots where grading is proposed on natural cross-slopes greater than 15 percent. When the parcel of land to be subdivided includes, in whole or in part, terrain having a natural cross-slope greater than 15 percent, design and development of that sloped area shall comply with the provisions of this chapter.

(Ord. No. 120606-SR , § 501)

3.25.020. Hillside subdivision design.

Planning, platting, and development of hillside ~~portions of~~ subdivisions involve unique conditions that require special design responses by the ~~s~~Subdivider. Subdivision design in volving hillside ~~lots and tracts areas~~ shall include preservation of existing ridgelines and scenic vistas and safe construction of public and private improvements.

(Ord. No. 120606-SR , § 502)

3.25.030. Hillside plat requirements.

The requirements of this section apply to ~~S~~subdivision ~~p~~Plats that contain hillside ~~lots and tracts areas~~, as defined in PCDSC 3.25.010, and are in addition to the requirements for ~~T~~tentative Plats and ~~final plat~~ Final Plats set forth in ~~C~~chapters 3.15 and 3.20 PCDSC.

A. ~~Additional tentative plat~~ Tentative Plat requirements.

1. Topography with a two-foot contour interval showing location of all major and minor washes. The ~~county engineer~~ County Engineer may determine a one-foot contour interval shall be provided for certain Tentative pPlats. A separate sheet showing proposed contours may also be required if extensive regrading is proposed.
2. All areas with natural cross-slopes greater than 15 percent shall be indicated on the ~~tentative plat~~ Tentative Plat.

B. ~~Additional final plat~~ Final Plat requirements.

1. Topography with a two-foot contour interval showing location of all major and minor washes. The ~~county engineer~~ County Engineer may determine a one-foot contour interval shall be provided for certain Final pPlats. A separate sheet showing proposed contours may also be required if extensive regrading is proposed.
2. All areas with natural cross-slopes greater than 15 percent shall be indicated on the ~~final plat~~ Final Plat.
3. Street profiles, existing and proposed, for all streets.

4. The Final Plat shall include a note that the certificate of assured water supply has been submitted with the Final Plat or that the Subdivider has obtained a letter of commitment to supply water to the Subdivision from an Arizona Department of Water Resources designated water provider as required by A.R.S. § 45-576.

- C. *Special requirements.* In addition to the requirements above, hillside subdivisions are also subject to the special design standards and special construction standards in ~~chapter~~Chapter 7 of the ~~De~~Design ~~M~~anual.
- D. *Plat processing time.* Due to the unique character of hillside lots and tracts areas, special field and office review by the ~~planning department~~Planning Division and the ~~C~~County reviewing departments may be necessary. The ~~S~~Subdivider should expect processing time for hillside ~~s~~Subdivision ~~p~~Plats to exceed that of nonhillside plats.

(Ord. No. 120606-SR , § 503)

CHAPTER 3.30. CONDOMINIUM SUBDIVISION PLATS

3.30.010. Additional plat requirements.

The requirements for condominiums set forth in this chapter are in addition to the requirements for ~~Tentative~~ [Plats](#) and ~~final plat~~ [Final Plats](#) set forth in these regulations.

(Ord. No. 120606-SR , § 601)

3.30.020. Additional requirements for tentative and ~~final plat~~ [Final Plats](#) for condominiums.

The following information is required on all condominium plat submittals:

- A. [The Name](#) of the condominium.
- B. The boundaries of the condominium and a legal description of the real estate included in the condominium.
- C. The extent and character of all encroachments onto and from any portion of the condominium.
- D. The location and dimensions of all easements serving or burdening any portion of the condominium.
- E. The location and dimensions of the vertical and horizontal boundaries of each unit with reference to an established datum and each unit's identifying number.
- F. The location and dimensions of all units where the right has been reserved to create additional units or common elements.
- G. The location and dimensions of all real estate subject to the development right of withdrawal identified as such.
- H. The location and dimensions of all units held as a "leasehold condominium."
- I. The distance between noncontiguous parcels of real estate comprising the condominium.
- J. The location and dimensions of limited common elements, including porches, balconies, patios and entryways, other than the limited common elements described in A.R.S. § 33-1212(2) and (4) or as may hereafter be amended.

K. Warranty of ~~title~~ title and condominium dedication.

(I/We, the undersigned, hereby warrant that I am the only party/we are all the parties) having any record title interest in the land shown on the plat; and in compliance with the Arizona Condominium Act, A.R.S. title 33, ch. 9 (A.R.S. § 33-1201 et seq.), as amended from time to time, have divided as a condominium: [name of condominium], as shown and platted hereon and hereby publish this plat as and for the plat of [name of condominium]. I/we hereby declare that each unit shall be known by the number given each respectively on this plat and hereby declare that this plat sets forth the boundaries of the condominium and the location and dimensions of the units and of the patios, garages, driveways and garden areas allocated to the exclusive use of one or more units, parking and the common area, as shown on this plat and included in the described premises.

In Witness Whereof, [name of owners of record] have hereunto signed their names this ____ day of _____, [year].

[signature]	[date]
[notarization]	

L. A ratification of condominium ~~subdivision~~ plat and dedications by all other holders of property interest in said ~~S~~subdivision (i.e., trustee, mortgagee, etc.)

M. Any other matters deemed appropriate by the ~~planning director~~Community Development Director or ~~county engineer~~County Engineer.

(Ord. No. 120606-SR , § 602)

CHAPTER 3.35. GENERAL SUBDIVISION DESIGN STANDARDS^[KM2]**3.35.010. Applicability and purpose.**

This chapter establishes the minimum required standards governing the design of subdivisions proposed for property in the unincorporated areas of the county. The purpose of the design standards is to enhance public safety, livability, efficiency and overall quality of residential areas through the application of sound design principles.

(Ord. No. 120606-SR , § 701)

3.35.020. General.

- A. Every ~~s~~Subdivision shall conform to the purposes and provisions of the ~~e~~County ~~comprehensive plan~~Comprehensive Plan, the ~~e~~County ~~Zoning Ordinance~~Community Design Handbook and ~~to~~ all other applicable ordinances and regulations.
- B. These design standards are intended to be used in conjunction with the specifications of the zoning, floodplain, drainage, and other appropriate ordinances of ~~the Pinal~~ County and such other agencies as may have jurisdiction.
- C. All ~~S~~ubdivisions shall conform to the standards of subdivision design set forth in these regulations.
- D. These standards are the minimum standards required for the subdivision of land.
- E. The ~~planning director~~Community Development Director, ~~county engineer~~County Engineer, ~~commission~~Commission and the ~~board~~Board shall ensure that appropriate provision is made for the harmonious development of the county by requiring:
 1. The coordination of proposed streets and circulation systems with existing or planned streets and circulation systems or with other features of the county ~~comprehensive plan~~Comprehensive Plan;
 2. Coordination of travel demand with roadway and circulation system capacity and the timing of planned improvements which creates conditions favorable to public health, safety, welfare and convenience; and
 3. Adequate and convenient open spaces for resident needs such as parks, school sites, recreational facilities areas, trails, rights-of-way, fire stations, etc.
- F. Paved access that is, all-weather, ~~public~~ access shall be provided to the public to and from the ~~s~~Subdivision. A minimum of two permanent access points shall be provided for ingress and egress from the ~~s~~Subdivision to existing ~~p~~Public roadsways. Approval of adequate access by the ~~county engineer~~County Engineer shall be a condition of approval of the Final plat by the ~~board~~Board.
- G. Portions of any ~~C~~ontiguous property under the ownership of the ~~s~~Subdivider shall not be excluded from within the boundaries of a ~~S~~ubdivision when needed or required for any traffic, drainage, recreational open space or flood control facility pertinent to said ~~S~~ubdivision.
- H. Portions of Contiguous property under the ownership of the ~~s~~Subdivider, ~~contiguous to the subdivided property~~ but not included within the boundaries of the ~~s~~Subdivision, shall be of such size or shape that they conform to existing ~~e~~County zoning standards and ~~could can~~ be used for some purpose compatible to surrounding development and meet the specifications of other ~~e~~County ordinances or regulations.

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- I. Sustainability of design. The ~~s~~Subdivider shall preserve significant and/or unique natural features of the land in the design and layout of a ~~S~~ubdivision. Lots and buildings should be oriented to make advantageous use of topographic features, solar access, and scenic vistas.

(Ord. No. 120606-SR , § 702)

3.35.030. Lot design requirements.

This section establishes the general design requirements for ~~S~~ubdivision lots.

- A. *Arrangement.* The lot area, width, depth, shape, orientation and minimum building setback lines shall be appropriate for the location of the ~~S~~ubdivision ~~and~~ for the type of development and use contemplated, ~~and~~ shall be consistent with the zoning requirements, including any applicable ~~planned area development~~Planned Area Development or Master Plan requirements and conform to these regulations and all other applicable ~~C~~ounty ordinances and regulations.
- B. *Side lot lines.* To the greatest extent practical, side lot lines shall be at approximate right angles to straight street lines or radial to curved street lines. Flag lots are prohibited and may only be authorized by PAD overlay zone, or specified in an approved master plan in a MP-CMP or L-MPC zoning district
- C. *Accessibility.* Each lot shall be accessible to the street on which it fronts.
- D. *Minimum size.* Each lot shall be suitable for the purpose for which it is intended and shall contain a usable building site. The area of a lot shall be the area inside the lot boundary line, and shall not include any area designated for street right-of-way.
- E. *Large ~~T~~tracts or parcels.* When the land is subdivided into larger ~~t~~Tracts or parcels than ordinary building lots, such ~~t~~Tracts or parcels shall be arranged so as to allow for the location of future streets and logical further ~~r~~esubdivision.
- F. *Lot depth and width.* The depth and width of lots shall be adequate to provide for off-street parking.
- G. *Garage setback.* For all lots with street-facing garages, the minimum distance from the back of sidewalk to the face of the garage shall be 20 feet. Side-entry garages may be set back less than 20 feet from the back of sidewalk, if permitted by zoning.
- H. *District/agency boundaries.* No lot shall be designed so as to be split by city, county, school district or other taxing agency boundary lines.

(Ord. No. 120606-SR , § 703)

~~3.35.040. Residential design requirements.~~

~~The purpose of the residential design standards is to foster the establishment of neighborhoods that avoid the appearance of "mass production," leading to greater diversity, livability and quality of residential development in Pinal County. It is required for new subdivisions in which any lot is 12,000 square feet or smaller.~~

- ~~A. The front yard setback shall be staggered by a minimum of three feet on every third lot so that the front setback will not be the same for three consecutive homes. Covered porches that extend at least five feet closer to the street than the livable area of the dwelling shall serve to satisfy this requirement.~~
- ~~B. No more than 75 percent of the homes within each recorded subdivision plat shall be two-story.~~
- ~~C. No more than three lots in a row or more than 50 percent of the lots along a single side of a street from one intersection to the next shall have street-facing garages flush with or that project in front of the livable space of the dwelling. A cul-de-sac or "eyebrow" shall be considered an intersection. Where~~

~~a front porch, livable space or courtyard extends five feet or more in front of a street-facing garage, the garage shall not be considered to be flush or projecting.~~

~~(Ord. No. 120606-SR, § 704)~~

CHAPTER 3.40. REQUIRED IMPROVEMENTS, FINANCIAL ASSURANCES AND ACCEPTANCE OF IMPROVEMENTS

3.40.010. Required improvements.

The ~~S~~ubdivider shall cause to be installed, without expense to the ~~county~~County, improvements in accordance with the Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Latest Edition, the U.S. Department of Transportation, Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways, Latest Edition, The Standard Specifications for Road and Bridge Construction, Arizona Department of Transportation, Latest Edition and the State of Arizona Department of Transportation Signing and Marking Standard Drawings, Latest Edition, standards and specifications of design and construction of these regulations and all other applicable ~~F~~federal, ~~county~~County, ~~s~~State and local standards, specifications, ordinances, codes and regulations, such~~which~~ improvements include but are not limited to the following:

- ~~A. A-~~Street pavement;
- ~~B. B-~~Sidewalks;
- ~~C. C-~~Curbs;
- ~~D. D-~~Gutters;
- ~~E. E-~~Traffic signs and pavement markings;
- ~~F. F-~~Traffic signals
- ~~G. G-~~Culverts;
- ~~H. H-~~Bridges;
- ~~I. I-~~Landscaping;
- ~~J. J-~~Water mains, fire hydrants and appurtenances;
- ~~K. K-~~Sewers and appurtenances;
- ~~L. L-~~Drainage improvements in accordance with the drainage plan approved by the ~~county engineer~~County Engineer;
- ~~M. M-~~Flood control improvements in accordance with plans approved by the ~~Pinal County flood control engineer~~Pinal County flood control engineer;
- ~~N. N-~~Electric lines (underground);
- ~~O. O-~~Natural gas lines (underground);
- ~~P. P-~~Sanitary sewage disposal system; and
- ~~Q. Q-~~Any of the above listed improvements located off the subdivision site.

(Ord. No. 120606-SR , § 801)

3.40.020. Improvement plans and specifications.

- A. *Submittal.* Prior to the installation of the improvements and before submittal of the ~~final~~ Final plat ~~Plat~~ to the ~~board~~ Board, the ~~S~~subdivider shall prepare and submit to the ~~county engineer~~ County Engineer for review two complete sets of all improvement plans and specifications for all of the required improvements within the subdivision. Such plans and drawings shall show the type and location of all proposed and existing improvements and all utilities.
- B. *Review fee.* Concurrently with the submission of the improvement plans and associated reports, the ~~S~~subdivider shall pay to the ~~county~~ County a fee, as set forth in the adopted ~~public~~ Public works ~~Works~~ Department ~~F~~fee ~~S~~schedule for the review of all improvement plans and all associated studies, reports and investigations.
- C. *Supplementary engineering studies and tests.* All required supplementary engineering studies, reports and investigations ~~as~~ required by the ~~county engineer~~ County Engineer shall be submitted for review.
- D. *Engineer's ~~O~~pinion of ~~P~~robable ~~e~~Cost.* The ~~Engineer's~~ Opinion of ~~P~~robable ~~C~~osts of the improvements shall include construction costs associated with all the improvement plans. It shall be detailed as to quantity and installed unit price per item. The estimate shall include a 30 percent contingency cost component, including cost share required for any traffic signals if applicable. The estimate shall be reviewed and approved by the ~~county engineer~~ County Engineer.
- E. *Approval.*
1. The ~~county engineer~~ County Engineer will review all improvement plans and all associated reports, studies and investigations and may require revisions therein to comply with standards and specifications of these regulations and other applicable laws and ~~county~~ County ordinances. After the completion of revisions, if any, the ~~county engineer~~ County Engineer may require that the ~~E~~ngineer's ~~O~~pinion of ~~P~~robable ~~C~~ost be increased to reflect such revisions. The ~~county engineer~~ County Engineer shall only approve said plans and drawings if the improvements indicated are found to be in conformance with the standards and specifications of these ~~R~~egulations and other applicable laws and ordinances. Submittal of final improvement plans and specifications shall include one Mylar cover sheet and three bond sets for each set of improvement plans. Said approval shall be demonstrated by the signature of the ~~county engineer~~ County Engineer.
 2. The County Engineer's approval of improvement plans will be valid for a period of one year from the date of the Board's approval of the Final Plat by the Board to which the Improvement Plans pertain. Approved Improvement Plans shall remain valid during active construction of required improvements. Approval will expire when:
 - A. Construction of improvements has not commenced within one year of Board approval of the corresponding Final Plat;
 - B. Construction has been halted for any reason for more than one year; and
 - C. Financial Assurances or Guarantee Bonds have lapsed;
- F. *Qualified registrants.* All required studies, reports, investigations, plans and exhibits shall be prepared, sealed, signed and dated by qualified individuals registered or licensed by the Arizona Board of Technical Registration.
- G. *Modifications or revisions.* In the event it should become necessary for the ~~S~~subdivider to make modifications or revisions to the approved improvement plans or engineering drawings, the ~~S~~subdivider shall

submit a set of revised improvement plans for review and preapproval of such modifications. A fee for additional review, as set forth in the adopted ~~public~~~~Public works~~~~Works~~ ~~Department~~ ~~fee~~~~Fee~~ ~~schedule~~~~Schedule~~, shall be paid. The ~~county engineer~~~~County Engineer~~ may require that the ~~E~~ngineer's ~~O~~pinion of ~~P~~robable ~~C~~ost be increased to reflect the modifications.

H. Reauthorization of Improvement Plans. In the event Improvement Plans have expired, the Subdivider shall resubmit as a new application, new sets of improvement plans subject to County Review and additional submittal fees as indicated in the Public Works Department Fee Schedule.

(Ord. No. 120606-SR , § 802)

3.40.030. Completion of improvements.

- A. County~~County~~ permits. Prior to performance of any work within any ~~county~~~~County~~ rights-of-way, ~~s~~Subdivider shall obtain the necessary ~~county~~~~County~~ permits for such work. Building ~~permits~~~~Permits~~ will not be issued until a ~~f~~Final ~~s~~Subdivision plat and ~~i~~mprovement ~~p~~Plans for all required infrastructure improvements are completed, approved and the ~~final~~~~Final~~ ~~plat~~~~Plat~~ is recorded with the Pinal ~~County~~~~County~~ Recorder. Exceptions may be made at the discretion of the ~~B~~uilding ~~O~~fficial, ~~and~~ ~~planning director~~~~Community Development Director~~~~Community Development Director~~, ~~ion~~ and ~~County~~ ~~Engineer~~ ~~for~~ sales offices, model homes and related ~~uses~~ ~~uses~~ that may be requested by the ~~s~~Subdivider prior to ~~final~~~~Final~~ ~~plat~~~~Plat~~ approval. Issuance of such exceptional permits, and subsequent investments based on such permits, in no way assures the ~~F~~inal ~~plat~~~~Plat~~ will be approved.-
- B. ~~State~~ ~~H~~ighway, adjacent ~~county~~~~County~~ or municipality rights-of-way. Improvements proposed or required on other agencies' rights-of-way shall be included in the improvement plans and engineered and designed to the appropriate agency standards. Prior to approval by the ~~county engineer~~~~County Engineer~~, the ~~s~~Subdivider's engineer shall acquire the agencies' approval of such improvements. Said approval shall be demonstrated by the signature of the approving agency.
- C. *Registered contractors.* Contractors engaged by the ~~s~~Subdivider to install the improvements shall be licensed, bonded, insured, and registered as required by the State of Arizona.
- D. *Construction in compliance with specifications.* The obligation of the ~~s~~Subdivider to provide the improvements shall include, without limitation, the furnishing of all necessary surveys, engineering drawings, working drawings, inspections and testing, communications with contractors, review and approval of periodic payment estimates and all other services customarily performed by a ~~R~~egistered ~~C~~ivil ~~E~~ngineer, licensed and registered in the State of Arizona, providing general supervision of such work. The ~~county~~~~County~~ shall have no liability or responsibility for any such services. At all times during the progress of construction of the improvements, the ~~s~~Subdivider shall permit the ~~county engineer~~~~County Engineer~~ or his duly authorized representatives to inspect any portion thereof. If the ~~county engineer~~~~County Engineer~~ determines that the improvements, or any portion thereof, are not being constructed in accordance with the approved plans and specifications, then the ~~county engineer~~~~County Engineer~~ shall have the right, with or without notice to the ~~s~~Subdivider, to stop the work of any contractor until such contractor receives authorization from the ~~county engineer~~~~County Engineer~~ for the resumption of such work.
- E. *Grading and erosion control.* Grading and implementation of measures to control erosion and the ponding of water shall be accomplished at the ~~s~~Subdivider's expense, in accordance with the ADEQ approved and ~~county~~~~County~~ ~~accepted~~~~approved~~ [CG3] ~~s~~Stormwater ~~pollution~~~~Pollution~~ ~~P~~revention ~~P~~lan (SWPPP) and other plans and specifications. Erosion control shall be provided on all undeveloped lots within the subdivision, prior to filing with the ~~county engineer~~~~County Engineer~~ the ~~certificate~~~~Certificate~~ of ~~completion~~ ~~Completion~~ required in this chapter or the expiration of the time period for installation of the improvements, whichever occurs earlier.

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- F. *Maintenance by sSubdivider.* During the construction phases of development of the subdivision, and prior to acceptance by the ~~county~~County of the improvements, the ~~s~~Subdivider shall maintain in good condition and restore all existing improvements to prevent material deterioration thereof, and to ensure that no imminent hazard to life or property exists within the subdivision or areas adjacent thereto.
- G. *Certificate of completion.* Upon completion of the improvements required under this chapter, the ~~s~~Subdivider shall file with the ~~county engineer~~County Engineer a ~~certificate~~Certificate of ~~completion~~Completion for ~~each phase of the~~ construction. ~~Subsections (H) (1), (2) and (4) of this section~~The completion letter shall be certified by a civil engineer, licensed and registered in Arizona, to the effect that all the improvements have been completed in accordance with the requirements, standards and specifications of these regulations and all other applicable laws and ordinances, approved ~~final~~Final plat-Plat and conditions thereto, if any, and the construction and engineering plans approved by the ~~county engineer~~County Engineer upon which the ~~final~~Final plat-Plat approval was based. ~~Subsection (H) (3) of this section may be certified by a third party (such as a materials testing company).~~[CG4] The subdivider shall also furnish to the ~~county engineer~~County Engineer one sealed Mylar set of "as-built" engineering plans and one electronic copy of "~~as~~As-builtBuilt" engineering plans in a format approved by the ~~county engineer~~County Engineer or representative.

H. *Inspections.*

1. Inspections are required, but not limited to, the following phases of construction:

- A. ~~Utility~~ Trenching
- B. ~~Subgrade~~ Ppreparation
- C. ~~Asphalt~~ Bbase Ccourse Pplacement
- D. ~~Asphalt~~ cConcrete pPlacement
- E. ~~Concrete~~-pPlacement
- F. ~~Signing and~~ Mmarking Pplacement
- G. ~~Traffic~~-sSignal-iInstallation

The materials associated with the inspections listed-mentioned above may be certified by a third party testing company, all reporting must be provided prior to acceptance of improvements. The list of construction phases requiring a separate certificate of completion [CG5] are as follows:

- 1. Mass grading;—
- 2. Underground utilities;—
- 3. Subgrade under pavement, curb and gutter and sidewalk sections, base course material; and
- 4. Concrete structures, sidewalks, curb and gutter, and ADA ramps, drainage structures, asphalt concrete.—

2. The ~~county engineer~~County Engineer shall cause an inspection to be performed on the improvements once he receives the certificates of completion and one sealed Mylar set of "~~as~~As-builtBuilt" engineering plans. After confirmation that the improvements have been completed ~~or~~ in accordance with the requirements, standards and specifications of these ~~R~~regulations and all other applicable laws and ordinances, approved ~~final~~Final plat-Plat and conditions thereto, if any, and the construction and engineering plans approved by the ~~county engineer~~County Engineer upon which the ~~final~~Final plat-Plat approval was based, the ~~county engineer~~County Engineer shall make a written report on the condition of the improvements to assist the ~~board~~Board in its determination concerning the release of assurances and the acceptance of certain improvements into the ~~county~~County maintenance system.

3.40.040. Assurances and Ten Percent Guarantee Bond.

A. *Improvements.* In order to ensure the proper installation of all required improvements by the Subdivider, assurances are required for street, sewer, electric and water utilities, drainage, flood control and ~~other all required~~ improvements meeting established minimum standards of design and construction.

B. *Types of assurances.* ~~Pinal County~~ The County, at its discretion, may accept any, or a combination, of the following assurances in a form and substance approved by the ~~county~~ County Attorney and ~~acceptable to the board~~ Board. ~~There will be an administrative charge, as set forth in the~~ Public Works Department ~~Fee~~ Schedule, associated with assurance acceptance:

1. Cash or certified check; or
2. A ~~surety~~ Surety (performance) ~~bond~~ Bond executed by a company authorized and licensed to do business in the State of Arizona and acceptable to the ~~board~~ Board; or
3. An ~~irrevocable~~ Irrevocable letter ~~Letter~~ of ~~credit~~ Credit from a financial institution authorized and licensed to do business in the State of Arizona and acceptable to the ~~board~~ Board; ~~or,~~
4. ~~Third party trust agreement as long as it meets all the requirements listed below:~~
 - a. ~~The title to the subdivided property is placed in trust with a third party escrow agency authorized and licensed to do business in the State of Arizona along with an agreement between the subdivider, the trustee and the county that title to any lot or parcel within the subdivision shall not be transferred until written approval is given by the county for the release or partial release of property held in trust. The agreement shall be for an initial term of two years. The board at its sole discretion may grant extensions for additional two-year terms. The applicant for an extension of the term of the agreement will also be required to seek a waiver from the board of the requirements of subsection (C)(3) of this section which mandate that all required improvements be completed within two years of plat approval.~~
 - b. ~~A maximum of three partial releases may be allowed for each recorded final plat. Each release must be for a minimum of 25 percent of the total number of lots in the subdivision. The board shall not authorize any release until the required improvements, as determined by the board, have been completed. The agreement shall contain a condition authorizing the county to abandon or replat all or a portion of the subdivided property should the required improvements fail to be installed in compliance with the county's subdivision regulations and design manual within the time periods required by the county.~~
 - c. ~~After final plat approval, building permits for up to eight model homes may be issued to the developer prior to completion of all required improvements for each release. A total of 24 model home building permits may be issued per final plat approval. These homes shall not be sold to individual property owners or occupied for residential use until they are in compliance with all county codes and released for sale by the county. Additional model home building permits shall not be issued for subsequent releases until improvements are completed in the previous release.~~
 - d. ~~The subdivider shall record the approved third party trust agreement at the time of plat recordation and note the recording information on the face of the final plat.~~
 - e. ~~A third party trust agreement may be substituted for an existing assurance where no lots have been sold in the subdivision.~~

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- f. A third-party trust agreement may also be substituted for an existing assurance where lots have been sold in the subdivision if the subdivision meets the following requirements:—
- i. No lots that have been sold to individual property owners, except bulk sales, are placed in the third-party trust.—
 - ii. The county engineer approves a sealed opinion from an Arizona-licensed engineer, that all necessary infrastructure for the portion of the subdivision where lots have been sold, including, but not limited to, improvements related to flood control, grading, drainage, roadway and utilities, are in place prior to approval of the third-party trust agreement.—
 - iii. The planning director Community Development Director determines that all amenities to support the portion of the subdivision where lots have been sold, including but not limited to trails, tot lots, baseball fields and landscaping, have been completed prior to the—
Approval of the third-party trust agreement.—
 - iv. The board shall hold a public hearing to consider approval of the third-party trust agreement.—
 - v. The subdivider shall hold a neighborhood meeting, at a location within a five-mile radius of the subdivision, for all lot owners in the subdivision to inform them of the proposed third-party trust agreement. The meeting shall be between 5:00 p.m. and 9:00 p.m. on a Weeknight or between 8:00 a.m. and 5:00 p.m. on a Saturday. The subdivider shall send mailed written notice at least 15 days before the meeting and it must be held at least 15 days prior to the public hearing at the board. The subdivider shall keep minutes of the meeting and provide an attendance sign-up sheet for the names and addresses of all—
Attendees.—
 - vi. When the subdivider commences construction on the infrastructure in order to develop at least 25 percent of the lots in the third-party trust, these lots will be removed from the third-party trust and cash, bond or letter of credit will be placed as an assurance for these lots.—

C. *Documents.* The documents creating such assurances shall, in each case, expressly provide as follows:

1. *Beneficiary.* Pinal County The County shall be named as a beneficiary of the assurances.
2. *Allocation.* The assurance documents shall provide that such funds in the stated amount have been specifically allocated for installation and to or guarantee against damage of the required improvements.
3. *Term.* The Pperiod within which the required improvements must be completed shall be incorporated into the documents creating the assurances and shall not in any event exceed two years from the date of Ffinal plat Plat approval by the board Board [BB6].
4. *Security amount.* The amount of the appropriate assurances shall be 100 percent of the Engineer's Opinion of probable Cost, including the 30 percent contingency amount, as approved by the county engineer County Engineer. A a later bond or assurance (known as the "ten percent guarantee bond will be deposited to guarantee against damage by on-site construction ") in an amount of ten percent of the Engineer's opinion of probable cost, excluding water, sewer and utility costs, as approved by the county engineer County Engineer, will be deposited to guarantee against damage by on-site construction for a period of one year after acceptance of the

~~improvements by the boardBoard. After completion of one year, satisfactory correction of any damages, and upon inspection by the county engineerCounty Engineer, the ten percent guarantee bond may be released.~~

5. Submittal to ~~county engineerCounty Engineer~~. The assurance ~~documents~~ shall be submitted to the ~~county engineerCounty Engineer~~ and be approved by the ~~county engineerCounty Engineer~~ prior to ~~finalFinal plat-Plat~~ approval by the ~~boardBoard~~.
6. Forfeiture. ~~The assurance documents shall provide~~ for its forfeiture in the event the ~~S~~subdivider fails to install the ~~the required Subdivision and off-site improvements in accordance with these Regulations, other applicable ordinances and regulations, and plans approved by the County Engineer within the time period specified by the Board required improvements within the subdivision or off-site improvements in accordance with these regulations and other applicable ordinances and regulations and plans approved by the county engineerCounty Engineer within the specified time period approved by the boardBoard~~. ~~The Ten Percent Guarantee Bond shall provide for forfeiture in the event the Subdivider fails to repair any damage to accepted improvements caused by on-site construction~~. The amount of the forfeiture shall be the cost to the ~~countyCounty~~ to complete the installation of the improvements to established minimum standards of design and construction ~~to make repairs~~ in accordance with these regulations.
- D. Held ~~for safekeeping by the Public Works Department~~. The assurances documents will be held ~~for safekeeping~~ by the ~~publicPublic works-Works department-Department~~ until such time when the assurances may be released, or in cases of default, utilized to complete the installation ~~or repair~~ of the required improvements.
- E. Pavement ~~f~~Finishing ~~f~~Fee. The ~~S~~subdivider shall pay to the ~~countyCounty~~ a ~~P~~pavement ~~F~~finishing ~~F~~fee (per square yard) as set forth in the ~~publicPublic works-Works Department fee-Fee schedule-Schedule~~ for the purposes of applying a postconstruction, finishing sealant, such as slurry seal, to subdivision streets. -

~~FF~~. Release of assurances.

1. Primary assurances

- a. Assurances deposited to ensure installation of required improvements may be released, by the ~~boardBoard~~, upon the completion of all improvements, the submittal and acceptance of certified as-built Mylars, the acceptance of the ~~P~~pavement ~~F~~finishing ~~F~~fee, the posting of the ten percent guarantee bond and the acceptance of the improvements by ~~boardBoard~~ action.

2. Ten Percent-Guarantee Bond ~~Assurances deposited to guarantee against damage by on-site construction may be released one year after acceptance of the improvements by the boardBoard~~. Guarantee Bond

- A. The County may withhold the 10 percent guarantee bond after final acceptance by the Board during construction of buildings within the subdivision. Upon written request by the Subdivider the Ten Percent Guarantee Bond shall be released after the County Engineer has conducted an inspection of required improvements to ensure the proper installation of all required improvements by the Subdivider. The Board shall release the Ten Percent Guarantee Bond upon recommendation of the County Engineer that:

- I. Any damages to accepted improvements have been repaired.

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- II. Traffic on recently improved streets is consistent with the uses approved for the Subdivision and are not overly burdened with construction and heavy equipment traffic.
 - III. 75% of the lots within the Subdivision have received building permits to construct buildings on the lots within the Subdivision.
 - IV. All necessary utilities to service the subdivision have been installed and cutting and breaking street improvements to provide additional utility connections will not be necessary.
 - V. The Subdivision streets are not necessary to access adjacent Subdivisions with improvements currently under construction
- B. After a period of no less than two years from the date of acceptance, the Subdivider may request in writing to the County Engineer that the Ten Percent Guarantee Bond be released due to unusual circumstances beyond the Subdivider's control.

~~3. A one-time partial release of assurances will be permitted at not less than 50 percent and no greater than 75 percent of completion of the improvements. There will be an additional administrative charge, [CG7] as set forth in the public works fee schedule, associated with this partial release.~~

G. Substitute Assurances and Time Extensions.

The Community Development Director as provided in Section 3.15.140 PCDSC, shall develop a procedure for the processing of Substitute Assurances and Assurance Time Extension requests. The Policy and Procedure shall be readily available for examination by the public on the County website.

- 1. Requests for Substitute Assurances and/or Time Extensions shall be submitted in writing to the Community Development Director for review by the County and Flood Control District.
- 2. The impacted County departments and Flood Control District shall provide written recommendations within thirty (30) working days to the Community Development Director who shall forward the recommendations to the Board of Supervisors for final decision.
- 3. If approved by the Board, Substitute Assurances and Time Extension requests shall be subject to all provisions enumerated in Sections 3.40.030, 3.40.040 and 3.40.050 PCDSC.
- 4. In no case shall a Substitute Assurance or Time Extension:
 - a. In the opinion of the County Engineer constitute a partial release of assurances.
 - b. In the opinion of the County Engineer used to circumvent the provisions in Sections 3.40.030 and 3.40.040.
 - c. In the opinion of the County Engineer creates a condition that causes another Subdivider in the same plat to default or enter into forfeiture on previously approved Assurances.

(Ord. No. 062409-TPTA, §§ 1, 2; Ord. No. 073008-SR.1; Ord. No. 120606-SR, § 804)

3.40.050. Default.

- A. The Subdivider shall be in default if the sSubdivider fails to install the required Subdivision and off-site improvements within the subdivision or off-site improvements in accordance with these Rregulations and other applicable ordinances, and regulations and plans approved by the county engineerCounty Engineer within the specified time period specified approved by the boardBoard.

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- B. Upon subdivider's default, the ~~board-Board~~ may, after reasonable notice to the subdivider of said default, declare the assurances forfeited and take whatever steps are within its power to require that compliance is met, and/or make claim to the forfeited securities the subdivider has provided for the improvements. The ~~countyCounty~~ may cause the installation of the required improvements, using the proceeds collected from the assurances to defray the expense thereof.
- C. If the assurances are not of an amount sufficient to cover installation of the required improvements, the ~~S~~subdivider shall be responsible for the deficit.
- D. The ~~public-Public works-Works director-Director~~ shall notify the Arizona Real Estate Department of the default. (Ord. No. 120606-SR, § 805)

3.40.060. Acceptance of certain dedicated improvements.

A. Board action.

1. The board will accept the the streets, bicycle facilities, and other ways into the County's maintenance system. Within one year, which commencing from the date of approval of the completed improvements by the county-engineerCounty Engineer, if it is determined that:

a. ~~§~~The streets, bicycle facilities and ~~or~~ other ways within the- ~~S~~Subdivision are still in compliance with the requirements, standards and specifications of these- ~~R~~Regulations; all other applicable ordinances and regulations; the approved final-Final plat-Plat and conditions thereto, if any; and the construction and engineering plans approved by the county-engineerCounty Engineer upon which final-Final ~~p~~Plat- approval was based, and

b. ~~S~~Such improvements have not been damaged by construction operations; or if damaged, have been satisfactorily repaired, to the board-Board's satisfaction. will accept the streets, bicycle facilities or other ways into the countyCounty's maintenance system. [CG8]

2. If accepted, Subdivision streets are to be accepted in their entirety as platted for the entire ~~S~~subdivision.

3. The ~~board-Board~~ may approve or deny acceptance of streets, bicycle facilities ~~and-or~~ other ways within the ~~S~~subdivision into the ~~countyCounty~~'s maintenance system.- The Board may deny acceptance should the Board find:

1. Traffic on recently improved streets is not consistent with the uses approved for the Subdivision and are not overly burdened with construction and heavy equipment traffic.
2. 75% of the lots within the Subdivision have not received building permits to construct buildings on the lots within the Subdivision.
3. All necessary utilities to service the subdivision have not been installed and cutting and breaking street improvements to provide additional utility connections will be necessary.
4. The subdivision streets are necessary to access adjacent Subdivisions with improvements currently under construction

4. After a period of no less than 6 months from the date of denial of the acceptance, the Subdivider may request in writing to the County Engineer to re-inspect the improvements. The Board will accept the streets, bicycle facilities, and other ways into the County's maintenance system if it is determined that:

a. The streets, bicycle facilities or other ways within the Subdivision are still in compliance with the requirements, standards and specifications of these Regulations; all other applicable ordinances, regulations and Maintenance and Acceptance agreements regarding the construction of such infrastructure; approved Final Plat and conditions thereto, if any; and construction and engineering plans approved by the County Engineer upon which Final Plat approval was based, and

b. such improvements have not been damaged by construction operations; or if damaged, satisfactorily repaired to the Boards satisfaction.

B. CountyCounty maintenance system. The acceptance of the streets into the countyCounty maintenance system does not establish such streets as countyCounty highwaysHighways. Maintenance means maintaining these streets in the same condition as they existed at the time of their acceptance into the countyCounty maintenance system. It does not include improvements to these streets.

~~{C. Acceptance.}~~ Acceptance and Establishment [CG9] will be by ~~board-Board~~ resolution, and the resolution shall be recorded with in the ~~office of the countyCounty R~~ recorder.

(Ord. No. 120606-SR, § 806)

3.40.070. Project approval.

The project will not be considered ready for final inspection until all drainage items, grading, and backfill are complete and pavement, curbs and sidewalks swept clean of all dirt and debris. The area Bbehind cCurbs shall be ~~completely~~totally backfilled and neatly dressed to a maximum 4:1 slope and all landscapinged in placed, if applicable. The corrected plans as called for in this chapter must be submitted before final project approval.

(Ord. No. 120606-SR, § 807)

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CHAPTER 3.45. PLAT AMENDMENTS [BB10]**3.45.010. Minor amendments to conditionally approved ~~tentative plat~~ Tentative Plats.**

At any time after conditional approval of the ~~tentative plat~~ Tentative Plat ~~conditional approval~~ and before submission of a ~~final plat~~ Final Plat, the ~~s~~Subdivider may request minor amendments be made to the conditionally approved ~~tentative plat~~ Tentative Plat.

- A. Minor amendments include but are not limited to corrections of any error in any course ~~or~~ distance or other necessary item that was omitted from the conditionally approved ~~tentative plat~~ Tentative Plat, and corrections to drafting, graphic, technical and similar type errors. The minor amendment process shall not be used to change or vary or add any lot lines, streets, or easements or statements that were not contained on the conditionally approved ~~tentative plat~~ Tentative Plat. These and all other amendments to the conditionally approved ~~tentative plat~~ Tentative Plat shall require the submittal of a revised ~~tentative plat~~ Tentative Plat in accordance with ~~chapter~~ Chapter 3.15 PCDSC. The ~~planning director~~ Community Development Director shall determine if requested amendments are minor or will require a new ~~tentative plat~~ Tentative Plat submittal.
- B. An application to complete minor ~~tentative plat~~ Tentative Plat amendments shall be submitted to the ~~planning department~~ Planning Division together with the amended ~~tentative plat~~ Tentative Plat. All amendments or revisions shall be clearly highlighted on the amended ~~Tentative p~~ Plat. The number of copies to be submitted and other submittal requirements shall be determined by the ~~planning director~~ Community Development Director. A processing fee as set forth in the approved ~~Community planning and D~~ development services and ~~P~~ public ~~W~~ works fee schedules, shall be assessed for all ~~tentative plat~~ Tentative Plat amendments initiated by the ~~S~~ subdivider.
- C. The ~~planning director~~ Community Development Director shall distribute the minor ~~plat~~ amendments to the Tentative Plat to appropriate reviewing departments and agencies. After receipt of the department's or agency's comments and recommendations on the amendments, the ~~planning director~~ Community Development Director may approve minor amendments. Such amendments shall be clearly highlighted on the amended, conditionally approved, amended, ~~tentative plat~~ Tentative Plat. Such approval shall not be construed as extending the original time frame of the original ~~tentative plat~~ Tentative Plat's conditional approval or the time within which the ~~final plat~~ Final Plat must be filed.

(Ord. No. 120606-SR , § 901)

3.45.020. Minor amendments to recorded plats.

- A. An Affidavit of Corrections that corrects, amends or modifies a recorded Final p Plat shall be recorded to amend as part of the Final p Plat.
- ~~B.A. Technical changes-~~ Any Final p Plat ~~of a subdivision~~ that has been recorded may be amended to correct a drafting, graphic, technical or similar error, or an error in any course, distance or other necessary item that was inadvertently omitted from the approved ~~final plat~~ Final Plat in the following manner:
 1. The ~~planning director~~ Community Development Director and ~~county engineer~~ County Engineer shall review and approve such Affidavit of Corrections before it is recorded with the Pinal County Recorder.

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2. Two copies of the recorded ~~A~~ffidavit of ~~C~~orrections shall be filed with the ~~planning director~~Community Development Director and one copy with the ~~county engineer~~County Engineer.
 3. The minor amendment process shall not be used to change or vary or add any lot lines, streets, or easements or statements that were not contained on the approved ~~final plat~~Final Plat. Such actions necessitate the processing of a ~~R~~eplat in accordance with ~~C~~hapter 3.50 PCDSC, ~~replat~~.

(Ord. No. 120606-SR , § 902)

CHAPTER 3.50. REPLAT

3.50.010. Re-plat of recorded Subdivisions.

A Re-plat of a recorded Subdivision is the re-subdivision of a recorded plat.

- A. Any changes in lot lines in a recorded subdivision where there is no change in the location or size of streets, dedicated public lands, reserved school sites, locations or types of open space or the size or arrangement of all or part of the recorded subdivision shall be processed in accordance with final plat procedures and specifications of these regulations. The subdivider shall submit a final plat drawing with the lot arrangement revised. A preapplication review meeting with the planning and public works staff is required. The plat for the subdivided area is referred to as a minor replat.
- B. Any changes such as, but not limited to, location or size of streets, dedicated public lands, reserved school sites, locations or types of open space or the size or arrangement of all or part of the recorded subdivision shall be processed in accordance with tentative and final plat procedures. The subdivider shall submit a tentative plat drawing for the replatted area. A preapplication review meeting with the planning and public works staff is required. The plat for the resubdivided area is referred to as a major replat.

(Ord. No. 073008 SR.1 ; Ord. No. 120606 SR, § 1001)

3.50.011. – Minor Re-plat.

Any recorded Plat may be Re-platted to:

A. Correct an error in any course or distance or other necessary item that was omitted, which in the opinion of the Community Development Director is significant enough to warrant a Re-plat rather than an affidavit of correction

B. Correct a drafting, graphic, technical or similar-type of error which in the opinion of the Community Development Director is significant enough to warrant a Re-plat rather than an affidavit of correction

C. Combine or reconfigure six or fewer parcels so long as the lot line adjustment(s) does not:

1. Change the external Subdivision boundaries;

2. Increase the number of parcels;

3. Create a substandard parcel(s); or

4. Reduce a platted setback that exceeds County zoning ordinance setback requirements. The reduced setback shall not be less than the setback for the zoning district required by the Zoning Ordinance.

D. Create changes to utility easements, right of ways, open space, or the access thereto from the reconfigured parcels.

E. A minor Re-plat shall be processed in accordance with the application form and fee schedule, obtained from the Community Development Department.

1.. Minor Re-plats will be processed as outlined in Chapter 3.15 and will be included on the consent item agenda on the next available Board meeting.

2. The Community Development Director may waive the Tentative Plat preparation and any item in Section 3.20.030 provided the Community Development Director determines:

a. The proposed Subdivision is consistent and in conformance with these Regulations and other applicable ordinances and regulations.

b. The proposed Subdivision is consistent with the approved zoning, Planned Area Development (PAD), or Master Plan if applicable.

c. The design of the proposed Subdivision is suitable to the environment or causes substantial environmental damage or presents serious public health problems.

d. The design of the proposed Subdivision is compatible with the physical features of the site including, but not limited to, natural slopes greater than 15 percent, floodplains and habitat areas.

e. The proposed Subdivision will have adequate permanent legal access.

f. The proposed Subdivision has arranged for the proper arrangement of streets in relation to existing or planned streets and for adequate and convenient open spaces for traffic, utilities, drainage, access of firefighting apparatus, recreation, light, and air and has arranged for all required water, sewer, and other utility facilities. The proposed subdivision will place an unreasonable burden on the ability of the county or other local governments to provide for streets, water, sewage, fire, police, hospital, solid waste, education, housing, recreation and other services, that is not offset by improvements associated with the proposed subdivision.

g. The design of the proposed subdivision promotes the safety, health, and general welfare of the public.

E. Financial assurances are on file and/or not required by the County Engineer.

3. Minor Re-plats, processed in compliance with this title and approved by the Board, upon recordation, shall thereafter be titled "Minor Replat of ____." Subsequently, if additional Replats are proposed, the successive Replats shall be titled in numerical sequence.

3.50.012 - Amended Final Plat.

Any change to a recorded Plat other than modifications authorized by Sections 3.50.011 shall require the submittal of an amended Final Plat to be processed in the same manner as a new subdivision in accordance with Title 3 of this Code.

3.50.020. Abandonment of streets, alleys, or other public areas during replat.

The abandonment of a street, alley, easement, or roadway dedicated in a previously recorded plat shall follow the procedure set forth in [Title chapter 7.10 PCDSC, roadway disposition](#). The ~~b~~Board shall not take any final action on the ~~R~~replat until the abandonment proceeding is completed and recording data noted on the ~~R~~replat.

(Ord. No. 120606-SR , § 1002)

CHAPTER 3.55. ABANDONMENT OF SUBDIVISION

3.55.010. General.

In accordance with Arizona Revised Statutes, all or parts of a recorded ~~subdivision~~ plat may be abandoned. Three types of abandonments may occur: public rights-of-way, subdivisions with prior lot sales, and subdivisions where no lots have been sold.

(Ord. No. 120606-SR , § 1101)

3.55.020. Abandonment of streets, alleys, easements or roadways.

The abandonment of a street, alley, easement, roadway dedicated in a recorded subdivision ~~plat~~ of record shall follow the procedure set forth in Title Chapter 7-10 PCDSC, roadway disposition.

(Ord. No. 120606-SR , § 1102)

3.55.030. Recorded subdivision with prior lot sales.

In a recorded subdivision where lots have been sold, no abandonment of the recorded plat shall occur unless written, notarized consents to the abandonment are received from all property owners within the subject subdivision and adjacent property owners are provided access to a public roadway.

~~(Ord. No. 120606-SR , § 1103)~~

3.55.040. Recorded Subdivision with no prior lot sales.

In a recorded Subdivision where no lots have been sold, no abandonment of the recorded Plat shall occur unless a written, notarized consent to the abandonment is received from the Owner and adjacent Owners are provided access to a Public Roadway.

3.55.050 Procedure for abandonment.

Procedure for abandonment of a subdivision is subject to the following requirements and considerations:

- A. *Filing and review.* To initiate the procedure, an application for abandonment of a subdivision, describing ~~thereon~~ the reasons and future use of the affected property, must be filed with the ~~planning director~~ Community Development Director together with a map of the abandonment, letter from utilities consenting to the abandonment, consents of applicable property owners, a copy of the previously recorded ~~subdivision~~ plat, a current Title Report and all other related documents required by the County. With the application, the applicant must pay and the appropriate processing fees as set forth in the adopted ~~Community planning and Development services~~ and ~~Public Works~~ Department fee schedules. Upon acceptance of application for abandonment, the ~~planning Community Development Department~~, ~~Public works Works department Department~~ and other applicable county departments shall review the proposed abandonment. The ~~planning director~~ Community Development Director shall correlate the findings of all applicable departments.

-
- B. *Map of ~~A~~abandonment (MOA).* The ~~MOA~~~~map of A~~abandonment shall include, at a minimum, the following information:
1. The title "Map of Abandonment of _____" ~~shall appear~~ on each sheet that is to be filed for recordation.
 2. All basic criteria in the preparation of a MOA shall apply and all ~~subdivision p~~lat information shall be included.
 3. ~~Indications of~~ ~~Indicate~~ those streets, alleys, easements or roadways previously dedicated that will be retained and remain separate from the abandonment.
 4. All necessary acknowledgments and ratifications, and a certification by an Arizona-licensed and registered land surveyor preparing the MOA ~~that~~, includ~~es~~ing his registration number and seal.
 5. Signature lines for the chairman of the ~~B~~board and the attestation of the ~~C~~lerk of the ~~B~~board.
- C. ~~Board of supervisors~~Board of Supervisors action. The Board shall take final action to approve the MOA provided that:
1. Prior to any ~~board~~Board final action on the proposed MOA, the street abandonment procedure shall be completed.
 2. Provision shall be made to retain existing utility easements and necessary roadways, easements and dedication as deemed appropriate by the ~~board~~Board or as required by the Arizona Revised Statutes.
 3. No property owner within the subject ~~S~~ubdivision or any adjacent property owner shall be denied access, totally or partially, by the MOA.

(Ord. No. 120606-SR , § 1104)

CHAPTER 3.60. APPEALS, MODIFICATIONS AND WAIVERS

3.60.010. Purpose.

In order to ensure that the application of the requirements contained in these regulations does not prevent reasonable subdivision development that is consistent with the ~~C~~ounty ~~comprehensive plan~~ Comprehensive Plan, County zoning ordinance, and other adopted plans and goals of Pinal County, this chapter provides procedures for appeals, modifications and waivers ~~procedures~~ that may grant relief to the ~~s~~ubdivider.

(Ord. No. 120606-SR , § 1201)

3.60.020. Appeals.

- A. The ~~board~~ Board shall hear and decide appeals taken from any order, requirement, decision, grant or refusal made by the ~~planning director~~ Community Development Director, ~~commission~~ Commission or any official in administration of these regulations.
- B. Appeals shall be made in writing and filed with the ~~planning director~~ Community Development Director within 15 days from the issuance date of the order, requirement, decision, grant or refusal that is being appealed. The written appeal shall set forth the particulars and reasons for the appeal, accompanied by the appropriate processing fee as set forth in the adopted ~~Community planning and D~~ evelopment-services fee schedule.
- C. Hearing on such cases shall be at such times as may be set by the ~~board~~ Board, and upon not less than 15 days' or more than 30 days' notice to the ~~S~~ubdivider, the ~~commission~~ Commission or officials concerned.

(Ord. No. 120606-SR , § 1202)

3.60.030. Modifications and waivers.

- A. Request for modification or waiver ~~of to~~ the requirements of these ~~R~~ regulations may be made by the ~~s~~ubdivider in writing to the ~~planning director~~ Community Development Director. Requests related to ~~p~~ Public ~~W~~ Works requirements will be forwarded by the ~~planning director~~ Community Development Director to the ~~county engineer~~ County Engineer for review and recommendation.
- B. The request shall cite the specific sections to be varied or waived, the exceptional or extraordinary situation or condition for each and every modification or waiver requested and the proposed substitution, if any. When the request is submitted by the subdivider, it must be accompanied by the appropriate processing fee as set forth in the adopted ~~Community planning and D~~ evelopment-services and ~~P~~ ublic ~~W~~ orks Department fee schedules.
- C. The ~~planning director~~ Community Development Director or the ~~county engineer~~ County Engineer and other appropriate ~~C~~ ounty reviewing departments shall make a recommendation to the ~~board~~ Board on requests submitted by the subdivider. The request shall be heard by the ~~board~~ Board prior to ~~final plat~~ Final Plat approval by the ~~board~~ Board. ~~Board~~ Board action on any modification or waiver request shall be noted in the meeting minutes.
- D. Recommendations by the ~~planning director~~ Community Development Director or the ~~county engineer~~ County Engineer for either approval or denial of a modification or waiver request shall not suspend review or other recommendations by appropriate agencies.

-
- E. Upon receipt of the ~~planning director~~Community Development Director's or the ~~county engineer~~County Engineer's recommendation, the ~~board~~Board may approve or deny the request for modification or waiver. In approving a modification or waiver, the ~~board~~Board may make one of the following findings, or may make other findings as deemed reasonable and consistent with the intent of these regulations:
1. There are unusual topographical or other exceptional or extraordinary circumstances or conditions requiring modification to these Regulations. affecting said property whereby the strict application of the regulation enacted herein would result in peculiar and exceptional practical difficulties to the subdivider.
 2. The granting of the modification or waiver will not be detrimental to the public welfare or injurious to other property in the area.
 3. The granting of the modification or waiver will not impair or nullify the intent and purposes of these Regulations, the ~~e~~County zoning ordinance or the County comprehensive plan~~Comprehensive Plan~~.
 4. The granting of the modification will be consistent with the approved zoning, Planned Area Development (PAD), or approved Master Plan if applicable.

(Ord. No. 120606-SR , § 1203)

CHAPTER 3.65. ENFORCEMENT, VIOLATIONS AND REMEDIES

3.65.010. Purpose.

The purpose of this chapter is to set out the procedures and parties responsible for enforcement of these regulations, along with the penalties and remedies for violations.

(Ord. No. 120606-SR , § 1301)

3.65.020. Enforcement.

- A. The ~~board of supervisors~~Board of Supervisors, ~~county attorney~~County Attorney, ~~C~~county Ssheriff, ~~planning~~Community Development ~~d~~Director, ~~C~~county Bbuilding Oofficial, ~~C~~county Rrecorder and all officials charged with the issuance of licenses or permits shall enforce the provisions of these ~~R~~regulations. Any permit, certificate or license issued in conflict with the provisions of these ~~R~~regulations shall be void.
- B. Any apparent violations of these ~~R~~regulations shall be brought to the attention of the ~~county attorney~~County Attorney for appropriate legal action.

(Ord. No. 120606-SR , § 1302)

3.65.030. Violations.

- A. No person, firm, corporation, or other legal entity shall, for the purpose of circumventing any of these ~~R~~regulations, or otherwise, hereafter transfer, sell, offer to sell, or divide any lot, piece, or parcel of land which constitutes a ~~s~~Subdivision or part thereof, as defined herein, or file a record of survey, map or ~~p~~Plat for recording without first having a ~~final plat~~Final Plat thereof approved by the ~~board~~Board and recorded in accordance with these regulations. Nothing contained in these regulations shall be construed as releasing a subdivider from full compliance with the Arizona Revised Statutes and the rules and regulations of the Arizona Real Estate Department pertaining to the establishment of subdivisions.
- B. No person, firm, corporation, or other legal entity shall take any action regarding a ~~s~~Subdivision, developed under these ~~R~~regulations, that violates any provision of these ~~R~~regulations.

(Ord. No. 120606-SR , § 1303)

3.65.040. Penalty.

Any ~~p~~person causing a ~~final plat~~Final Plat to be recorded without first submitting the ~~p~~Plat and obtaining approval of the ~~board~~Board shall be guilty of a Class 2 misdemeanor. In addition, notification of the violation shall be transmitted to the ~~Arizona State~~Real Estate Department by the ~~planning director~~Community Development Director. Any person, firm, corporation, or other legal entity who violates any ~~other~~ provision of these regulations shall be guilty of a misdemeanor. ~~and, u~~Upon conviction thereof ~~a misdemeanor, a person~~ shall be punished ~~for each offense~~ by a fine of not more than \$750.00 or by imprisonment in the ~~e~~County jail for not more than 120 days, or by both ~~such fine and imprisonment, for each offense~~. Each and every day during which the violation continues is a separate offense. The imposition of any sentence shall not exempt the offender from compliance with the requirements of these ~~R~~Regulations.

(Ord. No. 120606-SR , § 1304)

3.65.050. Remedies.

A. If any land is subdivided in violation of these regulations, the ~~board~~Board, the ~~county attorney~~County Attorney, the ~~Community Development~~planning Director or any adjacent or neighboring property owner who is specially damaged by the violation, in addition to other remedies provided by law, may institute injunction, mandamus, abatement or any other appropriate action or proceeding to prevent such violation or attempted violation and to restrain, correct or abate such violation or attempted violation, or to prevent or abate or remove any such unlawful action, construction, alteration, or use which constitutes a violation.

~~B.~~ B. All remedies provided for herein shall be cumulative and not exclusive. The conviction and punishment of any person hereunder shall not relieve such person from the responsibility to correct prohibited conditions or prohibit the enforcement, correction or removal thereof.

(Ord. No. 120606-SR , § 1305)

3.65.060. Legal procedures.

Any use or development of property contrary to the provisions of these regulations is hereby declared to be unlawful, against the public safety and welfare, and a public nuisance and the ~~C~~County ~~A~~Attorney shall, upon order of the ~~board of supervisors~~Board of Supervisors, or on his own initiative, ~~immediately~~ commence all necessary actions or proceedings for the abatement, injunction and removal thereof in the manner provided by law, shall take such other lawful steps and shall apply to such court or courts as may have jurisdiction to grant such relief as will abate, enjoin and restrain any person, firm, or corporation from setting up, developing, erecting, building, moving, or maintaining any such building or using any property contrary to the provisions of these subdivision regulations, or otherwise violating these regulations.

(Ord. No. 120606-SR , § 1306)

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PINAL COUNTY
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Pinal County Subdivision and Infrastructure Design Manual 2023

Revisions:

Pinal County

Subdivision and Infrastructure Design Manual

2023

The Pinal County Board of Supervisors may from adopt revisions to this document at the request and/or recommendation of the County Engineer, dates of revision are documented below. A description of amendments are more thoroughly explained in “Appendix A” in this Manual.

Revision Date and Resolution Number:

Acknowledgments

Board of Supervisors

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A Special thanks to Public Works & Community Development staff
who contributed to this document too numerous to list here.

The 2023 Subdivision and Infrastructure Design Manual is Approved To Form:

Chris Wanamaker, County Engineer

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PREFACE

The Pinal County Subdivision & Infrastructure Design Manual introduces the processes associated with land development in the unincorporated areas of Pinal County. The Pinal County Subdivision Regulations and the Pinal County Subdivision & Infrastructure Design Manual have been adopted by the Pinal County Board of Supervisors.

The Pinal County Subdivision & Infrastructure Design Manual is intended to provide guidance and direction to the development community in the preparation of subdivision plats and infrastructure improvement plans.

The Pinal County Subdivision & Infrastructure Design Manual sets forth Pinal County standards and policies for infrastructure design, and assists in the preparation of the technical plans and reports for submittal to and approval by Pinal County.

The 2023 Pinal County Subdivision & Infrastructure Design Manual clarifies and supplements requirements in the Pinal County Codes including the Subdivision Regulations, Zoning Ordinance, Drainage Ordinance, Storm water and Floodplain Regulations, and other regulations for land development within the unincorporated areas of Pinal County.

CHAPTER 1 ADMINISTRATION, DEFINITIONS AND REFERENCES

1.1 Administration.

1.1.1 Applicability:

All applications for subdivision approval that have been accepted as complete, including Tentative or Final Plats, and are under County review on the effective date of this Manual shall be reviewed under County regulations existing at the time of acceptance. This Manual will apply if, during plat review, any approvals lapse or processing deadlines expire. This manual shall also apply to any residential, commercial, or industrial Site Plans having improvements within, adjacent, or connecting to the public right of way

1.1.2 Conflict:

This Manual is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulations, statute, or other provision of law except as provided in this Manual. Where any provision of this Manual imposes restrictions different from those imposed by any other provision of law, the provision that is more restrictive or imposes higher standards upon the development and use of land shall control.

1.1.3 Severability:

If any section, sub-section, sentence, clause, phrase, term, part or provision of this Manual is held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall be confined in its operation to the section, sub-section, sentence, clause, phrase, term, part or provision or application directly involved in the controversy or validity of the remaining portions of this Manual or the application thereof to other persons or circumstances.

1.1.4 Flexibility Provisions:

The County Engineer may approve alternate specifications for public improvements for special circumstances as provided in Title 3. The County Engineer or their designee may prescribe an application process for an alternate standards request.

1.2 General Information & Rules.

1.2.1 Words used in the present tense shall include the future.

1.2.2 Words used in the singular number shall include the plural.

1.2.3 Words in the plural shall include the singular.

1.2.4 Words in the masculine gender shall include the feminine gender, corporate or other form.

- 1.2.5** The word "shall" is mandatory and not discretionary.
- 1.2.6** The word "may" is permissive.
- 1.2.7** The particular controls the general.
- 1.2.8** Enumeration is not limited. The word "herein" means "in this manual" and the word "regulations" means "the Pinal County Subdivision Regulations".
- 1.2.9** The word "person" includes a corporation, a partnership, and an unincorporated association of persons such as a club.
- 1.2.10** The words "used" or "occupied" as applied to any land or building shall be construed to include the words "intended, arranged, or designed to be used or occupied".

1.3 Definitions.

For the purpose of this manual, certain words, phrases, terms, and abbreviations shall have special meaning as defined herein, unless the context requires otherwise:

- 1.3.1 ADEQ:** The Arizona Department of Environmental Quality.
- 1.3.2 ADOT:** The Arizona Department of Transportation.
- 1.3.3 ADWR:** The Arizona Department of Water Resources.
- 1.3.4 All Weather Access:** Road Roadway designed to convey discharge from a specific design storm beneath the roadway, with the 100-year storm conveyed in combination of culvert and overland flow at specific depths as specified in the Pinal County Drainage Ordinance.
- 1.3.5 A.L.T.A. / A.C.S.M.:** American Land Title Association / American Congress on Surveying and Mapping
- 1.3.6 ASLD:** The Arizona State Land Department
- 1.3.7 Board:** The Board of Supervisors of Pinal County.
- 1.3.8 Buffer:** A strip of land established to protect one type of land use from another land use or to provide screening. Normally, a buffer yard is landscaped and developed in open space areas.
- 1.3.9 CAG:** Central Arizona Governments

- 1.3.10 CD:** Compact Disk used to submit electronic versions of documents
- 1.3.11 Clerk of the Board:** The Clerk of the Pinal County Board of Supervisors.
- 1.3.12 CLOMR:** A Conditional Letter of Map Revision issued by FEMA. A CLOMR is a letter from FEMA commenting on whether a proposed project, if built as proposed, or proposed hydrology changes would meet minimum National Flood Insurance Program standards.
- 1.3.13 Commission:** The Pinal County Planning and Zoning Commission.
- 1.3.14 Community Development:** The Community Development Department of Pinal County
- 1.3.15 Community Development, Director:** The Director of the Community Development Department of Pinal County or his/her designee
- 1.3.16 County:** Pinal County, a political subdivision of the State of Arizona.
- 1.3.17 County Engineer:** The Pinal County Engineer or designee.
- 1.3.18 Cul-de-sac:** A non through road or street, typically with only one access point and with a large radius at it's terminus for vehicle turn around. Such roads may be augmented with landscape islands, parking, or similar features intended to minimize the effects of an otherwise large paved surface.
- 1.3.19 Division:** Individual unit of the Community Development Department
- 1.3.20 FEMA:** The Federal Emergency Management Agency
- 1.3.21 Grade:** The slope of a road, street, or way specified in percentage terms.
- 1.3.22 G&SRB&M, Pinal County, Arizona:** Gila and Salt River Base and Meridian.
- 1.3.23 LOMR:** Letter of Map Revision issued by FEMA. A LOMR A LOMR is a letter from FEMA officially revising the current NFIP map to show changes to floodplains, regulatory floodways, or flood elevations. Reference Code of Federal Regulations Title 44 Parts 60, 65, and 72. A community or individual can request a LOMR to update the following:
- A. Flood Hazard Boundary Map
 - B. Flood Insurance Rate Map
 - C. Flood Boundary and Floodway Map
 - D. Flood Insurance Study Report
- 1.3.24 MAG:** The Maricopa Association of Governments.
- 1.3.25 Non-Potable Water:** means, water that does not meet Federal Environmental Protection Agency drinking water standards for human consumption.

- 1.3.26 PAD:** means, a Planned Area Development meeting the requirements of Title 2 of the PCDSC.
- 1.3.27 Panhandle lot:** also known as a flag lot, is a lot with street frontage that is less than 40% of its required width.
- 1.3.28 Potable Water:** means, water that meets Federal Environmental Protection Agency drinking water standards for human consumption
- 1.3.29 Public Works Department:** The Pinal County Department of Public Works.
- 1.3.30 Public Works Director:** The Pinal County Public Works Director or designee.
- 1.3.31 Regulations:** The Pinal County Subdivision Regulations and as applicable the Pinal County Development Services Code
- 1.3.32 Right-of-Way:** An area of land which by deed, conveyance, agreement, dedication, or process of law is dedicated to Pinal County for public purposes including, but not limited to, streets, highway, public utility, pedestrian facility, bikeway or drainage.
- 1.3.33 SCMPO:** Sun Corridor Metropolitan Planning Organization.
- 1.3.34 State:** State of Arizona.
- 1.3.35 Street, Parkway:** Designed for relatively uninterrupted, high-volume mobility with few grade separated traffic interchanges.
- 1.3.36 Street, Arterial:** A general term including section line, major streets, state or county highways providing a system for through traffic movement.
- 1.3.37 Street, Collector:** Provides the traffic movement within neighborhoods, between major streets and local streets, and for direct access to abutting property.
- 1.3.38 Street, Local:** Provides for direct access to residential, commercial, industrial or other abutting land; primarily for local traffic movements with connections to collector streets.
- 1.3.39 Structures:** Anything constructed or erected which requires location on or in the ground or is attached to something having a location on the ground. Structures do not include ditches and their appurtenances, poles, lines, cables, or transmission or distribution facilities of public utilities, freestanding mailboxes, on-grade slabs, walks, driveways, landscaping materials or fences.

1.4 References.

The user should always refer to the latest version of all publications.

- American Association of Nurserymen
- American Association of State Highway and Transportation Officials (AASHTO), Policy on Geometric Design of Highways and Streets
- Arizona Administrative Code Title 18, Chapter 9, Articles 2 & 3
- Arizona Nurserymen's Association
- Arizona Supplement to the current Manual on Uniform Traffic Control Devices (ADOT),
- Guide to Standardized Highway Lighting Pole Hardware; (AASHTO)
- International Fire Code
- All ICC codes as applicable per the discretion of the Community Development Director
- MAG Uniform Standard Details for Public Works Construction
- Manual of Approved Signs; (ADOT)
- Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD)
- Roadway Lighting Design Guide; (AASHTO)
- Pinal County Drainage Manual
- Regionally Significant Routes for Safety and Mobility Final Report and Access Management Manual.
- Signs and Marking – Standard Drawings; (ADOT)
- Standard Specifications for Road and Bridge Construction Manual, (ADOT)
- Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals; (AASHTO)
- Traffic Control Manual for Highway Construction and Maintenance; (ADOT)
- Traffic Controller Assemblies with NTCIP Requirements TS2-1998, National, Electrical Manufacturers Association
- Traffic Engineering Policies, Guidelines and Processes; (ADOT)
- Traffic Signals and Lighting and Signing and Marking – Standard Drawings; (ADOT)
- Electrical Manufacturers Association
- Uniform Standard Specifications and Details for Public Works Construction As Published by Maricopa Association of Governments

CHAPTER 2 DEVELOPMENT CLASSIFICATION

2.1 General Information:

The design guidelines that apply to each development may vary depending on the intended land use. This chapter notes the criteria used to classify each development as a residential, commercial or industrial subdivision.

2.2 Residential Subdivisions:

Residential subdivisions are those where property is used for single family or multi-family dwellings regardless of the zoning classification. Residential condominiums shall be platted per A.R.S. § 33-1219.

2.3 Commercial or Industrial Subdivisions:

In general, any subdivision whose intended use is not for residential dwellings shall be considered a commercial or industrial subdivision for the purpose of this Manual.

2.4 (Reserved for “Specific Site Plan Review”)

CHAPTER 3 TENTATIVE SUBDIVISION PLAT REQUIREMENTS

3.1 General Information.

The Tentative Plat stage for land subdivision involves detailed subdivision planning, including the submittal, review and approval of the Tentative Plat. This chapter covers various requirements for preparation of the Tentative Plat. In addition to the requirements of Title 3, Pinal County Subdivision Regulations, the following requirements apply. Also, any proposed subdivision intending to alter any existing floodplain, as shown on the current FIRM panels, shall be required to provide a hydrologic and hydraulic analysis to be done in accordance with standard engineering practice in Pinal County as well as FEMA as part of a Conditional Letter of Map Revision (CLOMR). CLOMR must be submitted to Pinal County at time of Final Plat submittal. FEMA approval of the CLOMR shall be supplied to the Flood Control District prior to the approval of the subdivision's Final Plat. After construction of the proposed improvements is complete, a Letter of Map Revision (LOMR) shall be prepared and submitted to Pinal County as well as FEMA. FEMA approval of the LOMR must be supplied to the Flood Control District prior to the issuance of any building permits for structures within the subdivision.

3.2 Tentative Plat Format.

The Tentative Plat shall be in the following format and may be submitted digitally (See Exhibit 3.1 for cover sheet layout for Tentative & Final Plats)

- 3.2.1** Tentative Plats shall be submitted on two or more sheets of 24"x36". Clearly and legibly drawn to show all required details at a scale not greater than 100 feet to an inch. No architect or uncommon scale will be accepted.
- 3.2.2** When two or more sheets are used, the number of sheets must be noted on the bottom right corner (i.e. sheet of sheets).
- 3.2.3** Plats must be drawn with the north direction toward the top, or the right of the sheet. A graphical scale will be located directly below the North arrow. All text shall be oriented to be readable from the bottom or the right of the sheet.
- 3.2.4** Provide a location map (small scale vicinity map) which includes, but not limited to:
 - A.** The subject property, centered and identified, within a minimum one square mile area;
 - B.** Adjacent conditions, subdivisions, unsubdivided land, and schools, etc.;
 - C.** Major streets, rivers, reservations, national forests, railroads and school sites;
 - D.** Section, township and range of the subject plat;
 - E.** Label sections;

- F. A North arrow, oriented with the north toward the top or the right of the sheet;
- G. The city, town or other jurisdictional limits, where applicable;
- H. A reference key or legend, if the plat has more than one sheet. Indicate the area covered by each sheet; and
- I. Access to the subject property.

3.2.5 Provide a Title Block, located at the top of each sheet including:

- A. The name of the subdivision.
- B. Lot numbers, i.e. lot numbers ____ (units or blocks) through ____ and common areas.
- C. On cover sheet only, a brief legal description, including the Section, Township and Range reference (G&SRB&M, Pinal County, Arizona). If the proposed subdivision is a replat of an existing plat of record, include full information on the original plat, including which lots are being replatted.
- D. Labeled as "Tentative Plat".

3.2.6 A replat cannot bear exactly the same name as its precedent subdivision. If a subdivision is recorded and subsequently re-recorded, the second plat must bear a slightly different name from the original (i.e. "replat of" in front of the subdivision name). Subdivisions platted separately but representing phases of a project can bear the same name, so long as the lot numbers are sequential, or the name is followed by "unit" and a unit number only.

3.2.7 The subdivision boundary line, boundary lines of lots and common areas shall be drawn with a solid line. All easements lines and existing lot lines (if a replat) shall be shown with a dashed line. The subdivision boundary line width should be bolder (wider) than any other line on the plat.

3.2.8 Name, registration number, seal and signature of the land surveyor or other professional licensed and registered in the State of Arizona who is eligible to be responsible for conducting the land survey and preparing the Tentative Plat.

3.3 General Requirements.

3.3.1 Planning Division

- A. Name, address, zip code, and phone number of persons involved in the tentative plat application (e.g. owner, subdivider, engineer, land surveyor, preparing the plat, including the registration number).
- B. Date of preparation including dates of any subsequent revisions.

- C.** Site data, including gross area of proposed subdivision, number of lots proposed, approximate area of the open space, and other proposed non-residential uses.
- D.** Proposed lot lines, typical and minimum lot sizes, for each type of proposed lot and density (lots per gross acre).
- E.** Typical lot layout, including minimum building setback lines related to all right-of-way; dimensions of all corner lots and lots on curvilinear sections of street; each lot numbered individually and total number of lots shown.
- F.** Show and label existing uses of land and zoning district classifications and uses on and immediately adjacent to the subdivision site. All lots must be consistent with zoning requirements. If more than one zone is involved, provide the number of acres within each zone, and identify the lots within each zone. If rezoning has been filed, provide designation of proposed zoning district and rezoning case number.
- G.** Reference by dimension and bearing to section corners and quarter- section corners.
- H.** Provide benchmark location, description, and elevation. Elevations shall be based on North America Vertical Datum 1988 (NAVD 88). Upon adoption of a newer national standard the County Engineer may at his/her discretion require conversion to the new standard or by policy adopt the new standard.
- I.** The subdivision boundary lines will be labeled with distances and bearings.
- J.** Record name, record date, and book and page or cabinet and slide or fee number of adjacent subdivisions or the names of record owners of adjoining parcels of unsubdivided land with Assessor Parcel Number (APN).
- K.** List and label area, to be shown as tracts, if any, to be reserved or dedicated for parks, open spaces, playgrounds, schools, fire stations or other public uses.
- L.** If a plat includes land for which multi-family, commercial or industrial use is proposed, such areas shall be clearly designated on the plat.
- M.** Designate existing use of property and area and number of tracts, if any, to be excluded or abandoned from the proposed subdivision.
- N.** All lots shall utilize a lot numbering system to be numbered consecutively throughout the plat. Exceptions such as tracts and private parks shall be so designated, lettered or named, and clearly dimensioned. Ownership and maintenance responsibilities for tracts and private parks shall be indicated on the plat.
- O.** Label, city limits, well sites and vacant areas (state land, federal land, etc.).

- P. Lots backing or siding on streets may require tracts to allow for Public Utility Easements (PUE's) and landscaping.
- Q. Show location of all proposed monument signs.
- R. All existing or proposed streets shall be identified by street names.
- S. Include zoning information such as building height, minimum lot area, minimum lot width, minimum front yard setback, minimum side yard setback, minimum rear yard setback, and percentage of open space.

3.3.2 Engineering Division

A Tentative Plat shall contain the following information, and be accompanied by an A.L.T.A./A.C.S.M. Title Survey:

- A. Location and widths of all existing or proposed right-of-way, streets, intersections, and other ways, drainage ways, if any, and other rights-of- ways and easements, whether public or private and their purposes, within and adjacent to the tract, including all connections to adjoining platted or un-platted tracts, railroad rights-of-way and other important features such as section lines, political subdivision or corporate lines.
- B. Show all centerline data (delta, length, and radii), roadway dimensions and property line data (delta, length, and radii and/or radial bearing if not tangent).
- C. Designation of all land to be dedicated, provided, or reserved for public uses (including all easements, with the use(s) indicated).
- D. Identification of all utility services in and for the subdivision, both existing and proposed; source of utilities service provider table; and whether such utilities will be underground or above ground.
- E. Any relocating, modification, etc., of the existing utilities and/or improvements required by this subdivision development will be paid by the subdivider.
- F. Information sufficient to locate accurately the property shown on the plat, with reference to survey markers or monuments, and bearings and distances.

- G.** When lots are greater than one acre, existing and proposed contours at an interval and accuracy acceptable to the County Engineer shall be provided. When any of the lots are one acre or less, the following contour intervals shall be required and be sufficient to indicate drainage for all lots and streets. Contours taken from U.S. Geological Survey maps are not acceptable.
- | | | |
|-----------------------|----------|-------------------|
| 1. Gradual slopes | 0 to 2% | 2-foot intervals |
| 2. Medium slopes | 2 to 15% | 5-foot intervals |
| 3. Steep slopes above | 15% | 10-foot intervals |
- H.** Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend approximately 100' beyond property boundary.
- I.** At intersections with streets, show cross corner sight visibility triangle easement with appropriate dimensions and clearly indicate building setbacks in these locations.
- J.** All existing and proposed easements (with their dimensions, purposes, whether they are private, public or specific and recording information for existing easements) will be shown on the plat. Easements which are no longer used and obsolete should be cleared from the title prior to Final Plat recordation.
- K.** Identify drainage flows across or along proposed or existing streets and adequate access during flow times must be shown.
- L.** All existing drainage patterns affecting the land included in the Tentative Plat must be shown. A preliminary location of the proposed storm drain system shall be shown.
1. If any part of the storm water flow is to be handled by an underground storm drain system, the tentative location of the inlets, must be shown.
 2. Development must be in accordance with the current Pinal County Drainage Ordinance.
- M.** Paved all weather roads shall be provided to all lots within this subdivision.
- N.** Vicinity map showing proposed subdivision and surrounding subdivisions and major streets located within a ½ mile radius.
- O.** Legend identifying symbols.
- P.** Basis of Bearings.
- Q.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.

- R. Property line minimum radii shall be 25' or 50' (for all arterial intersections).
- S. Sight Visibility Triangle Easements (SVTE) shall be 21' x 21' (local to local) and 33' x 33' (for all others).
- T. Minimum right-of-way (ROW) width dimensions shall be: major arterials - 150' ROW; minor arterials (section lines) - 110' ROW; major collectors (mid-section lines) - 80' ROW; minor collectors - 60' ROW; and local streets - 50' ROW. (Refer to exhibits in this manual for cross sections)
- U. Intersection spacing along an Arterial shall be approximately every 1,320' (1/4 mile) or as specified in the most recent Regionally Significant Routes for Safety & Mobility Manual.
- V. Avoid street jogs with centerline offsets of less than 135'. Collector or another arterial street intersecting with an arterial street should align if possible or meet the minimum requirement for spacing along an arterial.
- W. Local Streets are not permitted to intersect with an Arterial Street.
- X. Residential lots shall front only local streets.
- Y. Intersections shall intersect at right angles if possible, but no less than 75 degrees.
- Z. Maximum length of a Cul-de-Sac is 500 ft. Minimum right-of-way radius for Cul-de-Sac and its returns is 50'. **See Exhibit 6.7.**
 - 1. Show all location and description of primary control points of reference. At least two corners of the subdivision shall be tied by bearing and distance to a section corner, a quarter section corner, or established city or county survey monument.
 - 2. Show location and description of street centerline monuments and other survey points in place.
 - 3. Show surrounding land around subdivision to include, but not limited to, existing right-of-ways, existing easements, existing plats and other properties.
 - 4. Public Utility Easements (PUE) shall be a minimum 8' wide. PUE's are to be located outside the rear and side of all lots.
 - 5. 1' vehicular non-access easement (VNAE) shall be dedicated on all lots adjacent to or backing up to any tract, drainage feature, Collector Street and Arterial Street.
 - 6. Survey monuments are required on monument lines at intersections, PC's, PT's, and PI's. Also required at knuckles or Cul-de-Sacs.

3.3.3 Pinal County Flood Control District.

A Tentative Plat shall contain the approximate boundaries of all areas subject to flooding as designated by FEMA Special Flood Hazard areas and the location and extent of all water courses and the nature of the water flow whether continuous, intermittent or sporadic.

3.3.4 Building Safety Division and Aquifer Protection Division.

A Tentative Plat shall contain the following information:

- A.** It shall be the responsibility of the subdivider to furnish the County Aquifer Protection Division and Arizona Department of Environmental Quality, (ADEQ) such evidence as those departments may require for their satisfaction as to the design and operation of sanitary sewage facilities proposed. A statement as to the type of sewage disposal facilities proposed shall appear on the Tentative Plat. In subdivisions which are proposed to be served by individual lot septic tanks, percolation tests and test boring logs in accordance with the requirements of the County Aquifer Protection Division and ADEQ shall be taken within the proposed subdivision.
- B.** It shall be the responsibility of the subdivider to furnish the County Building Safety Division such evidence as that department may require for its satisfaction as to the design and construction of connections to sewage facilities.
- C.** If a portion of the subdivision is to be used for a water supply facility, it shall be so indicated on the plat.

3.3.5 Fire District in which the Subdivision is located or the Supplier of the existing or proposed fire protection.

- A.** The Tentative Plat shall contain the identification of method and source of fire protection as needed to meet applicable Fire District requirements.
- B.** The service provider shall provide a letter indicating if the provider is an official provider approved by the State of Arizona

3.4 General Notes.

3.4.1 Planning Division.

- A.** The gross area of the subdivision is _____ acres.

- B. Zoning Information: Zoning is _____. (If more than one zone is involved provide the number of acres within each zone, and identify the lots within each zone.)
- C. The number of lots is _____.
- D. The approximate area in acres and percentage of total plat area of parks, recreation areas, drainage ways, open space and all other proposed non-residential uses.

3.4.2 Engineering Division.

- A. Street name [to be inserted] is the nearest paved access maintained by the County which serves this subdivision. It is _____ miles/feet away from or adjacent to, this subdivision.
- B. Any relocating, modification, undergrounding, etc., of the existing utilities and/or improvements required by this subdivision development will be paid by the subdivider.
- C. Note any proposed abandonment of public rights-of-way. Abandonment of any public rights-of-way must follow Title 7 Chapter 7.10, Roadway Disposition, of the Pinal County Code.

3.4.3 Building Safety Division and Aquifer Protection Division

A. If Public Sewers:

1. Prior to the issuance of building permits, all connections to public sanitary sewer facilities will be constructed in accordance with plans approved by the County Building Safety Division.
2. Prior to the issuance of any Certificate of Occupancy building permits, all public sanitary sewer facilities shall have received an Approval of Construction from the County Aquifer Protection Division, and Certificate of Approval of Sanitary Facilities from ADEQ.

B. If Private Sewers:

1. Onsite sanitary sewers will be constructed, operated and maintained on a private basis, except public sewers within public sewer easements or rights-of-way. The location and method of connection to an existing public sanitary sewer is subject to review and approval by the County Building Safety Division at the time of submittal of plumbing or building plans. The size, location and construction of septic tanks are subject to review and approval of the County Aquifer Protection Division, CAG and ADEQ at the time of Building Permit Application.

2. A Third party shall be utilized to accept responsibility and liability for construction, maintenance, operation, and control of all private sewers located in private sewer easements or private rights of way. The third party must be the sole owner and/or responsible party for the sewer system.
3. Statement regarding the location, collection, method of sewage disposal and the distance to the nearest solid waste disposal area by road. Identify the party or agency having operating jurisdiction.
4. A statement as to the type of domestic water supply facilities, both existing and proposed, and the name of the provider shall be placed on the plat.

3.5 Special Notes.

3.5.1 Planning Division

- A. If any variance, waiver or special use permit approval is received, add a note stating who approved it, what was approved, and when it was approved and the case number. Provide a copy of the minutes on each official action with the Tentative Plat.
- B. Indicate FEMA Flood Zone(s) designation.
- C. Minimum lot size _____ square feet.
- D. The following lots are subject to Hillside Development Design: [list lots]

3.5.2 Building Safety Division and Aquifer Protection Division

- A. Public Sewers:
 1. The required off-site public sanitary sewer line will be designed and constructed to ADEQ criteria.
 2. The required off-site public sanitary sewer augmentation will be designed and constructed to ADEQ criteria.
 3. All sanitary sewers will be designed to provide gravity flow. (This note to appear if invert and rim elevations are not shown on preliminary sewer plans).
 4. The relocation, if any, of public sewers will be constructed, inspected, completed, and approved by ADEQ prior to issuance of County building permits.

5. The relocation of the existing public sewer is being done for the convenience of the subdivider.

B. Private Sewers:

1. The required offsite sanitary sewer line will be constructed operated and maintained on a private basis. The location and method of connection to an existing public sanitary sewer is subject to review by the County Building Safety Division at the time of submittal of plumbing or building plans.
2. Sewerage disposal for lots ____ through ____ will be by private individual disposal systems.

C. Drywells:

1. The following statement shall appear on all plats for developments which uses drywells:

All drywells shown on this plat shall be regularly maintained by the owner and are to be replaced by the HOA/Owner when they cease to drain the stored surface water in a 36-hour period. Annual inspection and maintenance of the dry well silting chamber is required.

3.5.3 Flood Control District

A. Floodplains:

Floodplains shall be delineated on the plat (if applicable). Where delineated floodplains are shown, the following statement shall appear on the plat: "The Flood Insurance Rate Map (FIRM) information provided herein is based upon the maps published by the Federal Emergency Management Agency (FEMA) in effect at the time this plat was recorded. Note that newer versions of the FIRMs may have been published after the recordation of this plat."

B. Flood Zone:

Indicate Flood Zone designation(s), FIRM panel number(s), community number, panel effective date(s) and index map date.

3.6 Other Information.

During the course of staff review of the tentative plat additional information or notes may be required to carry out the purpose and intent of the Pinal County Subdivision Regulations.

CHAPTER 4 SPECIFICATIONS FOR FINAL PLAT

4.1 General Information.

The final plat stage includes the final design of the subdivision, engineering plans for the public improvements and submittal of the subdivision improvement plans to the Pinal County Development Services Department. In addition to the requirements of Title 3, Pinal County Subdivision Regulations, the following requirements apply.

4.2 Final Plat Format.

- 4.2.1 The original of the Final Plat shall be drawn in black suitable ink on polyester or mylar, and shall include all affidavits, certificates, endorsements, and acknowledgments. All signatures shall be signed in black suitable ink, with the ink surface coated with a suitable substance when used on polyester based film to assure permanent legibility. Copies of the record plat shall be reproduced in the form of blueline or blackline prints on a white background. Copies submitted for review may be submitted digitally.
- 4.2.2 Where necessary the plat may be on several sheets. The size of each sheet shall be 24"x36" in size with a left margin of one and one-half (1½) inches and be drawn to an accurate scale not to exceed 100 feet to an inch.
- 4.2.3 The subdivision boundary line, boundary lines of lots and common areas shall be drawn with a solid line. All easement lines and existing lot lines (if a replat) shall be shown with a dashed line. The subdivision boundary line width should be bolder (wider) than any other line on the plat.
- 4.2.4 The number of sheets must be so noted at the bottom, right corner of each sheet comprising the final plat, i.e., "sheet of sheet(s)".
- 4.2.5 North arrow and scale (both written and graphic). Each sheet comprising the final plat should be oriented with north toward the top of the page, or the right and include a north arrow on each sheet. The scale should be shown beneath the north arrow. All text should be readable from the bottom and the right side of the sheet.
- 4.2.6 **Cover Sheet:**

Every Final Flat shall have a cover sheet either as a separate page or as part of the Final Plat. **(See Exhibit 3.1 for cover sheet format for Tentative & Final Plats)** Said cover sheet shall contain the following:

- A. The name or title under which the subdivision is to be recorded. The name or title of the subdivision shall not duplicate the name of any existing subdivision. A replat cannot bear exactly the same name as its precedent subdivision. If a subdivision is recorded and subsequently re- recorded, the second plat must bear a slightly different name from the original (i.e. "replat of" in front of the subdivision

name). Subdivisions platted separately but representing phases of a project can bear the same name, so long as the lot numbers are sequential, or the name is following by "unit" and a unit number only.

- B.** Below the title shall be a sub-title consisting of a general description of all the property being subdivided, by reference to subdivisions or to sectional surveys.
- C.** References to subdivisions shall be worded identically with original records, with references to the record name, record date and book and page, or cabinet and slide of the adjoining subdivision(s).
- D.** Affidavits, certificates, acknowledgments, and endorsements, acceptances of dedication and Notaries' seals required by law and by this Manual.
- E.** A vicinity map showing the proposed subdivision and surrounding subdivisions and streets located within a one-half mile radius of the boundaries of the proposed subdivision.
- F.** A legend which describes all symbols used.
- G.** Planning Division case numbers.
- H.** Basis of bearings.
- I.** Pinal County Recorder's Block required on the upper right corner for each page of the final plat. **(See Exhibit 3.1)**
- J.** General Notes.
- K.** Benchmark.
- L.** Base Zoning & Zoning Case Number.
- M.** Location Map.
- N.** Approvals.
- O.** Declaration, Title Warrant and Dedication.
- P.** Developer, Owner and Engineer contract information.

4.2.7 A title block shall appear on each of the remaining sheets comprising the Final Plat, if any, consisting of:

- A.** The name of the subdivision.
- B.** The number of lots, units, blocks or common areas (whichever is applicable)

- C. A brief legal description, including the Section, Township and Range reference (G&SRB&M, Pinal County, Arizona). If the proposed subdivision is a replat of an existing subdivision, include full information on the replat, including which lots are being resubdivided.

4.3 General Requirements. (Items in *Italics* are required text)

4.3.1 Planning Division

- A. Name, registration number, surveyor seal, and signature of the land surveyor or engineer licensed and registered in the State of Arizona who is responsible for conducting the land survey and preparing the Final Plat. This shall be provided on each sheet.
- B. Name and registration number of the land surveyor licensed and registered in the State of Arizona who is responsible for the surveying that is necessary in preparation of the proposed subdivision.
- C. Date of plat preparation.
- D. Primary control points or descriptions and ties to such control point, to which all dimensions, angles, bearings, and similar data on the plat shall be referred, and where a coordinate system shall have been established by the County Engineer, primary control points shall have been referenced thereto; at least two corners of a subdivision shall be tied by bearing and distance to a section corner, a quarter section corner, or established city or county survey monument, and the final plat must include a description of the corner marker, and indicate how the bearings were determined.
- E. Any excepted lots or parcel(s) within the plat boundary shall be accurately described by bearings and distances. Proper street and alley dedications adjacent to any proposed tracts or excepted parcels shall be provided by the subdivider by inclusion within the plat or by separate dedication noted on the plat.
- F. Location and dimensions of all lots shall be shown. Lot dimensions shall be indicated for at least one side lot line and either the front or rear lot line when lots are rectangular or square. If lots are not rectangular or square all lot line dimensions shall be indicated. Typical minimum setback lines shall also be located and dimensioned. Such lot dimensions, areas or building setback lines shall not be less than required by the County Zoning Ordinance or building line regulations applying to the property. Minimum finished floor elevations shall be indicated on all lots subject to inundation of a 100-year storm.
- G. All required "Sight Visibility Triangle Easements" (SVTE) shall be indicated at street corners.
- H. Where a subdivision is part of a Planned Area Development (PAD), those standards approved by the Board shall be shown on the Final Plat.

- I. All lots shall utilize a block and lot numbering system or be numbered consecutively throughout the plat. Exceptions such as tracts and private parks shall be so designated, lettered or named, and clearly dimensioned. Ownership and maintenance responsibilities for tracts and private parks shall be indicted on the plat.
- J. The accurate outline of all property which is offered for dedication for public use with the purpose indicated thereon and all property that may be served by deed covenant for the common use of the property owners in the subdivision.
- K. Identify all the uses and types of development proposed.
- L. Name, Book and Page Number or Cabinet and Slide Number, or Fee Number of adjacent recorded subdivisions with location of existing adjacent lot, easements and rights-of-way show, or notation "unsubdivided" where appropriate.
- M. Lienholders' ratification.
- N. Identify and label all required tracts by letter designation.
- O. Provide the area of each lot, tract and common area. The area of the common area may be shown in the general notes.
- P. For final approval, submit one bond set and one set of mylars and one electronic copy (multi-page PDF) when requested in writing by the Planning Division.
- Q. Certification of survey with surveyor seal, signature, printed name, address and registration number of a land surveyor licensed and registered in the State of Arizona:

LAND SURVEYOR'S CERTIFICATION

I hereby certify that the survey and subdivision of the premises described and platted herein were made under my direction during the month of _____, 20____, and this plat represents the survey made. I further certify all exterior boundary monuments shown hereon actually exist and their location, size and material are accurately shown and are sufficient to enable the survey to be retraced.

[Type in name, address & phone number] Date:

Arizona Registered Land Surveyor, # _____

[apply seal, also sign & date seal]

- R. Agreement by owners of record that all lots will be staked and a certification of said staking filed with the Planning Division prior to issuance of any building permit:

It is agreed that prior to the sale of any lot or the issuance of any building permits, whichever occurs first, all lots will be accurately staked and marked, as designated on this plat, and a certification filed with Pinal County by an Arizona registered land surveyor certifying such lots are accurately staked and marked, as designated on this plat, and describing the type of markers used.

5. Dedication Requirements.

1. The following dedications are required, if applicable, for all subdivision plats.
2. All signatures shall be original and appear in black ink.
3. Dedications should be in substantially the standard language indicated below. Alternative language may be needed for exceptional circumstances.
4. Declaration statement:

DECLARATION, TITLE WARRANTY, AND DEDICATION KNOW ALL MEN BY THESE PRESENTS:

5. Statement of subdivision, including name of subdivision and legal description of property being subdivided:

***[name of fee title owner]**, a **[Type of company and state of incorporation]**, as owner has subdivided under the name of **[name of subdivision]** located in **[legal description of subdivided property]** as shown platted hereon and hereby declares this plat sets forth the location and gives the dimensions of the lots, tracts, streets, and easements constituting same and that said lots, tracts and streets shall be known by the number, letter or name given each respectively.*

6. Warranty of title for public streets and easements:

***[name of fee title owner]**, a **[Type of company and state of incorporation]**, is the owner of fee title in: (A) the property being dedicated on this plat to the public for roadway purposes and all incidentals thereto; and (B) the property upon or across which easements are being dedicated on this plat to the public. **[name of owner]** hereby warrants to Pinal County, a political subdivision of the State of Arizona, the title to such property against all persons, subject to all matters of record.*

7. Warranty of title for easements only [when streets are private streets only]:

***[name of fee title owner]**, a **[Type of company and state of incorporation]**, is the owner of fee title in the property upon or across which easements are being dedicated on this plat to the public. **[name of fee title owner]** hereby warrants to Pinal County, a political subdivision of the State of Arizona, the title to such property against all persons, subject to all matters of record.*

8. Dedication of public streets:

Streets shown on this plat are dedicated to the public for roadway purposes including, but not limited to, access, drainage, telecommunications and public utilities.

9. Dedication of right-of-way:

*A total of _____ feet from the center line of **[insert name of road]** along the **[insert one: east, west, south, north]** property line, as designated on this plat, is hereby dedicated as right-of-way (fee) to the public for roadway purposes including, but not limited to, access, drainage, telecommunications and public utilities.*

10. Dedication of sight visibility triangle easement for public streets:

Right-of-way sight visibility triangle easements as designated on this plat are hereby dedicated to the public at all intersections with a public street, 21' x 21' at local to local intersections and 33' x 33' at arterial or collector intersections with a public street.

11. Dedication of right of ingress and egress for emergency vehicles:

***[name of fee title owner]** hereby dedicates, grants and conveys rights of ingress and egress for all emergency vehicles and/or government vehicles over and across all private streets as designated on this plat.*

12. Dedication of vehicular non-access easement when adjacent to public tracts, public drainage easements, tracts or facilities or adjacent to public arterial or collector streets:

As designated on this plat, one foot wide negative easements prohibiting vehicular ingress and egress are hereby dedicated to the public upon all lots adjacent to public drainage easements, tracts, or facilities and/or adjacent to public arterial or collector streets.

13. Drainage easement dedication to the Public:

*Non-exclusive drainage easements are hereby dedicated to the public upon, over, across and through **[tracts and/or those areas designated as such hereon]**. No use shall be permitted within the drainage easements which would prohibit or interfere with the drainage use. Maintenance of the drainage easements shall be the responsibility of the **[insert name of homeowner's association]**. Should the association not adequately maintain the drainage easements, the governing entity having jurisdiction over the area in which the drainage easements are located, at its discretion, may enter upon and maintain the drainage easements, and charge the homeowners association the cost of the maintenance. All other easements are subordinate to the drainage easements.*

14. Public utility easement dedication:

Public utility easements are hereby dedicated to the public upon, over, under, across and through those areas designated as such hereon for the installation, maintenance, repair, and removal of underground utilities, including, but not limited to, water, sewer, gas, electric, and

telecommunications. Maintenance of the areas subject to such public utility easements shall be the responsibility of the lot or tract owner.

15. Water and/or sewer easements dedication [if not part of public utility easements]:

***[select and insert: Water and/or sewer]** easements are hereby dedicated to the public upon, over, under, across and through those areas designated as such hereon for the installation, maintenance, repair and removal of **[water/sewer]** lines. Maintenance of the areas subject to such easements shall be the responsibility of the lot or tract owner.*

16. Signature block for owner(s):

IN WITNESS WHEREOF:

[owner's name], a [Type of company and state of incorporation],** as owner, has hereunto caused its name to be affixed and has executed this subdivision plat by the signature of the undersigned, duly authorized, this day of _____, _____. **[INSERT NAME OF OWNER and type of company and state of incorporation]

By: _____

Title: _____

17. Acknowledgment block for owner(s):

On this day of _____, _____, _____ before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed this plat for the purposes therein contained.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

[Note: If a second and different company, corporation or partnership is the Manager for the owner, then the following acknowledgment will apply.]

On this day of _____, _____, _____ before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed this plat for the purposes therein contained.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

18. Ratification language (if applicable)

A. LIENHOLDER'S RATIFICATION

The undersigned is the holder of the beneficiary's interest under Deed of Trust dated and recorded on, as instrument No. _____, in the official records of the County Recorder of Pinal County, Arizona, and does hereby ratify this plat this _____ day of _____, _____.

[Insert beneficiary's name], [insert type of company and state of incorporation]

By: _____

Title: _____

On this _____, _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of **[insert beneficiary's name]** a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

[Note: If a second and different company, corporation or partnership is the Manager for the beneficiary, then the following acknowledgment will apply.]

On this _____, day of _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[Title of office held]** of **[name of second entity]**, a **[insert type of company and state of incorporation]**, as **[Manager]** for **[beneficiary's name]**, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entities, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

B. LIEN HOLDER'S RATIFICATION

_____, a **[insert type of company and state of incorporation]**, holds a lien on the real property identified in this plat by **[identify lien instrument]** and does hereby ratify this plat this _____, day of _____, ____.

[name and type of company and state of incorporation],

By: _____

Title: _____

On this _____, day of _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of **[INSERT name of lien holder NOT the landowner]**, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

C. RATIFICATION BY HOLDER OF OPTION TO PURCHASE

_____, a **[insert type of company and state of incorporation]**, holds an option to purchase certain real property identified in this plat and does hereby ratify this plat this _____, day of _____, _____, ..

[name]

By: _____

Title: _____

On this _____, day of _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of _____, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

D. [Ratification by holder of an equitable interest]

RATIFICATION

_____, a **[insert type of company and state of incorporation]**, holder of an equitable interest in the real property identified in this plat by **[Superior Court Case No. and Lis Pendens thereon]**, does hereby ratify this plat this _____ day of _____, _____.

[insert company name of lien holder and]

[insert type of company and state of incorporation]

On this _____, day of _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

19. Requirements and Notes.

The following are required, if applicable, for all subdivision plats. In addition these requirements must be set forth as notes on all plats. Notes should be in substantially the standard form below. Alternative language may be needed for exceptional circumstances.

A. Assured Water Supply Certificate in accordance with A.R.S. § 45- 576.

***[insert Owner's name]** has received a Certificate of Assured Water Supply for this subdivision pursuant to A.R.S. § 45-576, and submits said Certificate with this plat.*

[OR]

This subdivision is within the service area of [name of water supplier] which has been designated as having an assured water supply pursuant to A.R.S. § 45-576. A commitment to supply water service to this platted subdivision has been received from said company as evidenced by, a copy of which is submitted with this plat.

B. Private Streets Dedication.

*Streets shown as Tract(s) are private and shall be granted and conveyed to the **[name of homeowner's association]** for roadway purposes including, but not limited to, access, drainage, telecommunications and public utilities.*

C. Private Streets/Sight Visibility Triangle Easement.

*Right-of-way sight-visibility triangle easements, as designated on this plat, shall be granted and conveyed to the **[insert name of homeowner's association]** where private streets intersect into private streets, 21' x 21' at private local to local intersections and 33' x 33' at private arterial or collector intersections.*

D. Vehicular non-access easement.

*As designated on this plat, one foot wide negative easements prohibiting vehicular ingress and egress shall be granted and conveyed to the **[name of homeowners' association]** upon all lots adjacent to private drainage easements or facilities and/or adjacent to private arterial streets or collector streets.*

E. Trees, objects, structures, and landscaping within the right-of-way sight-visibility triangle easement.

No trees are permitted within the right-of-way sight-visibility triangle easements and no temporary or permanent object, structure or landscaping shall exceed twenty-four inches in height within the right-of-way sight-visibility triangle easements.

F. Common Areas.

*Tracts are common areas which shall be granted and conveyed to and maintained by the **[name of homeowner's association]**, an Arizona non-profit corporation.*

G. Structures in drainage easements.

No structure shall be constructed in nor shall other improvements or alterations be made to the storm water retention areas or to drainage easements without prior approval by Pinal County.

H. Storm Water Retention.

The storm water retention volumes required by the Pinal County Drainage Ordinance have been met and the overall gross retention volumes will not be changed without prior approval by Pinal County. Maintenance of the areas subject to storm water retention shall be the responsibility of the lot or tract owner.

I. Underground utilities.

All new or relocated utilities shall be placed underground.

J. Street Lighting/Landscaping.

*Maintenance of all street lighting and landscaping within the common area(s) and the street rights-of-way shall be the responsibility of the **[name of homeowner's association]**.*

K. Subdivision streets permits/inspections.

All subdivision streets, whether public or private, and work within the subdivision streets and within public rights-of-way require permits from and inspections by Pinal County.

20. Utilities Trench work.

All trench work within public utility easements require permits from and inspections by Pinal County.

21. Building Setbacks.

On all lots the owner and/or developer shall ensure that residential dwellings can fit within the building setbacks including bay windows, fireplaces, porches, covered patios, etc.

22. Fire Code.

This subdivision is subject to the requirements of the International Fire Code, as adopted by Pinal County and administered by the Pinal County Building Safety Division.

23. Agricultural Spray Easement (if applicable)

This subdivision is subject to an agricultural spray easement recorded by fee No. _____, in the official records of the County Recorder of Pinal County, Florence, Arizona.

24. School/Day Care (if applicable)

No school or day care centers shall be located within 1/4 mile of land in agricultural production requiring aerial spraying.

25. Model Homes (if applicable)

There will be a model complex, as an accessory use, on lots ____ through ____ inclusive. Lot ____ will be a sales center. Lot ____ will be a parking area, and lot ____ will be overflow parking. Lots shall be landscaped in conjunction with the parking. Upon completion of the site's use as a model complex, all lots will revert to residential units (upon build-out).

26. On-lot retention (if applicable on an acre size lot, or larger).

All lots in this subdivision require on-lot retention pursuant to the volume table on the plat.

27. Flight/noise (if applicable)

*This subdivision is in the vicinity of the flight pattern/noise corridors of the **[insert name of airport]** and in the future may continue to be within the flight pattern/noise corridor of the said airport.*

28. State land/Indian land (if applicable)

This subdivision is adjacent to [Arizona state land/Indian Community land], which may be developed for any possible land use in the future.

29. CC&Rs

*Covenants, conditions and restrictions were recorded on **[insert recording date]** by fee number _____ in the official records of the County Recorder of Pinal County, Arizona.*

30. APPROVALS

This plat has been approved as to form by:

_____	_____
<i>Pinal County Planning Division</i>	<i>Date</i>
_____	_____
<i>Pinal County Aquifer Protection Division</i>	<i>Date</i>
_____	_____
<i>Pinal County Engineer</i>	<i>Date</i>

Assurances in the form of have been submitted to Pinal County with this plat to guarantee installation of all required major infrastructure for this project.

This plat has been approved as to form in accordance with A.R.S. § 11-822, this ____ day of _____, _____. Approval or recordation of this plat shall not be deemed to constitute or effect an acceptance by Pinal County for designation of any street, highway, bicycle facility or other way or open space shown upon this plat into the County maintenance system.

PINAL COUNTY BOARD OF SUPERVISORS

By: _____	ATTEST: _____
<i>Chairman</i>	<i>Clerk</i>

31. Full Approval and Acceptance:

The Board of Supervisors of Pinal County, Arizona, hereby approves this plat as to form in accordance with applicable Arizona statutes and on behalf of the public accepts all parcels of land offered by dedication for public use in conformity with the terms of the offer of dedication. This approval or the recordation of this plat shall not be deemed to constitute or affect any acceptance by Pinal County for designation of any street, highway or other way or open space shown upon the plat into the county maintenance system.

_____	_____
<i>Chairman of the Board</i>	<i>Date</i>
ATTEST:	
_____	_____
<i>Clerk of the Board</i>	<i>Date</i>

- 32.** The following recording block shall be included on the cover sheet and all subsequent pages of the final plat.

RECORDING

State of Arizona)

) ss.

County of Pinal)

I hereby certify that this instrument is filed at the request of _____ on this _____ day of _____, 20____, by fee number _____ thereof at Pinal County

Recorder

_____ *Deputy*

4.3.2 Engineering Division

- A.** Tract boundary lines, right-of-way lines of streets, easements and other rights-of-way, and property lines of all lots, common areas and other sites; with accurate dimensions, bearings or deflection angles and radii, arcs, semi-tangents and central angles of all curves.
- B.** Names, centerlines, right-of-way lines, bearings, lengths and widths of all streets (public or private) and utility easements, radii, points of tangency and central angles of all curvilinear streets, and radii of all rounded street line intersections and identify as public or private.
- C.** All drainage ways shall be shown on the plat and identified as public or private and designate as onsite or offsite drainage.
- D.** Location and description of all permanent monuments, lot corners and other survey points in place.
- E.** Show and label all drainage easements and drainage ways with appropriate dimensions and bearings, width, purpose and recording information, and identify as public or private. Major drainage ways may be dedicated to the public upon recommendation of the County Engineer and with Board approval.
- F.** All tracts, easements, and drainage ways designated as private shall be maintained by the Home Owners' Association.
- G.** Signatures shall be in permanent black ink.
- H.** Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend approximately 100' beyond property boundary.

- I. Vicinity map showing proposed subdivision and surrounding subdivisions and streets located within a ½ mile radius.
- J. An overall key map to be provided to include proposed street names and neighboring properties to be noted as “UNSUBDIVIDED” if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- K. Property line minimum radii shall be: 25’ or 50’ (for all intersections with arterials).
- L. The minimum right-of-way widths shall be: Parkways – 200’ ROW, principal arterials - 150’ ROW; minor arterials (section lines) - 110’ ROW; major collectors (mid-section lines) - 80’ ROW; minor collectors - 60’ ROW; and local streets - 50’ ROW. **(See Exhibits contained in this manual for illustrations)**
- M. Intersection spacing along an arterial shall be approximately every 1,320’ (1/4 mile), or as specified in the most recent RSRS Document.
- N. Avoid street jogs with centerline offsets of less than 135’. Collector or another arterial street intersecting with an arterial street should align if possible or meet the minimum requirement for spacing along an arterial.
- O. Local streets are not permitted to intersect with an arterial street.
- P. Residential lots shall front only local streets.
- Q. Intersections shall intersect at right angles if possible, but no less than 75 degrees.
- R. Maximum length of a cul-de-sac is 500 ft. (measured from the centerline of the intersecting street to the radius point of the turnaround). Minimum right-of-way radius for a cul-de-sac and its returns shall be 50’.
- S. Plat shall show all locations, dimensions, and purposes of any existing and proposed easements and right-of-ways.
- T. Show surrounding land around subdivision to include, but not limited to, existing right-of-ways, existing easements, existing plats and other properties.
- U. Show Public Utility Easements (PUE) - minimum 8’ wide. PUEs are to be located in tracts outside the rear and side of all lots.
- V. Survey monuments are required at all street intersections and at the PCs and PTs of all curves.

4.3.3 Flood Control District

A. Floodplain

Floodplains shall be delineated on the plat (if applicable). Where delineated floodplains are shown, the following statement shall appear on the plat: “The Flood Insurance Rate Map (FIRM) information provided herein is based upon the maps published by the Federal Emergency Management Agency (FEMA) in effect at the time this plat was recorded. Note that newer versions of the FIRMs may have been published after the recordation of this plat.”

B. Flood Zone

Indicate Flood Zone designations(s), FIRM panel number(s), community number, panel effective date(s) and index map date.

4.4 Legal Survey.

The Final Plat shall be based on an A.L.T.A./A.C.S.M. Title Survey of the subdivision and shall conform to the conditionally approved Tentative Plat by the Commission, and the requirements and specifications of this manual, other applicable county ordinances and regulations, and applicable state and federal regulations.

(Pinal County does not have published benchmarks. If you are unable to find reliable National Geodetic Survey (NGS) benchmarks in the area you are working, Pinal County Survey suggests following the instructions for establishing ellipsoid heights found in NGS document NOS NGS-58 and establishing orthometric heights found in NGS document NOS NGS-59.)

4.4.1 Section Corners

Two (2) corners of the Final Plat shall be tied by bearing and distances to a separate section corner, quarter section corner or established city or county survey monument, as designated by the County Engineer. Additional data required as follows:

- A.** The survey ties shall be shown on the Final Plat and be ground measured bearings and distances. Pinal County will provide descriptions and coordinates of the control monuments for the section in which the subdivision is contained. Contact Pinal County Public Works GIS Section. Refer to the Pinal County Control Network on the Pinal County Public Works Website.
- B.** If monumentation of any existing Section Corner or Quarter Section Corner is other than a G.L.O. Brass Cap or Pinal County Cap, it may be replaced, at the expense of the Subdivider, under the supervision of a Land Surveyor, registered in the State of Arizona, with an Aluminum Cap or Brass Cap provided by Pinal County. Provide detail on Plat of all monumentation stamped per Arizona Boundary Survey minimum standards.

- C. All surveys shall be conducted as per the Arizona Board of Technical Registration Minimum Standards for Boundary Surveys.
- D. Any Section Corner or Quarter Section Corner monumentation disturbed or destroyed during construction of the subdivision or off-site improvements shall, at expense to the Subdivider, be replaced under the supervision of a Land Surveyor registered in the State of Arizona, with a monument provided by Pinal County. Provide detail on Plat of all monumentation stamped per Arizona Boundary Survey minimum standards.
- E. All Section Corner and Quarter Section Corner monuments set shall be marked with appropriate Corner information per Arizona Boundary Survey minimum standards.
- F. The subdivider shall, at his or her own expense, provide to Pinal County NAVD 88, State Plane, Arizona Central coordinate values in the form of a recorded Arizona Land Survey Corner Record, sealed by a Land Surveyor registered in the State of Arizona for any Section Corner or Quarter Section Corner set utilizing the following fields and precision:
 - Latitude/Longitude to 5 decimal places,
 - Northing/Easting to 3 decimal places,
 - Elevation to 2 decimal places,
 - A point description.
- G. All Final Plats shall be submitted in NAVD 88, State Plane, and Arizona Central data in the form of a recorded Arizona Land Survey Corner Record.
 - Northing/Easting to 3 decimal places,
 - Elevation to 2 decimal places,
 - A point description.

CHAPTER 5 GENERAL REQUIREMENTS FOR IMPROVEMENT PLANS

5.1 General Information.

Proposed development projects that involve construction of any infrastructure improvements (streets, grading and drainage facilities, utilities, etc.) are required to submit improvement plans and supporting reports to Pinal County for review, approval and permitting. This chapter describes the general requirements for all plans prepared for subdivision and infrastructure improvements in Pinal County. Other improvement plan requirements that are specific to the type of improvements proposed are identified in other chapters of this manual.

5.1.1 Improvement Plan Submittals

- A.** The improvement plans submitted to Pinal County for County Approval shall adhere to professional standards for submittal of complete improvement plans for construction. Improvement plans shall include all details, technical and drainage reports etc. Improvement plans that do not meet the professional standards or are incomplete will be returned by the County Staff without review comments and be classified as the subdivision's first submittal.
- B.** Improvement plans may be submitted digitally.

5.2 General Requirements.

- 5.2.1** Civil Engineering Standards: Pinal County uses the most current version of the Uniform Standard Specifications and Details for Public Works Construction as published by Maricopa Association of Governments (MAG) engineering standards for construction of public infrastructure, the US Department of Transportation, Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways, the Standard Specifications for Road and Bridge Construction, Arizona Department of Transportation and the State of Arizona Department of Transportation Signing and Marking Standard Drawings.

Document Size: Improvement plans shall be on 24" x 36" sheets with blue or black line types with a minimum of a 1 ½" left border and a ½" border on other sides.

- 5.2.2** Reports: All supporting or supplement reports shall be letter sized (8.5" x 11"). Any larger maps included within the reports are to be folded to letter size and bound or provided in a folder.
- 5.2.3** Final Approval Submittal: Improvement plans submitted for final approval shall be original 4 mil grade Mylar drawings. Plan submittals shall consist of one (1) Mylar cover sheet, one (1) bond copy and an electronic copy (multipage PDF). The County Engineer may authorize a "protected" PDF submittal in lieu of mylars.

- 5.2.4** Sheet Orientation: Plans shall be oriented with north towards the top or right of each sheet. A North arrow and scale (both written and graphic) shall be provided. All text should be readable from the bottom and the right of the sheet.
- 5.2.5** Text Designation: Minimum lettering and numbering size shall be 3/16" for manually drafted or 12-point font for mechanically/electronic produced letters, numbers and symbols. Lettering, numbering and line work must be uniform and with clear definition to be retrievable after microfilming.
- 5.2.6** Improvement Plan Designation: Separate improvement plans shall be provided for the following:
- A.** Paving and Storm Drain Improvements shall be on the same sheet.
 - B.** Water system improvements
 - C.** Sanitary sewer improvements
 - D.** Grading and Drainage improvements
 - E.** Traffic Signalization
 - F.** Traffic Signing and Pavement Marking improvements
 - G.** Open space, Recreational Amenities, Landscape and Irrigation improvements
 - H.** Streetlight and Electrical improvements
 - I.** Reclaimed Water
 - J.** Force Mains, Lift Stations, Pump stations and other water/waste water infrastructure
- 5.2.7** Drawing Scales: The following are standard minimum drawing scales to be used for improvement plans submitted to Pinal County. Note: The Engineer shall take into account when selecting drawing scales, line weights and lettering size that the improvement plans may be photocopied, microfilmed or digitally scanned. Depending on the complexity of the design, a larger scale maybe required.
- A.** Grading: 1" = 40' Horizontal
 - B.** Water and Sewer: 1" = 40' Horizontal 1" = 4' Vertical
 - C.** Paving and Storm Drain: 1" = 40' Horizontal 1" = 4' Vertical
 - D.** Traffic Signalization: 1" = 20' Horizontal

E. Traffic Signing and Pavement Marking: 1" = 40' Horizontal

F. Landscape and Irrigation: 1" = 30' Horizontal

5.2.8 All existing topography shall be screened. This will typically include existing contours with adequate spot elevations to show drainage, existing aerial and underground utilities, existing irrigation facilities, adjacent land uses, city limits, county limits where applicable, 100-Year Floodplain, flood elevations and floodway limits where applicable.

5.2.9 Plans shall show existing and proposed right of way, easements and property lines. Dimensions of these shall be clearly indicated.

5.2.10 New construction line work and construction notes shall be sufficiently heavier than existing topography so as to allow it to be quickly and clearly identified.

5.2.11 Grade breaks shall be clearly shown with the applicable symbol on the plan and/or profile sheets.

5.2.12 "Blue Stake" (Arizona 811) underground utility notification shall be provided on each sheet.

5.2.13 An individual cover sheet with the following information is required for each type of improvement plan.

A. Project heading block indicating name of project, type of plans. (Title to be consistent with the Final Plat).

B. Below the heading include the words "Pinal County, Arizona".

C. Title Blocks: All plan sheets shall note the project's title or address in a title block on the sheets lower right hand corner. Project addresses may be located either along the bottom of the sheet, or the right hand side of the sheet.

D. Developer's name, address, telephone number and contact person.

E. Engineer's name, address, telephone number and contact person.

F. Engineer's seal with signature and date. (Provided on each sheet).

G. Vicinity Map indicating the general location of the project with major arterial streets labeled and geographic orientation.

H. Provide the Section, Township and Range data.

I. Basis of bearings and benchmark (NAVD 88 datum).

- J.** Sheet Index.
- K.** County Case number (S-000-00) at the lower right hand corner.
- L.** Estimate of Quantities for all improvements.
- M.** Legend for symbols, abbreviations, grades and lines, etc.
- N.** Fire Department and Utility Company approval with signature block for Water, Sewer and Natural Gas. (Proof of Approval required prior to County approval)
- O.** Arizona Department Environmental Quality (ADEQ) approval block on Water and Sewer Improvement plans. Approval required prior to County approval.
- P.** Provide Pinal County Engineer Approval Block:

APPROVED BY:

PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

DATE

APPROVAL EXPIRES:

DATE

*Δ *RE-APPROVED BY:*

PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

DATE

APPROVAL EXPIRES:

DATE

Q. Provide a Record Drawing Certification Statement on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER: _____

5.3 Registrants Seal and Signature.

The County requires that all improvement plans, specifications and reports submitted for review shall be sealed in accordance with the requirements of the Arizona State Board of Technical Registration.

5.4 Plan Sheets.

Improvement plans for proposed construction shall consist of standard plan only sheets or standard plan and profile sheets. Plan sheets shall provide the following:

- 5.4.1** Professional Seal: Each sheet shall be sealed, signed and dated in accordance with the Arizona Board of Technical Registration requirements.
- 5.4.2** Title Blocks: All plan sheets shall note the project's title or address in a title block on the sheets lower right hand corner.
- 5.4.3** Dimensioning: Pinal County requires that all existing and proposed improvements shall be dimensioned in accordance with the following:
 - A.** All plan sheets showing street improvements or dedicated rights-of-way shall be dimensioned per MAG Standard Detail 112.
 - B.** All plan sheets showing the construction of utilities or existing utilities shall also dimension the utilities using the format of MAG Standard Detail 112.
 - C.** All plan sheets showing the construction of utilities within an easement shall dimension the overall width of the easement, the offset of the proposed or existing utilities from the centerline or edge of the easement.

5.4.4 Horizontal Control:

- A.** The origination point of all position systems shall be based on an established survey point or monument and identified on the plans.
- B.** Position systems shall be designed to proceed from South to North, West to East, left to right.
- C.** All plan sheets shall be stationed in 100-foot intervals minimum.

5.4.5 Symbols: Symbols noted on the plan sheets shall be per MAG Standard Detail 110. Special symbols not represented on MAG Standard Detail 110 may be used provided the symbol representation is identified.

5.4.6 Construction Notes: Construction notes for all new construction shall be noted on each plan sheet.

5.4.7 Required Information to be Shown on Plans:

- A.** Existing and proposed rights-of-way shall be shown and dimensioned.
- B.** Projects that are adjacent to corporate limits of municipalities shall delineate the location of the corporate limits and identify the jurisdictions on all applicable sheets.
- C.** Plans shall differentiate between the existing and proposed improvements and show all the existing conditions.
- D.** Plans shall show all existing utilities complete with line sizes, types (water, sewer, gas, etc) and locations.

5.5 Plan and Profile Sheets.

5.5.1 Plan and profile sheets are required for the following:

- A.** All parkway, arterial, collectors, local streets and access road paving and storm drain improvement plans. Provide separate profiles for left curb or left edge of pavement, right curb or right edge of pavement and the centerline.
- B.** Waterline improvement plans for construction with size twelve (12) inches in diameter or greater.
- C.** All sanitary sewer improvement plans.
- D.** All storm drain improvement plans.
- E.** All reclaimed water line improvement plans.

F. If required by the Planning Division, any other utility plan.

5.5.2 The profile shall indicate elevations and the stationing grid clearly.

5.5.3 The profile of the existing surface shall be shown with the proposed construction line work and construction notes (i.e. elevations, slopes, grade breaks).

5.5.4 The existing and proposed utility crossings shall be shown in the profile view. Utility conflicts and design resolutions shall be noted in all the appropriate profiles.

5.6 Detail Sheets

Supplement sheets that depict special construction details required to clarify some aspect of the proposed improvements.

5.6.1 Professional Seal: Each sheet shall be sealed, signed and dated in accordance with the Arizona Board of Technical Registration requirements.

5.6.2 Standard Details: MAG Standard Details are not to be included on the detail sheets unless the Detail is being modified. The modifications shall be clearly identified and the detail shall be titled "Modified MAG Detail."

5.7 Technical Reports.

The following reports shall be submitted with each subdivision project.

5.7.1 Traffic Impact Analysis (TIA)

Developers shall be required, at the time of final plat submittal, to submit a Final Traffic Impact Analysis for review and approval. Analysis shall be prepared in accordance with the Pinal County TIA Guidelines & Procedures, the Pinal County Regionally Significant Routes for Safety and Mobility and the Pinal County Access Management Manual. Recommendations provided in the approved Traffic Impact Analysis must be reflected in the improvement plans. Any previously approved agreements for installation of improvements recommendations shall be submitted with the TIA.

5.7.2 Geotechnical Report

Developers shall be responsible to submit a geotechnical report with street construction plans indicating "R" value, sieve analysis, plastic index of the subgrade and street structural cross section design. The design engineer is responsible for investigating and evaluating the existing pavement structure. Equivalent Single Axle Load (ESALs) factors shall be obtained from ADOT's "Materials Preliminary Engineering and

Design Manual" - Appendix A: Traffic Data Procedures and Analysis. The existence or absence of fissures on or adjacent to the proposed development shall be noted within the report. Existing fissures shall be addressed with all mitigating measures noted. Recommendations provided in the approved Geotechnical Report must be reflected in the improvement plans.

5.7.3 Drainage Report

Developers shall be required, at the time of final plat submittal, to submit a final Drainage Report for review and approval. The report shall be prepared in accordance with the current Pinal County Drainage Ordinance, Drainage Manual and Pinal County Floodplain Management Ordinance.

5.7.4 Phase 1 Environmental Report (or equivalent as approved by the Community Development Director)

Developers shall be responsible to submit for review an Environmental Report that addresses the following:

- A.** Provisions for a supply of adequate and safe drinking water for all lots and land tracts.
- B.** Provisions for adequate sewage disposal for all lots must be assured. The use of individual sewage disposal systems are discouraged.
- C.** Provisions for the collection and disposal of solid waste generated by the development.
- D.** Information regarding Air Quality and if located in a non-attainment area.
- E.** Information regarding Cultural Resources.
- F.** A report utilizing the Environmental Review Tool from the Arizona Game and Fish Department.
- G.** A statement if a Phase 2 study is recommended based on findings.

5.8 Plan Review Comments.

All plan review comments (Redlines) shall be corrected or clarified. If there is a discrepancy with a review comment, contact the County plan review staff. The redline set of plans shall be returned with the next improvement plan submittal. Include a separate redline correction response letter addressing each comment and correction measure provided. The letter shall address each comment with plan sheet location noted, along with the applicable resolution of the comment.

Failure to identify all of the changes shall result in the return of the plans with an additional review required and shall require additional fees based on the approved Public Works Department Fee Schedule.

5.9 Approval of Plans.

- 5.9.1** When the improvement plans meet the requirements for approval in accordance with Article 8 of the Pinal County Subdivision Regulations, the original mylar cover sheet will be requested. With the submittal of the original mylar cover sheet include one (1) full size bond sets of plans, an electronic copy (multipage PDF) and an Engineer's Opinion of Probable Cost. Prior to County Engineer signature all applicable reviewing agencies shall have signed the cover sheet. If an agency does not sign the cover, a letter of their approval shall accompany the cover sheet and the letter date and signing party noted on the cover sheet. Plan approval is valid for one year from date of signature. If construction has not begun prior to the plan approval expiration date the plans become void. A re-approval of the construction plans are required and applicable plan review fees will apply.
- 5.9.2** The County will review all such plans and specifications and may require revisions therein to comply with standards and specifications of these regulations and other applicable laws and ordinances. After the completion of revisions, the County Engineer may require that the Engineer's Cost Estimate be revised to reflect such revisions. The County Engineer shall only approve said plans and drawings if the improvements indicated are found to be in conformance with the standards and specifications of these regulations and other applicable laws and ordinances. Said approval shall be in writing.

5.10 As-Built Plans (Record Drawings).

As-Built Plans shall be prepared in accordance with Chapter 14 of this Manual.

CHAPTER 6 STREET DESIGN REQUIREMENTS

6.1 General Information.

- 6.1.1** This chapter describes the geometric requirements for any public and private street classification: arterial, collector, local and all-weather access roads. The minimum requirements described herein are primarily based on safety considerations; therefore, standards that provide a greater degree of safety may be used.
- 6.1.2** Civil Engineering Standards: the most current Uniform Standard Specifications and Details for Public Works Construction as published by Maricopa Association of Governments (MAG) engineering standards for construction of public infrastructure, the US Department of Transportation, Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways, the Standard Specifications for Road and Bridge Construction, Arizona Department of Transportation and the State of Arizona Department of Transportation Signing and Marking Standard Drawings.

6.2 Street Improvements.

- 6.2.1** All subdivision projects within the County shall provide a paved interior street system adequate to ensure that all lots, tracts, parcels, or facilities within the subdivision shall have improved access to the balance of the public street system. Subdivider shall provide access into the subdivision for public service and/or emergency operations.
- 6.2.2** The subdivider is responsible for construction of all street improvements along the subdivision's frontage to the ultimate grade and alignment for the said perimeter street. This shall include the removal and replacement of the existing street surface to the centerline. Roadway Improvements, utilities, street lighting, landscaping and relocation of overhead and irrigation facilities will be required at the sole expense of the subdivider.
- 6.2.3** A Paved All-Weather Public Access Road shall be installed for legal ingress and egress to the subdivision or private development from a paved public roadway as required by the County Engineer.

6.3 Street Classifications.

- 6.3.1** Pinal County has seven basic classifications of streets for use relating to subdivision development. The location and street classification is determined as part of the site planning and platting process. The County Engineer will review each tentative plat and will specify any changes needed to conform with previously planned and approved street alignments. The County Engineer will also specify the classification for each street involved in the tentative plat. Refer to Exhibit 6.2 for Street Cross Sections. All subdivisions shall provide for public arterial and collector streets at their normal alignments and as determined by the County Engineer.

- A. Parkway:** Parkways provide uninterrupted, high-volume mobility with few grade-separated traffic interchanges. The standard cross section for a principal and minor arterial is shown in **Exhibit 6.2**.
- B. Arterial Street:** Arterial streets provide regional continuity and carry large volumes of traffic between areas of the County and through the County. The normal alignment for an Arterial Roadway is along a section line. The standard cross section for a Principal and Minor Arterial is shown in **Exhibit 6.2**.
- C. Collector Street:** Collector streets provide direct access to abutting land uses, handle local traffic and provide access to the arterial street system. The normal alignment for a Major Collector roadway is along a mid- section line. The standard cross sections for major and minor collector streets are shown in **Exhibit 6.2**.
- D. Local Street:** Local streets provide direct access to abutting land uses and handle local traffic. Local Streets will not be connected to arterial streets. Local Streets provide access to the collector street system. The standard cross section for a local street is shown in **Exhibit 6.2**.
- E. Low Density Local Street:** Low Density Local Streets will not be connected to arterial streets. Low Density Local Streets provide access to the collector street system. Low Density Local Streets are for subdivisions with a lot size of not less than 1.0 acre or greater than 3.33 acres. The standard cross section for a Low Density Local Street is shown in **Exhibit 6.2**.
- F. Paved All-Weather Public Access Road:** A roadway that connects the subdivision or private development to an existing paved public street. The access road shall be within dedicated public right-of-way with a minimum pavement width of 28 feet to accommodate two-way traffic. The standard cross section for a paved all-weather public access road is shown in **Exhibit 6.2**.

6.4 Subdivision Street Planning.

Subdivision street plans should provide the minimum number of intersections and wash crossings, and discourage through traffic.

6.4.1 All streets shall conform to the Pinal County Comprehensive Plan, County standards, related transportation studies, specifications and requirements, and with due consideration to their relation to existing and other planned streets. This shall also include topographical conditions, surface drainage in and through subdivisions, public convenience and safety, and appropriate relation to the proposed uses of the land to be served by such streets. Where not shown in the Pinal County Comprehensive Plan, arrangement and other features of the streets shall provide for appropriate continuation of existing arterial and collector streets in surrounding areas where essential for circulation and access to community facilities.

6.4.2 Street configuration shall conform to the Traffic Impact Analysis and as approved by the County Engineer.

- 6.4.3** The subdivider may be required to provide additional right-of-way for local service or access along major streets, or other treatment to provide local access to residential properties.
- 6.4.4** Along a railroad right-of-way or limited access highway right-of-way, a parallel street may be required at a distance suitable for appropriate use of the intervening land, such as for park purposes in residential districts or for commercial or industrial purposes in appropriate locations; such distances also to be determined with due regard for their requirements of approach grades and future grades separation as approved by the County Engineer.
- 6.4.5** Provisions shall be made for railroad and other public or private utility crossings necessary to provide access to or circulation within the proposed subdivision, including the obtaining of all necessary permits from the public or private utilities involved, and any regulatory agencies having jurisdiction. The costs of such crossings shall be the responsibility of the subdivider.
- 6.4.6** Adequate provisions shall be made in the design of subdivisions for access to each lot or parcel, and for access to adjacent properties.

6.5 Street Right-of-Way Requirements.

- 6.5.1** All public street right-of-way dedication shall be at no cost to the public and unencumbered. The public right-of-way requirements shall meet the ultimate development requirements. The dedicated right-of-way shall provide sufficient area for the installation for utilities, cut or fill slopes, sidewalks, traffic control devices, signs, fire hydrants, landscaping and other public facilities that must be located adjacent to street pavements.
- 6.5.2** Additional Right-of-Way widths may be required in special circumstances for the following conditions:
- A.** Cut or fill slopes cannot be confined within the typical right-of-way.
 - B.** Minimum sight distance lines on horizontal curves do not meet the standards.
 - C.** Minimum sight distances at intersections do not meet the standards.
 - D.** Auxiliary traffic lanes are required.
 - E.** Allow for maintenance and inspection of drainage structures.
 - F.** Other conditions that may be required by the County Engineer.
 - G.** The minimum right-of-way requirements are as follows:
 - Parkway 200 feet
 - Principal Arterial 150 feet
 - Minor Arterial 110 feet

▪ Major Collector	80 feet
▪ Minor Collector	60 feet
▪ Local Street	50 feet
▪ Low Density Local Street	50 feet
▪ Paved All-Weather Public Access Road	40 feet

6.6 Easements and Dedications.

6.6.1 Public Utility Easements (PUE) shall be a minimum of 8 feet wide and located adjacent to each side of the dedicated street right of way. Public Utility Easements shall not be located within the side or back property lines.

6.6.2 Drainage easement dedications shall be provided conforming substantially with the lines of any water course, drainage way, channel, or stream and such further width or construction, or both, as will be adequate for the purpose. Parallel streets or parkways may be required in connection therewith. All drainage easements shall be outside the roadway right-of-way.

6.7 Pavement Cross Section.

6.7.1 The minimum pavement width requirements are as follows (back of curb to back of curb):

▪ Parkway	163 feet
▪ Principal Arterial	101 feet
▪ Minor Arterial	75 feet
▪ Major Collector	51 feet
▪ Minor Collector	40 feet
▪ Local Street	32 feet
▪ Low Density Local Street	32 feet
▪ Paved All-Weather Public Access Road	28 feet (No Curbing)

6.7.2 The minimum* pavement section requirements are as follows:

▪ Parkway	6" AC/10" ABC
▪ Principal Arterial	6" AC/10" ABC
▪ Minor Arterial	5" AC/10" ABC
▪ Major Collector	3" AC/8" ABC
▪ Minor Collector	3" AC/8" ABC
▪ Local Street	2.5" AC/6" ABC
▪ Local Residential	2.5" AC/6" ABC min
▪ Low Density Local Street	2.5" AC/6" ABC
▪ Paved All-Weather Public Access Road	Per Geotechnical Report or as approved by the County Engineer

*as MAG Standards are revised the minimum pavement section will be per the current MAG Standards

6.7.3 The above referenced pavement sections are minimums. Actual or alternate pavement sections shall be determined by geotechnical analysis and pavement design prepared and sealed by a professional engineer registered in the State of Arizona, and approved by the County Engineer. The actual pavement thickness shall be the greater of either the Pinal County minimum thickness contained herein or as determined by the geotechnical analysis, irrespective of whether treatment is required for expansive soils.

6.7.4 Undivided streets should have a normal crown that is a two-way cross slope with the cross section high point on the street centerline. Divided streets should have cross slope on each pavement section. The high point of each slope on each pavement section shall occur on the edge of the pavement nearest the median. Unusual conditions may cause cross slope requirements to vary, but normally the desirable cross slope is 2%, with a maximum cross slope of 3%. Any deviation from the desirable cross slope is subject to approval by the County Engineer.

6.7.5 Normal cross sections in street dip sections are discouraged. Where storm drainage runoff flows must cross the street, dip sections are needed. The pavements through the dip section should have a one-way slope (no crown, super elevated), curbing and medians must not be raised and cut off walls shall be installed. Transitions back to normal street cross slopes will be needed at both ends of the dip section.

6.7.6 All utility services to each lot of the subdivision shall be installed prior to placement of pavement.

6.7.7 Half-Street Improvements: Half-streets are to be avoided, except where essential to the reasonable development of the subdivision in conformity with this manual and where dedication of the other half will be practical when the adjoining property is subdivided. Where said partial rights-of-way would require the dedication of additional contiguous rights-of-way to make it full width, the subdivider shall include evidence that the additional right-of-way is available or is permanently reserved for future road purposes.

The minimum width for half-street improvements shall be twenty-four feet (24') measured from back of curb to the edge of the asphaltic pavement. Half-street improvements terminating at the roadway

monument or centerline shall be constructed with a thickened edge per MAG Standard Detail 201 Type A.

6.7.8 Alleys are not permitted unless approved by the County Engineer.

6.8 Decorative Paving.

Decorative paving is not to be used without the County Engineer's approval. The local Homeowner's Association shall maintain all decorative paving. As an alternative to decorative paving, decorative stamped concrete may be used with the County Engineer's approval.

6.9 Curb and Gutter.

6.9.1 The minimum curb and gutter requirements are as follows:

▪ Parkway	6" Vertical Curb
▪ Principal Arterial	6" Vertical Curb
▪ Minor Arterial	6" Vertical Curb
▪ Major Collector	6" Vertical Curb
▪ Minor Collector	6" Vertical Curb
▪ Local Street	4" Rolled/4" Vertical Curb
▪ Low Density Local Street	Ribbon Curb
▪ Paved All-Weather Public Access Road	Thickened Edge
▪ Pavement Tracts	Vertical Curb

6.9.2 Curb, Gutter, and any scuppers, catch basins, or street drainage infrastructure shall be per the current MAG Uniform Standard Details, unless otherwise approved by the County Engineer.

6.9.3 All curb returns, except for local streets that have ribbon curbs shall (PC to PT) be constructed with vertical curb regardless of whether the tangent curb sections are vertical or roll curb. All curb returns shall be provided with sidewalk from PC to PT of the same width as that provided for the sidewalk behind the tangent curb sections. If no sidewalk is provided adjacent to the return, behind the tangent curb sections, the curb return sidewalk shall be a minimum width of five feet (5').

6.9.4 All street intersections should be constructed with concrete vertical curb returns with a sidewalk ramp per the current MAG Uniform Standard Details and the American Disabilities Act (A.D.A.). Any fifty foot (50') radius shall have a dual ramp (per MAG detail).

6.9.5 The radii for curb returns shall be in accordance with the table shown below: All dimensions are to back of curb.

Street Classification	Minor Arterial	Major Collector	Minor Collector	Local
Parkway	50'	50'	50'	-
Principal Arterial	50'	50'	50'	-
Minor Arterial	50'	50'	50'	-
Major Collector	50'	30"	30'	25'
Minor Collector	50'	30'	30'	25'
Local	-	25'	25'	20'

- 6.9.6** In locations where dip sections are permitted the installation of a cut-off wall conforming to MAG Uniform Standard Details shall be installed.

The exposed portion of the cut-off wall shall have the appearance of a ribbon curb, with the same width as the street's regular curb and gutter. The cut-off wall shall extend across the flow path in the dip section to protect the pavement structure during runoff flows from a 100 year storm. Install a five foot (5') transition section at each end of the dip section to match the street curb and gutter.

6.10 Sidewalks.

- 6.10.1** Streets constructed to Pinal County standards shall have sidewalks installed per Standard Street Cross Sections **Exhibit 6.2** and MAG Standard Detail 230

Sidewalks shall be installed within right of way or sidewalk easement. Sidewalk Widths:

- A.** Parkway: Detached Sidewalk = Six (6) feet wide with a minimum separation from back of curb of eight (8) feet.
- B.** Principal Arterial Street: Detached Sidewalk = Eight (8) feet wide with a minimum separation from back of curb of 5'. Meandering sidewalk requires a minimum radius of 150'. Attached Sidewalk = Ten (10) feet wide.
- C.** Minor Arterial Street: Detached Sidewalk = Eight (8) feet wide with a minimum separation from back of curb of 5'. Meandering sidewalk requires a minimum radius of 100'. Attached Sidewalk = Ten (10) feet wide.
- D.** Major Collector Street: Detached Sidewalk = Six (6) feet wide with a minimum separation from back of curb of 3'. Meandering sidewalk requires a minimum radius of 50'. Attached Sidewalk = Eight (8) feet wide.

E. Minor Collector Street: Detached Sidewalk = Five (5) feet wide with a minimum separation from back of curb of 3'. Meandering sidewalk requires a minimum radius of 50'. Attached Sidewalk = Six (6) feet wide.

F. Local Street: Five (5) feet wide (Attached).

6.10.2 Sidewalks are not required for residential subdivisions with lots one (1) acre and greater in area

6.10.3 Sidewalks are required on both sides of the local street for subdivisions with lot sizes less than one (1) acre.

6.10.4 Sidewalks are required on both sides of arterial and collector streets. Sidewalk Curb Ramps shall be per MAG Uniform Standard Details and Specifications. Truncated domes (detectable warning) shall be constructed out of high-strength concreted material only. The material is to be durable with a non-slip surface not subject to spalling, chipping, delamination or separation. Detectable warning tiles shall have a design working life of at least 30 years.

6.11 Horizontal Alignment.

6.11.1 A horizontal curve is required when the angle of change in horizontal alignment is equal to or greater than ten (10) degrees.

6.11.2 The Minimum Curve Radius requirements are as follows when tangent centerlines deflect more than ten (10) degrees and less than ninety (90) degrees:

▪ Local	200'
▪ Minor Collector	300'
▪ Major Collector	800'
▪ Minor Arterial	1,500'
▪ Principal Arterial	1,500'
▪ Principal	2,000'

6.11.3 Compound curves (two curves with different radii in same direction) should be avoided. However if site conditions make the use of compound curve unavoidable, the shorter radius shall be at least 2/3 the length of the longer radius when the shorter radius is 1,000 feet or less. Compound curves are not permitted when design speeds require the shorter radius to be greater than 1,000 feet.

6.11.4 On two lane roads, tangent sections are required between compound curves.

6.11.5 A tangent section must be provided between reverse curves as shown in **Exhibit 6.3**.

6.11.6 A tangent section shall be provided between an intersection and a curve for all collector and arterial intersections.

6.11.7 Minimum horizontal clearance for roadways shall be in accordance with the most recent version of the AASHTO Policy on Geometric Design of Highways and Streets.

6.11.8 Superelevation is discouraged on horizontal curves; however, superelevation of 2% may be used when the standard radius cannot be provided due to circumstances beyond the control of the engineer and the general alignment cannot be changed. Superelevation greater than 2% may not be used except when approved by the County Engineer. In no case shall a superelevation exceed 6%. For superelevations, refer to the AASHTO publication, A Policy on Geometric Design of Highways and Streets.

6.11.9 Whenever superelevation is allowed on a divided street, a storm drainage system to collect the runoff along the median curb shall be provided. In no case shall nuisance water from the higher traveled way be allowed to cross the lower traveled way.

6.12 Vertical Alignment.

6.12.1 The maximum longitudinal street grade requirements are as follows:

▪ Parkway	6%
▪ Arterial (Principal & Minor)	6%
▪ Major Collector	8%
▪ Minor Collector	10%
▪ Local	12%

6.12.2 The minimum longitudinal street grade for ALL streets is 0.40%.

6.12.3 A vertical curve is required when grade changes are greater than 1.5% for parkways, arterials, and collector streets and greater than 2% for local streets (excluding areas of valley gutters and stop conditions). All sections of a street's vertical alignment must meet passing and stopping sight distance requirements for design speed established for the street. For further details, see the AASHTO publication, A Policy on Geometric Design of Highways and Streets.

6.12.4 When horizontal and vertical curves are combined, the horizontal curve shall lead and follow the vertical curve. For additional information on this topic, refer to the AASHTO publication, A Policy on Geometric Design of Highways and Streets.

6.13 Intersections.

6.13.1 Intersections occurring on the inside of horizontal or crest vertical curves are prohibited. Where the grade of the through roadway is steep, flattening through the intersections is required as a safety measure.

6.13.2 A right angle intersection provides the shortest crossing distance for intersecting traffic streams. Where special conditions exist, intersection angles may diverge from a right angle by a maximum of 2 degrees on arterial and major collector streets and by a maximum of 15 degrees on minor collector and residential streets as shown in **Exhibits 6.4 and 6.5**.

6.13.3 Street jogs with centerline offsets will be a minimum of 135 feet as shown in **Exhibit 6.6**.

6.13.4 All intersections shall comply with the current AASHTO Intersection Sight Visibility Triangle Requirements. A minimum 33' x 33' sight visibility triangle easement shall be provided for all intersections of collector or arterial streets. A minimum 21' x 21' sight visibility triangle easement shall be provided for all local street intersections. Sight visibility triangle easements shall be measured from the property line (PL).

6.13.5 Property lines at street intersections shall be rounded with a radius of 25 feet for local and collector streets and 50 feet for arterial streets to allow maintenance of sight distance.

6.13.6 Street intersections with more than four legs and y-type intersections where legs meet at acute angles are prohibited.

6.13.7 Concrete valley gutters shall be constructed at all intersections where the drainage pattern requires them.

A. Asphalt valley gutters will not be permitted.

B. Valley gutters crossing a local street may be installed. Exceptions must be approved by the County Engineer.

C. Valley gutters shall be constructed in accordance with MAG Uniform Standard Details.

6.13.8 Intersections onto arterial streets shall be approximately every (1/4) mile intervals.

6.14 Cul-de-Sacs and Knuckles.

Cul-de-sac streets shall terminate in a circular right-of-way turnaround area of at least fifty (50) feet in radius and returns of the same radius. The County Engineer may approve an equally convenient form of turnaround area where extreme conditions justify. Cul-de-sac streets shall not exceed 500 feet in length (measured from the centerline of intersecting street) to the radius point of the turnaround. Cul-de-sac streets in excess of 500 feet must be approved by the County Engineer. Knuckles shall have a minimum right-of-way radius of 50' and returns of the same radius. Acceptable use of cul-de-sacs and knuckles are shown in **Exhibits 6.7 and 6.8**.

6.15 Dead End Streets.

6.15.1 Dead end streets shall be required where a street connection is necessary to serve adjacent properties that will develop at a future date. A temporary turn-around shall be provided within the subdivision at all dead end streets.

6.15.2 The maximum length of a dead end street shall be the same as that of a cul-de-sac street.

6.15.3 Alternative types of turnarounds, such as “T” (Hammerhead) or “Y” style road geometries may be accepted if approved by the fire authority provide coverage over the area. If used, a “T” or “Y” roadway terminus shall have minimum leg lengths of fifty (50) feet.

6.16 Blocks.

Block lengths, widths, and shapes of blocks shall be determined with due regard to:

6.16.1 Provision of sites suitable to the type of use contemplated.

6.16.2 Zoning requirements as to lot sizes and dimensions.

6.16.3 Need for convenient access, circulation, control and safety of street and pedestrian traffic.

6.16.4 Limitations and opportunities of topography.

6.16.5 Circulation within the subdivision, and access to the community facilities.

6.16.6 Lengths as long as practicable but not to exceed 1500 feet.

6.17 Turning Lanes and Medians.

A separate turning lane permits separation of conflicting traffic movements and removes turning vehicles from the intersection area. Raised medians shall be used as directed by the County Engineer to separate traffic flows, channelize left turns and reduce conflicts. On collector streets, painted medians provide space between the through traffic lanes for left turning vehicles.

6.17.1 Right turn lanes shall be provided on arterial streets at all street intersections, where warranted per the Traffic Impact Analysis.

- 6.17.2** For left turn lanes at signalized intersections, dual turn lanes should be considered when the turn volume exceeds 25 vehicles per hour, the opposing through volume exceeds 100 vehicles per hour, or the delay to left turning vehicles exceeds 45 seconds. Abrupt reduction of alignment and sight distance standards should be avoided.
- 6.17.3** All medians are to be hardscape (i.e. – concrete, pavers, stamped concrete etc.) unless otherwise approved by the County Engineer. The median surface shall maintain positive drainage.
- 6.17.4** Within the County right-of-way, full and partial median openings on a parkway, major and minor arterial shall be per the current Regionally Significant Routes for Safety and Mobility Final Report and Access Management Manual. Partial median openings and full median openings will be permitted per the approved Traffic Impact Analysis. In built up areas, where reasonable alternate access is not available, median openings may be provided at smaller intervals with the approval of the County Engineer.
- 6.17.5** The cross-slope in the median opening shall be limited to 2%. Median openings on curves with super elevation exceeding 2% will not be permitted.
- 6.17.6** Deceleration lanes may be required on streets in conjunction with driveways per the approved Traffic Impact Analysis and may require additional right-of- way.
- 6.17.7** Deceleration lanes are required as determined by the approved Traffic Impact Analysis. In addition, deceleration lanes are required when both of the following factors are determined to apply:
- A.** The 85th percentile traffic speed on the street is at least 35 miles per hour or 45 miles per hour for a two lane (one lane each direction) roadway.
 - B.** At least 20 vehicles will be making right turns into the access way and 100 vehicle directional traffic during a one hour period.

6.18 Driveways.

- 6.18.1** Driveways are to be constructed in accordance with MAG Uniform Standard Details.
- 6.18.2** The minimum residential driveway length is 20 feet, measured from the face of the garage opening to the back of sidewalk or the back of curb if no sidewalk is provided.
- 6.18.3** The minimum length for a commercial or industrial driveway is 30 feet, measured from the entrance to the off-street parking area to the back of sidewalk or the back of curb if no sidewalk is provided.
- 6.18.4** A maximum of one driveway opening shall be permitted to a particular residential site or residential parcel from each abutting street(s). One additional driveway entrance may be permitted by the County Engineer.

6.18.5 A new driveway will not be allowed within 30 feet of any commercial property line, except when it is a joint use driveway, serving two abutting commercial properties and access agreements have been exchanged between, and recorded by, the two abutting property owners. Commercial driveways will not be allowed within 50 feet of the right of way line of an intersecting non-arterial street or within 600 feet of two intersecting arterial streets. Exceptions may be permitted by the County Engineer.

6.18.6 Driveway profile standards are illustrated in MAG Uniform Standard Details.

6.19 Multi-Use Trails.

Trails constructed in County rights-of-way, such paths or trails must be approved by the County Engineer, and Open Space and Trails Department shall require a permit from the Pinal County Public Works Department and the Community Development Department.

6.20 Existing Adjacent Unimproved Roads.

Existing unimproved roads in public right-of-way and adjacent to a subdivision may be required to provide a dust palliative such as a double chip seal.

6.21 Local Street Drainage.

Streets shall be designed and arranged in relation to existing topography to facilitate drainage. Drainage ways between lots are discouraged. Streets shall not be used as primary drainage, unless curb and gutter is installed. Samples of residential street drainage are shown in **Exhibit 6.9**.

6.22 Roundabouts.

When considered as an alternative traffic control device, roundabout designs are to comply with Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 672 Roundabouts: An Informational Guide, Second Edition produced in cooperation with the U.S. Department of Transportation, Federal Highway Administration (FHWA).

Certain physical or geometric complications may make it uneconomical or ineffective to construct a roundabout at the location being evaluated. These could include right of way limitations, utility conflicts, drainage problems, and proximity of significant traffic generators or traffic control devices requiring pre-emption, as needed at railroad crossings. Specific conditions in which the use of roundabouts will be unacceptable include the following:

- Where roadway grade exceeds 4%;
- Where there is inadequate sight distance;
- Where major roadway ADT exceeds 90% of total intersection ADT
- Where high volumes of pedestrians with special needs would have difficulty crossing the road.

- Where a downstream traffic control device such as a traffic signal would result in a queue that extends into the functional area of the roundabout.
- At a single intersection within coordinated signal network.
- Multi-Lane Roundabouts (May be considered in High Density Urban Environments subject to review and approval by the County Engineer)

The design process for roundabouts is usually an iterative process of evaluating the geometric layout for operational performance, and safety. Minor adjustments in geometry can result in significant changes in the safety and/or operational performance. Thus, the designer often needs to revise and refine the initial layout attempt to enhance its capacity and safety. NCHRP Report 672, Exhibit 6-1 provides a general outline for the design process with cross-references to other sections of the Report for each individual step within the process. Roundabouts may follow the most current MCDOT Roadway Design Manual for general guidance subject to review and approval by the County Engineer.

6.23 Street Name Signs.

The subdivider shall be responsible for purchase and installation of all street name signs within a subdivision, including intersections with perimeter streets. All street name signs shall conform to county standards and shall be furnished and installed at no cost to the County at locations as shown on the approved plans.

6.24 Survey Monuments.

Survey monuments are required at all street intersections and at the point of curvature and point of tangency of all curves on street monument line. Survey monuments shall conform to the applicable MAG Uniform Standard Details and shall be furnished and set by the subdivider at no cost to the County at locations as shown on the approved plans or as required by the Pinal County Public Works Department.

6.25 Traffic Signals.

Traffic signals shall be designed and constructed in accordance with Arizona Department of Transportation (ADOT) when required by the Traffic Impact Analysis. Refer to **Chapter 12** of this manual.

6.26 Paving Improvement Plan Requirements.

The following requirements are for Paving Improvement Plan Submittal to Pinal County:

6.26.1 Cover Sheet:

- A.** Blue Stake notification.

- B.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Engineer's name, address, and telephone number
- H.** Engineer's stamp – signed and dated.
- I.** Legend identifying all grades, symbols, lines, etc.
- J.** Quantities.
- K.** Basis of bearings and benchmark (NAVD 88 datum).
- L.** Sheet numbering format - "1 of XX" where XX is total amount of sheets.
- M.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information. (can either be on cover sheet or sheet 2)

N. Pinal County Engineer Approval Block.

APPROVED BY:

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

*Δ *RE-APPROVED BY:*

APPROVED BY:

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

O. Provide a Record Drawing Certification Statement for as-builts on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

6.26.2 General Requirements and Notes.

The following are required for all paving construction. In addition, these requirements must be set forth as general notes on all paving plans.

- A.** Contractor shall obtain a Pinal County Right-of-Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Quality Assurance Inspection Section at least fourteen (14) calendar days prior to work.
- B.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- C.** All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of paving or related construction.
- D.** Contractor is responsible for Blue Stake marking as construction is in progress.
- E.** All residents to be notified in person 24 hours prior to driveway crossing.
- F.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices or Pinal County requirements.
- G.** Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least fourteen (14) calendar days prior to work for review and approval.
- H.** All pavement structural sections shall be per the approved Geotechnical Engineering Report or Pinal County minimums as identified in the Pinal County Subdivision and Infrastructure Design Manual, whichever is greater
- I.** Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- J.** Street name sign installation – street name signs are to be installed at each intersection. If street name signs are to be installed on an existing or proposed street light pole, each sign is to be installed on a separate bracket. For street name sign blades that are 3" and under, a 12" bracket should be used. For blades that are 24" to 35", an 18" bracket is to be used. For blades that are 36" and above, a 24" bracket shall be used.
- K.** All Warning, Regulatory and Street Name signs will be installed on 2" square tubing and "slip base" type foundation system in accordance with ADOT Signing & Marking Standards (Detail S-1).
- L.** All Signs must be manufactured of "ASTM D-4956-01a- Proposed Type XI Sheeting" (3M 4000 DG3 series or equivalent) which will be attached to the standard signage aluminum plates. Sign imaging shall be in compliance with the reflective sheeting manufactures matched component system. Sign imaging shall consist of an acrylic based electronic cuttable film (3M 1170 Series or equivalent) or silk screened (depending on the quantity of signage) with standard highway colors. In addition, if called out on plans, to create a graffiti-protective coating, a premium protective overlay film (3M 1160 or

equivalent) shall be used which is designated to comply with the underlying reflective sheeting match component system.

- M.** Any work done in a drainage channel or wash must comply with state and federal regulations.
- N.** A Storm water Pollution Prevention Plan (SWPPP) shall be submitted to Pinal County Public Works Department prior to issuance of construction permits.
- O.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to commencement of work, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.
- P.** The following notes are required when special preservation or hillside issues are involved:
 - 1.** Before grading in areas containing native desert vegetation, the Contractor must obtain a permit from Arizona Department of Agriculture.
 - 2.** This site has special preservation or hillside issues. The paving plan must show all landscape preservation easements, construction fencing locations, and appropriate areas labeled. Prior to any clearing, grubbing, or grading operations construction fencing shall be shown on approved plans, permitted and inspected and salvage operations permitted, inspected, and completed.

6.26.3 Plan and Profile Paving Sheet Requirements

- A.** Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required.
- B.** Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend approximately 100' beyond property boundary.
- C.** Typical cross sections meet the requirements set forth in Subdivision Ordinance and stipulations or as recommended in the Geotechnical Report, whichever is greater. Shows width of sidewalk and minimum allowable pavement cross-slope. (pavement width is measured back-of- curb to back-of-curb)
- D.** A 21'x 21' (local to local) or 33'x 33' (for all others) sight visibility triangle easement (SVTE) all intersections.

- E.** Typical Roadway Cross Sections shall indicate street names and station to station if more than one section is used for a street.

ROW Width	Pavement Width	Structural Section
200'	163'	6"AC/10"ABC
150'	101'	6"AC/10"ABC
110'	75'	5"AC/10"ABC
80'	51'	3"AC/8"ABC
60'	40'	3"AC/8"ABC
50'	32'	2.5"AC/6"ABC*
*Local Residential – 2.5" AC/6"ABC min		
Note: All pavement structural sections shall be per the approved Geotechnical Engineering Report or Pinal County minimums as identified in the Pinal County Subdivision and Infrastructure Design Manual, whichever is greater		

- F.** Property line minimum radii: 25' or 50' (for all arterial intersections). No chords.
- G.** Intersection spacing along an arterial - approximately 1,320' (1/4 mile)
- H.** Avoid street jogs with centerline offsets of less than 135'. On arterials, intersecting streets should align if possible.
- I.** Local streets not allowed to intersect with an arterial street.
- J.** Residential lots shall front only local streets.
- K.** Have intersections as nearly as possible at right angles and in no case at less than 75°.
- L.** Maximum length of cul-de-sac is 500 ft. (measured from the center line of the intersecting street to the radius point of the turnaround) with minimum right-of-way radius of 50 ft. for both the turnaround and the returns.
- M.** Project Heading, title block (located in the lower right hand corner or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- N.** Locations, dimensions, and purposes of any existing and proposed easements. Show ROW, existing and proposed pavement, curbs, and sidewalk with width dimensioned.

- O.** Show all existing and new utilities in the roadway.
- P.** Show centerline survey data.
- Q.** Label sheet reference with station numbers at all match lines.
- R.** Label station and centerline spot elevation at intersections.
- S.** Survey monuments are required on monument lines at intersections, PC's, PT's and PI's. Also required at knuckles or cul de sacs. Local intersections shall be Type B monuments.
- T.** Station numbers shall be shown at all changes in street alignment, curb returns, and grade breaks.
- U.** Minimum separation between sidewalk ramps and driveways shall be 5'.
- V.** Grading between back of sidewalk and property line shall have a max. slope of 4:1. A minimum one-foot bench is required at the back of sidewalk prior to start of the 4:1 slope.
- W.** Provide typical street cross section. (show cross slopes of roadway and sidewalks and required pavement section).
- X.** Pavement cross slope: 2% min.
- Y.** Minimum longitudinal street grade is 0.25%.
- Z.** A vertical curve is required when grade changes are greater than 1.5% for arterial and collector streets and greater than 2% for local streets, excluding areas of valley gutters and stop conditions. Minimum vertical curve is 75'.
- AA.** Transitions in roadway cross slopes shall be indicated on the plan view.
- BB.** There shall be a minimum of 1' of cover over any pipe under the roadway. Minimum cover shall not include the pavement structural section. For covers less than 1' a structural (load) analysis shall be required.
- CC.** All plans revised after the original approval shall be submitted to Pinal County Public Works for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.

DD. If a portion of the street improvements for this development is within State, City or Town jurisdiction, plans are subject to review and approval by that public agency.

EE. Indicate the locations of all proposed community mailboxes locations. All locations must be ADA accessible and must meet applicable U.S. Postal Service Standards.

6.27 Access to Pinal County Roads and Rights-of-Way.

In addition to any other County requirements, any proposed new access, whether a driveway or public/private roadway, onto an existing County roadway shall only be installed after a Right-of-Way Use Permit has been obtained. Access is subject to approval by the County Engineer and should comply with the Pinal County Access Management Manual (latest version) where applicable. In addition, the following requirements for access also apply:

6.27.1 Throat Lengths and Vehicle Storage, Parking Lots and Access

Adequate vehicle storage capacity shall be provided for both inbound and outbound vehicles, which facilitates the safe and efficient movement of vehicles between the road and the development. The minimum throat length of a non-residential access shall be forty (40) feet. Conflicts with parking spaces or internal drive aisles are not permitted in this length. Additional throat length may be required depending on the type of vehicles typically using the access, the speed of vehicles approaching the access, and expected traffic volumes generated by the access use. The access throat shall be of sufficient length to prevent vehicles from spilling onto the public right-of-way. Inbound vehicle storage areas shall be of sufficient size to ensure that vehicles will not obstruct the adjacent road, sidewalk, or circulation within the facility. Lots in a subdivision or proposed for development shall be platted with sufficient area to accommodate the standards listed within this section.

The access throat shall be of sufficient length and number of lanes to provide adequate storage of outbound vehicles without them interfering with on-site circulation. Outbound vehicle storage areas shall be provided to eliminate backup and delay of vehicles within the development. At signalized intersections adequate storage for the outbound movement must be provided to enable vehicles to exit efficiently on the green portion of a traffic signal cycle.

6.27.2 Gated Access Points (Private Access)

A private access approach that has a gate across it shall be designed so that the longest vehicle using it can completely clear the traveled way and/or roadside pedestrian features (including sidewalks) when the gate is closed. The gate must open swinging away from the County road or must slide laterally parallel to the County Road. In no case shall the gate be closer than 20ft to the traveled way and/or roadside pedestrian features. The County Engineer may require a queueing be included in the Traffic Impact Analysis (TIA) or Statement (TIS) to ensure that no queueing of vehicles will occur in the public Right-of-Way.

6.27.3 Channelization Islands

Channelizing islands may be incorporated into the access design for purposes of limiting movements into or out of accesses. Use of medians to control turning movements is preferred and will be required where physical conditions allow. Channelizing islands are traffic control devices and as such shall not be used solely for ornamental purposes.

6.27.4 Driveway Access Angle

The horizontal axis of the driveway access to the County Road shall be at ninety (90) degrees to the centerline of the roadway and extend a minimum of forty (40) feet from the edge of the roadway or from the right-of-way, whichever is greater. An angle between ninety (90) and seventy-five (75) degrees may be acceptable if the expected traffic volumes utilizing the access is low, physical constraints exist, and if approved by the County Engineer.

6.27.5 Limited or Partial Access Restrictions

The type of access shall provide for safe and efficient operation of the access and the road from which access is provided. As such, some vehicle movements at access points may need to be restricted with the implementation of $\frac{3}{4}$ or $\frac{1}{2}$ access configurations, based on a technical analysis as well as the need to prioritize regional mobility in accordance with the Pinal County Access Management Manual (latest version). A $\frac{3}{4}$ access allows only 3 of 4 turning movements by restricting 1 left turn movement (in or out). A $\frac{1}{2}$ access allows only 2 of 4 turning movements by restricting both left turn movements, in and out (also called a right-in/right-out access). Limited or partial access should be accomplished via the use of raised medians where it is practical to do so. However, in some cases, “pork chops” or curved median diverters may be used with County Engineer approval.

6.28 Neighborhood Traffic Management (Traffic Calming).

The Institute of Transportation Engineers (ITE) defines traffic calming as: “The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users.”

By design, traffic calming is a self-enforcing traffic management approach that forces motorists to alter their speed or direction of travel. The purpose of traffic calming is to improve safety, especially for pedestrians and bicyclists, and to improve the environment or “livability” of streets for residents and visitors. Enhanced safety is one of the most fundamental benefits of traffic calming. By decreasing volume and/or reducing speed the number and severity of accidents is also greatly diminished.

6.28.1 Connections to Existing Roadway Network

Proposed developments that will access existing collector or local county roadways where significant residential driveway access exists shall evaluate the impacts of the proposed development traffic on those roadways. The development should consider implementing traffic calming measures as part of the project improvements on those existing roadways to mitigate the effects of adding new traffic to the existing roadway.

Where the projected traffic volume exceeds 800 vehicles per day (vpd), including background traffic and future traffic, on any existing street with residential driveway access affected by the development, the development shall provide a neighborhood traffic calming plan as part of the Traffic Impact Analysis. The Traffic Impact Analysis should identify and proposed specific traffic calming measures and locations to be incorporated in the development.

6.28.2 Internal Traffic Calming

Where a proposed street with residential driveway access is projected to carry more than 800 vehicles per day (vpd) or when it is longer than 1,000 feet, traffic calming measures or additional roadway access points shall be incorporated into the roadway design. Where the potential for cut-through traffic exists on a proposed street with residential driveway access, the development should consider implementing traffic calming measures to reduce speeds and deter cut-through movements.

Traffic calming measures may be implemented on any local streets not meeting the above threshold as part of the design of the development.

When traffic calming measures are proposed, the Traffic Impact Analysis should identify and propose specific traffic calming measures and locations to be incorporated in the development.

6.28.3 Traffic Calming Design Criteria

If a street is found to be eligible for the installation traffic calming measures, the following design specifications should be used to determine the exact location of traffic calming devices:

- Devices shall be placed in locations where drivers have adequate sight distance to see vertical deflection on the roadway surface, preferably from a distance of at least 250 feet on uninterrupted segments of road for drivers traveling at the design speed;
- Placement of devices must avoid conflicts with other transportation and utility infrastructure;
- Consideration should be given to locate devices near a streetlight to ensure nighttime illumination where possible;
- Devices shall be installed at least 200 feet apart but not greater than 500 feet apart on road segments bounded by two intersections;
- Devices shall be placed at least 5 feet from a driveway, and 20 feet from an alley;
- Devices shall be placed in conjunction with advanced warning signage necessary to warn drivers;

- Devices should be placed at least 200 feet from STOP or YIELD-controlled intersection approaches. However, where other constraints exist (e.g., short block spacing or presence of driveways) a distance of at least 100' may be used provided that proper spacing and placement of warning signs can be maintained;
- Devices should be placed at least 250' from a traffic signal (shorter spacing may be considered on a case-by-case basis);
- Where curb and gutter does not exist, provisions should be made to prevent drivers from driving around the traffic calming devices;
- Devices shall NOT be installed over manholes or water valves;
- Devices shall NOT be installed adjacent to fire hydrants;
- The County Engineer may approve methods of traffic calming measures not meeting the above criteria when unique circumstances exist.

CHAPTER 7 HILLSIDE SUBDIVISION IMPROVEMENT REQUIREMENTS

7.1 General Information.

This chapter addresses special requirements for subdivision design occurring in Hillside areas within Pinal County.

7.2 General Hillside Subdivision Requirements.

In addition to the requirements of Title 3, Chapter 3.25 and Title 2 in the Pinal County Development Services Code, the developer shall strive to sensitively integrate the infrastructure design into the natural hillside character of the development. The location of the roadway both horizontally and vertically as well as the cross-section should be compatible with the surrounding environment. If more restrictive requirements are placed on the development during the Zoning Phase the more restrictive requirements shall govern.

- 7.2.1** Topography with a two foot contour interval showing location of all major and minor washes. The County Engineer may determine a one foot contour interval shall be provided for certain plats. A separate sheet showing proposed contours may also be required if extensive re-grading is proposed.
- 7.2.2** All areas with natural cross-slopes greater than 15 percent shall be indicated on the Final Plat.
- 7.2.3** Street profiles, existing and proposed, for all streets.
- 7.2.4** A building envelope shall be shown on all lots. The building envelope shall occupy not more than 40% of the total lot area. There shall be a minimum ten (10') foot set back from any property line for the building envelope that shall be cordoned off in the field prior to any grading or construction, with the areas outside of the cordoned building envelope remaining in a natural state, both during and after construction. Disturbed areas will be re-vegetated.
- 7.2.5** Prepare/provide indigenous plant list for re-vegetation within the building envelope.
- 7.2.6** Walls or fences on individual lots within the development shall be low walls or open fences (pipe, rail, iron, stonework etc.) except immediately around the home or pool area, where a wall or privacy fence six (6') feet high may be built within the building envelope.
- 7.2.7** Building heights shall not exceed the height of the ridgeline.
- 7.2.8** Subdivision design shall include preservation of existing ridgelines and scenic vistas.

7.3 Special Design Standards.

Given the unique physical conditions of the hillside areas, appropriate design standards are established for areas with natural slopes greater than fifteen (15) per cent, (for example, 15.1%) cross-slope.

- 7.3.1** Street grades shall not exceed twelve per cent (12%) without approval from the County Engineer.
- 7.3.2** If approved, streets grades of twelve per cent (12%) or more shall have a maximum length of six hundred (600) feet.
- 7.3.3** Minimum dedicated street rights-of-way shall be forty (40) feet and are to be allowed only when justified by extreme cross slope or similar conditions and approved by the County Engineer.
- 7.3.4** "T" or "Y" type turning and backing areas may be substituted for circular turnarounds.
- 7.3.5** "Panhandle", double frontage, and other unorthodox lots may be permitted by the County Engineer.
- 7.3.6** Private streets or drives serving not more than three lots shall be permitted to a maximum length of three hundred (300) feet.

7.4 Special Construction Standards.

- 7.4.1** Streets shall be paved with asphaltic concrete not less than twenty four (24) feet wide and a five (5) foot concrete valley gutter on the uphill side and a six (6) foot gravel berm on the downhill side.
- 7.4.2** Where street grades exceed five (5) per cent, slope drainage shall be collected by and carried in a ditch section outside of the right- of-way to an acceptable outlet with provisions for adequate erosion control.
- 7.4.3** Each drainage course shall be piped through the road fill or diverted into an improved drainage conveyance. Size and location, both horizontal and vertical, shall be subject to approval by the County Engineer.
- 7.4.4** Road fills shall have minimum compaction densities per MAG Specifications 601.4.4.
- 7.4.5** Driveway or garage cuts may be made at the time of street grading and before street paving.

CHAPTER 8 GRADING DESIGN REQUIREMENTS

8.1 General Information.

This chapter provides reference, guidance, and minimum criteria for the design of grading and drainage plans within Pinal County. It is intended for use in planning, design, and plan preparation processes.

8.2 General Requirements.

8.2.1 All grading and drainage design improvements for subdivisions shall comply with the current Pinal County Drainage Ordinance and current Pinal County Floodplain Management Ordinance.

8.2.2 It is the County's policy that all subdivisions shall provide adequate drainage facilities so as to convey runoff, generated both on and off the project, around or through the project in such a manner as to ensure that dwellings will be free from flooding and that there is access for emergency and public service vehicles. The subdivider shall install storm sewers, channels and/or other physical improvements necessary to achieve this result.

8.2.3 It is the County's policy that all subdivisions within the County shall provide sufficient retention so as to eliminate any adverse impact of that subdivision on its downstream neighbors. All subdivisions shall provide onsite retention as required by the Pinal County Drainage Ordinance. Such retention facilities shall be a separate and distinct parcel, and maintained by the HOA within the subdivision and shall be planned for accordingly.

8.2.4 The subdivider shall provide a drainage easement maintained by the HOA for storm drainage conforming substantially with the line of such natural water course, channel, stream or creek, or provide an acceptable re-alignment of said water course, based upon a detailed drainage report prepared and sealed by a registered engineer, and meet all applicable requirements which may be required under Pinal County Drainage Ordinance and Pinal County Floodplain Management Ordinance.

8.3 Irrigation & Utilities.

8.3.1 All irrigation facilities, drainage ditches / swales and other utilities must be relocated onto easements at no cost to the County. Unused facilities in the right-of-way must be removed to the satisfaction of the County Engineer.

8.3.2 Any conflicting existing utilities shall be relocated to non-conflicting locations at no cost to the County, as required by the County Engineer.

8.4 Grading Improvement Plan Requirements.

The following requirements are for Grading Improvement Plan Submittal to Pinal County:

8.4.1 Cover Sheet

- A.** Blue Stake notification.
- B.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Engineer's name, address, and telephone number.
- H.** Engineer's stamp - signed and dated.
- I.** Legend identifying grades, symbols, lines, etc.
- J.** Earthwork Quantities.
- K.** For lots 1 Acre or larger and having on-lot retention - provide a table showing retention volumes required and provided for each lot.
- L.** Basis of bearings and benchmark (NAVD 88 datum).
- M.** Sheet numbering format - "1 of XX" where XX is total amount of sheets.

N. Pinal County Engineer Approval Block:

APPROVED BY:

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

*Δ *RE-APPROVED BY:*

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

O. Provide a Record Drawing Certification Statement for “as-built” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

8.4.2 General Requirements and Notes

The following are required for all grading construction. In addition, these requirements must be set forth as general notes on all grading plans.

- A.** Developer shall obtain a Pinal County Grading and Drainage Permit prior to any work being performed. Contact Pinal County Public Works Inspection Section at least fourteen (14) calendar days prior to work.
- B.** Contractor shall obtain a building permit from Pinal County Community Development, Building Safety Division for all retaining walls. Permit applications shall be submitted online at least fourteen (14) calendar days prior to the start of work.
- C.** Drainage plan shall be in accordance with the current Pinal County Drainage Ordinance and Pinal County Drainage Design Manual.
- D.** The Contractor is responsible for obtaining an earth moving permit from Pinal County Air Quality Control and the EPA, and for complying with their requirements for dust control.
- E.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- F.** Contractor is responsible for Blue Stake marking as construction is in progress.
- G.** A Storm water Pollution Prevention Plan (SWPPP) shall be submitted to Pinal County Public Works Department prior to issuance of construction permits.
- H.** All retention basins must drain the design storm runoff volume within 36 hrs. The owner is responsible for any basin failing to meet the requirement and must take corrective action to bring the basin into compliance with this criterion as well as the Pinal County Drainage Ordinance. All retention basins shall have a percolation test to demonstrate compliance.
- I.** All drywells shown on this project shall be maintained by the owners and are to be replaced by the owners when they cease to drain the surface water in a 36-hr period. Regular maintenance of the dry wells' silting chamber is required to achieve the best operation of the dry wells. The owner shall be responsible for registering all drywells with ADEQ or EPA as applicable. Drywell grate elevation shall be a minimum of 0.3 feet (ft.) above the bottom of retention basin to allow for silt accumulation. All drywells shall be tested to verify the percolation rate.
- J.** Any work done in a drainage channel or wash must comply with state and federal regulations.

- K. Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to commencement of work, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.
- L. For plans with 1+ acre lots and on-lot retention: An individual grading and drainage plan for each parcel to be submitted for review and approval. The approved Master Drainage plan will need to be adhered to when individual parcel grading plan is submitted for review/ approval.

8.4.3 Plan Sheet Requirements

- A. Drawing Scale (minimum): 1" = 40'. Depending on complexity of design, a larger drawing scale may be required.
- B. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C. Show sheet reference at all match lines.
- D. Blue Stake notification.
- E. Project Heading, title block (located in the lower right hand corner of plan sheets), drawing scale, North arrow, and PE seal with signature.
- F. Retention basins should be designed in accordance with the Pinal County Drainage Manual.
- G. Volume required, volume provided, bottom elevation, high water elevation, top elevation and emergency outfall location and elevation shall be labeled on each retention basin.
- H. Drywell grate elevation shall be min 0.3 ft above the bottom of retention basin.
- I. Minimum size for storm drain pipe is 18" but 24" is preferred. Headwalls and trash racks are required for both CMP and Polypropylene Pipe. Trash racks shall be installed as required by the Pinal County Drainage Manual. Polypropylene Pipe material allowable under right-of-way at the discretion of the County Engineer. Only AASHTO M330 Polypropylene Pipe, 12-60" diameter is permissible.
- J. Drainage arrows and grade breaks shall be shown to indicate drainage patterns.
- K. Driveway grades shall not be greater than 12%.

- L.** All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- M.** If a portion of the street improvements for this development is within State, Town or City jurisdiction, plans are subject to review and approval by that public agency.

8.4.4 Details

- A.** Plans with proposed drywells shall include a drywell detail. Drywells must be drilled a minimum of 10’ into permeable porous strata or percolation tests will be required.
- B.** Typical lot drainage detail – minimum side lot slope is 0.5%; no drainage from lot to lot allowed.

CHAPTER 9 WATER SYSTEM DESIGN REQUIREMENTS

9.1 General Information.

This chapter provides guidance and minimum design criteria for the modification and construction of water systems within Pinal County. It is intended for use in planning, design and plan preparation processes.

The requirements for development of all potable water supplies shall not be less than those outlined by ADEQ regulations and engineering criteria for such installations. The subdivider shall also design the system to the relevant specifications and standards set by the utility provider who will ultimately own and maintain the structure.

9.2 Water Main Extension.

- 9.2.1** A water system shall be provided, for any subdivision containing lots or parcels less than two acres in area.
- 9.2.2** Water mains connecting with existing potable systems shall be installed to serve each lot when and if connection to such system is available.
- 9.2.3** Prior to the approval of the final plat, the subdivider shall submit to the Planning Department a letter from the governing body of the water system showing the ability of the system to serve the proposed subdivision or development and evidence that a satisfactory agreement has been made for connection to the water system.
- 9.2.4** Fire hydrants and a fire distribution system shall be provided in accordance with the recommendations or requirements of the water system provider, and the fire department having jurisdiction, or by the County Engineer. At the request of the Community Development Director the fire provider must provide adequate proof that the provider has lawful jurisdiction to serve the area under the requested Plat.
- 9.2.5** Water mains and fire hydrants shall be installed to grades, location, design, and sizes on plans submitted and sealed by a registered engineer in the State of Arizona and approved by the County Engineer, County Aquifer Protection Division and Engineer of the water system provider.
- 9.2.6** When connection to a water system is not available, the subdivider may provide service by the establishment of a shared water system in which case water mains and fire hydrants shall be installed to grades, location, design, and sizes as submitted and sealed by a registered engineer in the State of Arizona and approved by the Arizona Department of Environmental Quality (ADEQ), and the water supply shall be from an ADEQ approved source. Requirements for Approvals To Construct Certificates and other ADEQ information can be found at the ADEQ website.

- 9.2.7** In the case of a subdivision with lots over two acres in area, water supply may be from an individual water system. In this case evidence shall be submitted to the Planning Division in a report showing that sufficient potable water is available, that the subdivision has the rights to the water and that it can be obtained for all lots in the subdivision.
- 9.2.8** Plans shall be prepared in accordance with the Improvement Plan Requirements shown in Chapter 5 of the Subdivision & Infrastructure Design Manual.

9.3 Water System Improvement Plan Requirements.

The following is required for Water System Improvement Plan Submittal to Pinal County:

9.3.1 Cover Sheet

- A.** Blue Stake notification.
- B.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Engineer's name, address, and telephone number.
- H.** Engineer's stamp - signed and dated.
- I.** Legend identifying grades, symbols, lines, etc.
- J.** Quantities.
- K.** Basis of bearings and benchmark (use NAVD 88 datum).
- L.** Sheet numbering format - "1 of XX", where XX is the total amount of sheets.

M. Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

Δ *RE-APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

N. Utility Company and ADEQ (or appropriate delegated authority) approval block. Both approvals are required prior to County approval.

O. Provide a Record Drawing Certification Statement for “as-built” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

9.3.2 General Requirements and Notes

The following are required for all water construction. In addition, these requirements must be set forth as general notes on all water plans.

A. Contractor shall obtain a Pinal County Right of Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Inspection Section at least 14 calendar days prior to work.

- B.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- C.** All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of construction. (If located outside pavement section, prefer level with finished grade but allow 6" max above finished grade.)
- D.** Contractor is responsible for Blue Stake marking as construction is in progress.
- E.** All residents to be notified in person 24 hours prior to driveway crossing.
- F.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices or Pinal County requirements.
- G.** Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- H.** No trench to be left open/uncovered after working hours unless properly signed and barricaded per the approved Traffic Control Plan. Contractor to supply lighted barricades at 50' intervals with open trench signage.
- I.** Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.
- J.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to work commencing, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

9.3.3 Plan Sheets

- A.** Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required
- B.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C.** Blue Stake Notification.
- D.** Sheet references shall be shown at all match lines.

- E. Project Heading, title block (located in the lower right hand corner, or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- F. Caps on waterlines shall include a blow off valve assembly as required by utility company. All blow-off valve assemblies shall be located outside of the pavement section.
- G. Water meters shall be located out of public rights-of-way.
- H. With PUE: only dry utilities are allowed in PUE - waterline shall be placed within pavement section.

Without PUE: dry utilities to be located in the area between the back of sidewalk and the right-of-way, the waterline shall be placed within the pavement section.
- I. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be “x’d” out and plan remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- J. If a portion of the street improvements for this development is within State, Town, or City jurisdiction, plans are subject to review and approval by that public agency.

9.3.4 Details

- A. Plans shall include a typical detail for the trench. Trench typical detail per MAG Standard specification. Pea gravel material will not be allowed within rights-of-way or public utility easements. Detail shall include the following note:

“Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.”
- B. Plans shall include a typical service location detail.

CHAPTER 10 SEWER SYSTEM DESIGN REQUIREMENTS

10.1 General Information.

This chapter provides guidance and minimum design criteria for the modification and construction of sanitary sewer systems and on-site treatment facilities within Pinal County. It is intended for use in planning, design and plan preparation processes.

The requirements for development of sewer collection systems and sewage treatment facilities shall not be less than those outlined by ADEQ regulations and the engineering criteria for such installations. The sewer collection systems and sewage treatment facilities shall comply with the Arizona Administration Code Title 18, Chapter 9, Articles 2 and 3 (A.A.C. R18-9 – Article 2 & 3).

Minimum lot size may be modified by requirements of the County Aquifer Protection Division pertinent to sanitary sewer systems. Any such modifications shall be based on data provided by the appropriate county departments and approved by the County Engineer or designee.

10.2 Sewer Line Extension.

10.2.1 Where a public/private sewer system is reasonably accessible, the developer shall connect with such sewer system and provide a connection to each lot therein.

10.2.2 A sewer collection and treatment system shall be required for any subdivision containing lots or parcels less than one acre in area unless the County Engineer approves a waiver request from the developer. A waiver to allow on-site wastewater treatment facilities on lots smaller than one acre may be approved if, at a minimum, the following conditions are met:

- A.** No sewer collection system or sewer collection infrastructure exists within one (1) mile of the proposed project site;
- B.** Calculations are provided that demonstrate that the total number of lots within the subdivision does not exceed the total number of acres contained within the boundaries of the subdivision; or If the total number of lots within the subdivision exceeds the total number of acres contained within the boundaries of the subdivision then an alternative septic system that reduces the nitrogen loading requirement according to AAC R-18-9-E23 (i.e. nitrogen reducing system) is required, and provided that approval for the use of this method of sewer treatment and disposal is obtained from the following:

- 1. Arizona Department of Environmental Quality
- 2. Pinal County Aquifer Protection Division (conceptual approval)

- C. The subdivision is not in any sewer district area or mentioned on a Certificate of Need and Necessity (CCN) of a municipal sanitary sewer provider;
- D. No zoning district exist within one mile of the subject site that would permit densities higher than 1 dwelling unit per acre;
- E. The alternate or onsite waste water treatment system is for residential uses only;

10.2.3 Plans shall be prepared in accordance with the Improvement Plan Requirements shown in Chapter 5 of this Subdivision & Infrastructure Design Manual.

10.2.4 A Note shall be placed on the face of the plat and improvement plans that an on-site wastewater treatment facilities is to be utilized.

10.3 Additional Sewer System Improvement Plan Requirements.

The following requirements apply to Sewer System Improvement Plan Submittal to Pinal County:

10.3.1 Cover Sheet

- A. Blue Stake notification.
- B. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C. County Case number at the lower right hand corner.
- D. Vicinity map with North arrow and section data.
- E. Index of plan sheets if more than one plan sheet.
- F. Developer's name, address, and telephone number.
- G. Engineer's name, address, and telephone number.
- H. Engineer's stamp - signed and dated.
- I. Legend identifying grades, symbols, lines, etc.
- J. Quantities.

- K.** Basis of bearings and benchmark (NAVD 88 datum).
- L.** Sheet numbering format - “1 of XX”, where XX is the total amount of sheets.
- M.** Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
 PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
 APPROVAL EXPIRES:*

DATE

DATE

Δ *RE-APPROVED BY:

*PINAL COUNTY ENGINEER
 PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
 APPROVAL EXPIRES:*

DATE

DATE

- N.** Utility Company and ADEQ approval block. Both approvals are required prior to County approval.
- O.** Provide a Record Drawing Certification Statement for “as-builts” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

10.3.2 General Requirements and Notes

The following are required for all sewer construction. In addition, these requirements must be set forth as general notes on all sewer plans.

- A.** Contractor shall obtain a Pinal County Right of Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Inspection Section at least fourteen

14 calendar days prior to work. The proposed traffic control plan may be submitted along with the Permit.

- B.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- C.** All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of construction. (If located outside pavement section, prefer level with finished grade but allow 6" max above finished grade.)
- D.** Contractor is responsible for Blue Stake marking as construction is in progress.
- E.** All residents to be notified in person a minimum of 24 hours prior to driveway crossing.
- F.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices and Pinal County requirements.
- G.** Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least fourteen (14) working days prior to work for review and approval.
- H.** Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- I.** No trench to be left open/uncovered after working hours unless properly signed and barricaded per the approved Traffic Control Plan. Contractor to supply lighted barricades at 50' intervals with open trench signage.
- J.** Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.
- K.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

10.3.3 Plan Sheets

- A.** Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required.

- B.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as “UNSUBDIVIDED” if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C.** Blue Stake Notification.
- D.** Sheet references shall be shown at all match lines.
- E.** Project Heading, title block (located in the lower right hand corner or right side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- F.** Sewer line shall be placed within the pavement section.
- G.** Sewer MH’s shall be located by station and offset.
- H.** All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- I.** If a portion of the street improvements for this development is within State, City or Town jurisdiction, plans are subject to review and approval by that public agency.

10.3.4 Details

- A.** Plans shall include a typical detail for the trench. Trench typical detail per MAG Standard Specifications. Pea gravel material will not be allowed within rights-of-way or public utility easements. Detail shall include the following note:

“Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.”
- B.** Plans shall include a typical service location detail.

CHAPTER 11 LANDSCAPE AND IRRIGATION REQUIREMENTS

11.1 General Information.

This chapter provides guidance and minimum design standards for Landscape and Irrigation design in subdivisions and associated infrastructure improvement projects that are submitted for review to the County. The intent of this chapter is to establish comprehensive and consistent design standards for the use in preparing and submitting landscape and irrigation improvement plans.

11.2 Additional Landscape and Irrigation Improvement Plan Requirements.

The following requirements apply to Landscape and Irrigation Improvement Plan submittal to Pinal County.

11.2.1 General Landscape Requirements and Notes

The following are required for all landscape construction. In addition, these requirements must be set forth as general notes on all landscape plans:

- A.** Contractor shall obtain a Pinal County Right-of-Way Use Permit prior to any work being performed within the county right-of-way. Contact Pinal County Public Works Inspection Section at least fourteen (14) calendar days prior to work.
- B.** All plant material placed in public rights-of-way shall be on an Active Management Area low water use plant list and approved by the Arizona Department of Water Resources.
- C.** All plant material shall meet the minimum standards and specifications of the Arizona Nurserymen's Association or University of Arizona Pinal County Extension.
- D.** All trees placed in public rights-of-way shall be pruned up and maintained at a seven (7) foot minimum canopy height measured from sidewalk and minimum of ten (10) feet measured from edge of pavement. The minimum distance from the back of curb to the center of a tree is 3' and from the edge of sidewalk to the center of a tree is 2'. Along an arterial, trees are to be located at the back of the sidewalk.
- E.** All plant material placed in the sight visibility triangle easements shall have a maximum growth height of 24 inches. All intersections, including driveways shall comply with the AASHTO Intersection Sight Triangle Requirements. The required Sight Triangle are indicated on the plan.
- F.** All landscaping and irrigation including drainage ways and rights-of-way shall be maintained by the Home Owners Association or owner.

- G. No plant material shall be placed within three (3') feet or trees within seven (7) feet of a fire hydrant, light pole, electrical or communications box.
- H. Eucalyptus trees and Saguaro cactus shall not be placed in public rights- of-way.
- I. Turf grasses shall not be placed in public rights-of-way, but may be allowed as follows:
 - For erosion control within drainage ways.
 - When reclaimed water can be used for the irrigation system.
- J. Trees placed within seven (7') feet of a concrete structure, including sidewalks and curbs, shall have a root barrier installed adjacent to the structure.
- K. Canopy height shall be maintained to a minimum of 10 feet high above sidewalks. If trees are planted in medians or if the canopy extends beyond the edge of pavement the canopy shall be maintained to a minimum of at least 14 feet above the pavement surface

11.2.2 General Irrigation Requirements and Notes

The following are required for all irrigation construction. In addition, these requirements must be set forth as general notes on all irrigation plans.

- A. All mainline pipe to be a minimum of schedule 40.
- B. Sleeves shall be a minimum of two times the diameter of the line size.
- C. All mainlines and irrigation equipment shall be placed in the landscaped areas outside of the public right of way and public utility easement (PUE).
- D. Controller wires that are direct buried shall be NO. 14 or better, bundled and tied or wrapped every twelve (12') feet. During installation wires shall have a 24" loop tied at all direction changes greater than 30 degrees and be untied prior to trench fill in. Wires shall be buried a minimum of six (6) inches below surface, and if crossing a sidewalk should be sleeved.
- E. Flush caps shall be placed in a valve box at the end of all laterals.
- F. All valves, pressure regulators and other devices shall be placed in an appropriately sized valve box with a minimum of two (2") inches of pea gravel.
- G. Any and all reclaimed water used for irrigation shall conform to ADEQ Arizona Administrative Code R18-11, Article 3, Reclaimed Water Quality Standards. All reclaimed water lines shall be installed per MAG Specification Section 616.

11.2.3 General Backflow Prevention Device (BPD) Requirements and Notes

The following are required for all BPD construction. In addition, these requirements must be set forth as general notes on all irrigation plans:

- A.** Prior to placing any irrigation system in service, an Arizona Certified Backflow Device tester shall test the backflow prevention device and give a copy of the passed test results to the Pinal County inspector or mail it to the Pinal County Department of Public Works Inspection Section.
- B.** After initial testing, all backflow devices shall be tested and passed annually in accordance with the locale utility company's requirements.
- C.** Backflow prevention devices shall be placed a minimum of two (2') feet from the water meter and be the same size as the meter service line.
- D.** All BPD devices shall have a minimum 24" X 36" X 4" class B concrete slab with pipe sleeves. If a security cage is installed concrete shall be six (6") inches larger on all sides than the security cage.

11.2.4 General Landscape Lighting Requirement and Note

The following is required for all landscape construction. In addition, this requirement must be set forth as a general notes on all landscape plans:

- A.** All landscape lighting shall comply with the Pinal County Development Services Code, and be fully shielded.
- B.** Wires shall be buried a minimum of six (6) inches below surface, and if crossing a sidewalk should be sleeved.

11.2.5 General Wall and Fence Requirement and Note

The following is required for all landscape construction. In addition, this requirement must be set forth as a general note on all landscape plans:

- A.** Contractor shall obtain a building permit from Pinal County Community Development, Building Safety Division for all retaining walls. Permit applications shall be submitted online at least fourteen (14) calendar days prior to the start of work.
- B.** Walls and fences shall be placed outside rights-of-way and public utility easements.

11.2.6 Cover Sheet

- A.** Blue Stake notification.

- B.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with Final/Tentative Plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Landscape Architect's name, address, and telephone number.
- H.** Landscape Architect's stamp – signed and dated.
- I.** Legend identifying all grades, symbols, lines, etc.
- J.** Quantities.
- K.** Sheet numbering format - "1 of XX" where XX is total amount of sheets.
- L.** Pinal County Engineer Approval Block:

APPROVED BY:

PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:

DATE

DATE

Δ **RE-APPROVED BY:*

PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:

DATE

DATE

11.2.7 Plan Sheets

- A.** Drawing Scale (minimum): 1" = 30' horizontal. Depending on complexity of design, a larger drawing scale may be required.

- B.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as “UNSUBDIVIDED” if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C.** Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend a minimum 100’ beyond property boundary.
- D.** Show the 21’x 21’ (local to local) or 33’x 33’ (for all others) sight visibility triangle easement (SVTE) all intersections. Show the AASHTO sight distance triangles at all intersections, including driveways.
- E.** Brick pavers are not allowed within Pinal County Right of Way. Decorative stamped concrete may be used as an alternative.
- F.** Project Heading, title block (located in the lower right hand corner or right hand side of plan sheets), drawing scale, North arrow, and Landscape Architect’s seal with signature.
- G.** Plans shall show all locations, dimensions, and purposes of any existing and proposed easements. Show right-of-way, existing and proposed pavement, curbs, and sidewalk with width dimensioned.
- H.** Sheet reference shall be shown at all match lines.
- I.** All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- J.** If a portion of the street improvements for this development is within State, City, or Town jurisdiction, plans are subject to review and approval by that public agency.

CHAPTER 12 TRAFFIC SIGNAL REQUIREMENTS

12.1 General Information.

This chapter presents the minimum design criteria, standards and requirements to be referenced when preparing traffic signal improvement plans for submittal to the County. Traffic Signal needs study and warrants are to be per the current Pinal County Traffic Impact Assessment Guidelines & Procedures manual.

Pinal County operates and maintains the traffic signal system throughout the unincorporated limits of the County. The traffic signals are installed through capital improvement projects, subdivision or private development infrastructure improvements.

12.2 Traffic Signal Improvement Plan Requirements.

12.2.1 Cover Sheet

- A.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans.
- B.** Developer's name, address, and telephone number.
- C.** Engineer's name, address, and telephone number.
- D.** Engineer's stamp - signed and dated.
- E.** Vicinity map with North arrow and section data.
- F.** Index of plan sheets if more than one plan sheet.
- G.** County case number at the lower right hand corner.
- H.** Quantities List of improvements
- I.** Blue Stake notification
- J.** Sheet numbering format - "1 of XX" where XX is total amount of sheets.

K. Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

Δ *RE-APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

L. Provide a Record Drawing Certification Statement for “as-builts” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

12.2.2 General Requirements and Notes

The following are required for all traffic signal construction. In addition, these requirements must be set forth as general notes on all traffic signal plans.

- A.** Contractor shall obtain a Pinal County Infrastructure Permit prior to any work being performed within the county right-of-way. Contact Pinal County Public Works Department at least 7 working days prior to work.
- B.** During the installation of traffic signals or traffic signal interconnect; the Contractor will be responsible for making contact with the Pinal County Public Works Department to arrange for inspections. At no time shall conduit be backfilled in the County’s right-of-way without an inspection. Any questions concerning traffic signals, traffic signal interconnect or to arrange for an inspection, contact the Pinal

County Public Works Department. Inspections must be scheduled a minimum of 48-hours (or 2 business days) in advance.

- C. Any conduit that is placed without wiring for a new signal or traffic signal interconnect, a tracer wire (twin green) shall be placed in each conduit.
- D. When required, the Contractor shall install 3-4" conduits to box an intersection for future traffic signal installation. If medians are present or are to be constructed with this project, the Contractor shall stub the conduit runs into a #5 pull box in each median.
- E. Pull boxes are to be spaced every 1000 feet on a conduit run, and are to be placed on each side of an intersecting roadway.
- F. Traffic signal conduit, pull boxes and Video Detection shall be installed.
- G. The traffic signal at the intersection of "name of intersection" will be owned and maintained by the Pinal County Public Works Department. Pinal County practices, standards, and details will govern the design and maintenance of this intersection.
- H. The location of utilities as shown on the plans are approximate. All utilities involved may not be shown. The contractor shall contact "Blue Stake" prior to starting any work and is responsible for Blue Stake marking as construction is in progress.
- I. All cabinet, service pedestal, and pole foundation locations, as shown on the plans are approximate. The contractor shall field verify all new foundations location with the Pinal County Public Works Department.
- J. The contractor should verify all new foundation locations so as to not conflict with any utilities prior to construction activities.
- K. The contractor should field verify all existing signal equipment and materials, if applicable.
- L. Contractor will ensure that a Level II (I.M.S.A.) Technician is on site at all times while work is in progress.
- M. Prior to beginning construction, the contractor shall submit an equipment materials list. This must be approved by Pinal County before purchase of any material.
- N. The controller cabinet should be wired and labeled with the same phase number designations, for initial and future phases. As shown in the phase movement diagram. Each connector shall have all pins within the connector brought to cabinet tie points.
- O. Pedestrian push buttons and associated access shall conform to ADA requirements including audible and vibro-tactile indications. ADA audible pedestrian signals shall be installed per Pinal County

requirements. The sidewalk layout shall be based on the final pole locations and shall be approved by Pinal County.

- P.** Trench backfilling should not be started until conduit has been inspected and approved by Pinal County. Trench excavation, back filling and compaction shall be per MAG Standard Specifications Section 601.
- Q.** All pull boxes shall be ADOT approved brands and models of polymer boxes, lids, extensions and locks. Traffic signal pull box lids shall say "PINAL COUNTY TRAFFIC SIGNAL" unless otherwise noted on the plans.
- R.** The contractor shall maintain a minimum clearance of 21' from the crown of the road to the bottom of the mast arm. Documentation shall be provided to the Pinal County Inspector on site.
- S.** The contractor will supply and install 36"x36" "TRAFFIC CONTROL CHANGE" sign, with light and two orange flags per sign, on each approach, as directed by the Pinal County Traffic Signal Inspector. The location of each sign shall conform to the Manual on Uniform Traffic Control Devices requirements, and must be approved by Pinal County. The mounting height shall be minimum 7'-0". Signs shall be in place at the time of activation of the signal and remain in place for 30 consecutive days.
- T.** Contractor to provide and install internally illuminated street name signs as specified on the plans and the special provisions. Sign message/text will be determined by Pinal County as part of the equipment submittal process.
- U.** Prior to construction, the contractor will pothole for utilities. Prior to installation of conduit, the contractor will pothole for utilities where conduit installation will cross existing facilities.
- V.** Tops of pole foundations shall be at same elevation as that of adjacent sidewalk or flush with the sidewalk. Concrete pole aprons shall be installed around pole bases if no sidewalk is present, the elevations shall match top of adjacent curb.
- W.** The contractor shall provide and install the conduit runs from the utility company's power source pod to the meter pedestal. The utility company will install the service wire from the utility's power supply (POD) to the meter pedestal.
- X.** The signal cabinet shall be installed such that maintenance personnel facing the door of the cabinet shall be able to view the intersection.
- Y.** The Contractor shall replace all landscaping and irrigation facilities that may be disturbed or damaged during traffic signal construction at his own expense.
- Z.** All Materials and installation of traffic signals, cabinet etc. shall conform to Pinal County's standards and details of the Arizona Department of Transportation (ADOT) Traffic Signal and Lighting standard

drawings latest approved edition, the Manual on Uniform Traffic Control Devices (MUTCD) latest approved edition, the current MAG specifications and details, the special provisions and these plans.

- AA.** All luminaires shall be compliant with the Pinal County Light Pollution Code, A.R.S. Section 11-25; and shall be fully shielded.
- BB.** Traffic Control and barricading shall be according to the Manual on Uniform Traffic Control Devices and Pinal County requirements.
- CC.** Any work on arterial or collector roads will require an off-duty Pinal County Sheriff's Officer with vehicle for traffic control. Contact should be made through the PCSO representative.
- DD.** The contractor will work from the County approved plan set. An approved set of plans will be on the job site at all times while work is in progress. Any deviations from approved plans shall not be allowed without an approved plan revision.
- EE.** Any work performed without the approval of the Pinal County Engineer and not in accordance with plans and specifications, is subject to removal and replacement by the contractor at no expense to Pinal County.

12.2.3 Plan Sheets

The Traffic Signal plan shall show the proposed intersection geometry and the traffic signal installation. All existing signal equipment is to be shown on the plan. Traffic signal plans shall be submitted on separate sheets apart from any other part of the construction documents with a scale no less than 1"=20'. Plan sheets must include the following:

- A.** Include the exact location of all major items of equipment such as poles, foundation, luminaries, conduit, signal heads and faces, ground boxes, detectors, controllers, etc. shown in detail.
- B.** Identify all ingress/egress points to include street intersections and residential/commercial driveways within 500' of the installation point of the traffic signal.
- C.** Show all new and existing utilities within the right-of-way and label them accordingly.
- D.** Show all new and existing traffic control (signing, striping, traffic signals, lighting, stop lines etc.
- E.** Show all existing town, city, county and state boundary limits and the existing and proposed right-of-way and dimension them accordingly.
- F.** Project Heading, title block (located in the lower right hand corner, or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.

- G.** Identify the traffic signals electric “service address”.
- H.** Show all new and existing signs within the right-of-way and identify them. Label existing signs “EXISTING” and show them grayed out.
- I.** Right-of-way lines, city and county limits are to be clearly identified.
- J.** All islands on Arterial roadways shall be signed per the MUTCD guidelines. The beginning of each median where none exists prior are to be signed. Median breaks in a continuous median will not require signing.
- K.** Stop signs are to be shown at all Local Streets that intersect with Collector Streets within a subdivision. Local to Local Street intersections may not be stop controlled unless directed by the County Engineer. Stop signs will be shown at all Collector Street intersections.
- L.** County case number at the lower right hand corner (on all sheets).
- M.** Existing field conditions should extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend a minimum 100’ beyond property boundary.
- N.** Show proposed lane widths. Minimum proposed lane width to be 12’.
- O.** Show right-of-way, existing and proposed pavement with width dimensioned.
- P.** Show centerline survey data.
- Q.** Sheet references with station numbers shall be shown at all match lines.
- R.** 6.5’ bike lanes should be provided on both sides on all arterials and major collectors (measured from back of curb to center of striping).
- S.** All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- T.** If a portion of the street improvements for this development is within State, City, or Town jurisdiction, plans are subject to review and approval by that public agency.

CHAPTER 13 TRAFFIC SIGNING AND PAVEMENT MARKINGS REQUIREMENTS

13.1 General Information.

This chapter provides the minimum design criteria, standards, and requirements to be referenced when designing traffic signs and pavement marking improvements within the County.

13.2 Traffic Signing and Pavement Marking Plan Requirements.

13.2.1 Cover Sheet

- A.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with Final/Tentative Plat.
- B.** County case number at the lower right hand corner.
- C.** Vicinity map with North arrow and section data.
- D.** Index of plan sheets if more than one plan sheet.
- E.** Developer's name, address, and telephone number.
- F.** Engineer's name, address, and telephone number.
- G.** Engineer's stamp - signed and dated.
- H.** Legend identifying all grades, symbols, lines, etc.
- I.** Quantities.
- J.** Blue Stake notification.
- K.** Basis of Bearings.
- L.** Sheet numbering format - "1 of XX" where XX is total amount of sheets.

M. Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

*Δ *RE-APPROVED BY:*

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

N. Provide a Record Drawing Certification Statement for “as-builts” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

13.2.2 General Requirements and Notes

The following are required for all traffic signing and pavement marking design and construction. In addition, these requirements must be set forth as general notes on all traffic signing and pavement marking plans

- A.** Contractor shall obtain a Pinal County Infrastructure Permit prior to any work being performed within the county right-of-way. Contact Pinal County Public Works Department at least fourteen (14) calendar days prior to work.
- B.** Contractor is responsible for Blue Stake marking prior to installation of any sign posts.

- C. All signing installed within the County's right-of-way shall be installed by an individual that has current certification from the International Municipal Signal Association (IMSA) or the American Traffic Safety Services Association (ATSSA), or equivalent. Equivalency shall be submitted for review prior to being accepted by the County.
- D. A pre-installation meeting with Public Works Department staff will be required prior to installing any signs or posts or pavement markings within County right-of-way. Permits may be issued prior to this meeting but will not be valid until after the pre-installation meeting is held. To schedule a pre-installation meeting contact the Public Works Department two (2) business days prior.
- E. All signing and pavement markings shall conform to the latest edition of the Manual on Uniform Traffic Control Devices and as supplemented by the Arizona Department of Transportation with regard to size, color, shape, and placement.
- F. All Signs must be manufactured of "ASTM D-4956-01a- Proposed Type XI Sheeting" (3M 4000 DG3 series or equivalent) which will be attached to the standard signage aluminum plates. Sign imaging shall be in compliance with the reflective sheeting manufactures matched component system. Sign imaging shall consist of an acrylic based electronic cuttable film (3M 1170 Series or equivalent) or silk screened (depending on the quantity of signage) with standard highway colors. In addition, if called out on plans, to create a graffiti-protective coating, a premium protective overlay film (3M 1160 or equivalent) shall be used which is designated to comply with the underlying reflective sheeting match component system. All signs must have a quarter inch (1/4") white border.
- G. The bottom of each sign shall be at least 7 feet above the nearest edge of pavement and at least 7 feet above the ground under the sign.
- H. The contractor shall install the signs so the nearest edge or corner of each sign is offset 2 feet behind the back of the sidewalk or back of curb, or if no curb exists, it shall be placed a minimum of 6 feet from the edge of pavement.
- I. Street Name Sign installation – street name signs shall be installed at each intersection. For street name sign blades that are 23" and under a 12" bracket shall be used. For blades that are 24" to 35", an 18" bracket shall be used. For blades that are 36" and above, a 24" bracket shall be used.
- J. All sign sheeting shall conform to Section 1007 Retro reflective Sheeting of the ADOT Standard Specifications for Road and Bridge Construction Manual.
- K. All signs will be installed using 2" square tubing and in accordance with ADOT Signing and Marking Standards (Detail S-1). Sign foundation systems will be "slip base" type per the same standard drawing.
- L. The Contractor shall allow the concrete in the postholes to cure for at least 24-hours prior to standing the poles.

- M.** Any sign that is to be relocated shall be reinstalled as directed by the Public Works Department. Signs that need to be removed or relocated during construction shall be done so by the Contractor at their expense.
- N.** The Contractor shall ensure that at no time a traffic sign is installed in such a way as to be blocked by trees or vegetation. In these cases the Contractor shall contact the Public Works Department to provide an alternate location for the installation of signing in question.
- O.** Signing quantities and installation locations are subject to change at the time of installation based upon current accepted practice.
- P.** All pavement markings shall conform to the Arizona Department of Transportation Specifications and the Manual of Uniform Traffic Control Devices.
- Q.** The Contractor shall spot mark the entire project before applying any paint. When the spotting is complete the Contractor shall contact the Pinal County Public Works Department, to make arrangements for inspection prior to applying any paint (5 working days advance notice is required).
- R.** The Contractor shall apply a primer-sealer prior to the installation of all thermoplastic pavement markings in accordance with the thermoplastic manufactures' recommendations.
- S.** Any pavement markings applied prior to field inspection by the Pinal County Public Works Department shall be removed and re-stripped at the expense of the Contractor.
- T.** It is the contractor's responsibility to ensure that the final surface course is placed so that the striping is offset 1 foot clear of the construction joint, unless otherwise directed by the County Engineer.
- U.** The dimensions shown to pavement striping are to the center of the striping or, in the case of double striping, to the center of the double striping.
- V.** The final striping shall be 60 mil (0.060 inch) thick hot-sprayed thermoplastic reflectorized striping. Line widths shall be in accordance with ADOT Standard Drawings.
- W.** The pavement arrow, symbols and legend shall be white 90 mil (0.090 inch) thick alkyd extruded thermoplastic reflectorized markings. Turn lane arrows shall be located in accordance with ADOT Standard Drawing M-11.
- X.** The contractor shall clean the roadway surface to the satisfaction of the County Engineer, by sweeping and air-jet blowing, immediately prior to the placement of all pavement markings. The roadway surface shall be dry and the air and pavement temperatures shall not be less than 50 degrees F for the placement of thermoplastic markings.
- Y.** Any obliterated pavement markings shall be thoroughly cleaned and sealed with an asphalt slurry coating within 24 hours of removal.

- Z.** All retro-reflective raised pavement markers shall have an abrasion resistant coating on the face of the prismatic reflectors and shall conform to the details ADOT Standard Drawing M-19. They shall be installed with a bituminous adhesive which is on the ADOT approved products list.
- AA.** Where retro-reflective raised pavement markers are placed along solid striping, the nearest edge of each marker shall be offset 2 inches from the nearest edge of the striping.
- BB.** All signs shall be in compliance with the Manual on Uniform Traffic Control Devices (MUTCD), the ADOT Signing and Marking Standard Drawings, and the Traffic Engineering Manual of Approved Signs. All signs shall be fabricated of flat sheet aluminum with direct applied copy or silk-screened legend. Retro reflective sheeting shall be in accordance with ADOT Section 1007.
- CC.** Raised median and curbs shall be marked in accordance with ADOT Standard Drawing M-1 and MUTCD Section 2B.32 and 2C.64.
- DD.** All signing and pavement markings shall be installed within five (5) working days of completion of the final lift pavement surface or as required by the County Engineer.
- EE.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices or Pinal County requirements.
- FF.** Any work on Arterial or Collector Roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- GG.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to commencement of work, the plans must be resubmitted to Pinal County for update review and approval.

13.2.3 Plan Sheet Requirements

- A.** Drawing Scale (minimum): 1" = 40' horizontal. Depending on complexity of design, a larger drawing scale may be required.
- B.** Project Heading, title block (located in the lower right hand corner or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- C.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- D.** Traffic signing and pavement markings design should be in the same plan view on the same plan sheet, if practical.

- E.** Entire length of project is to be shown in plan view. Typical sections representative of traffic signing and pavement markings will not be accepted.
- F.** Show the existing roadway, signing and marking and proposed signing and markings for approximately 500 feet beyond the project limits on each approach to the project.
- G.** Identify all ingress/egress points to include street intersections and residential/commercial driveways within 500' of the project limits on both approaches and on both sides of the street.
- H.** Show all new and existing signs within the right-of-way and identify them. Label existing signs "EXISTING" and show them grayed out.
- I.** Right-of-way lines, city and county limits are to be clearly identified.
- J.** All islands on Arterial roadways shall be signed per the MUTCD guidelines. The beginning of each median where none exists prior are to be signed. Median breaks in a continuous median will not require signing.
- K.** Stop signs are to be shown at all Local Streets that intersect with Collector Streets within a subdivision. Local to Local Street intersections may not be stop controlled unless directed by the County Engineer. Stop signs will be shown at all Collector Street intersections.
- L.** County case number at the lower right hand corner (on all sheets).
- M.** Existing field conditions should extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend a minimum 100' beyond property boundary.
- N.** Show proposed lane widths. Minimum proposed lane width to be 12'.
- O.** Show right-of-way, existing and proposed pavement with width dimensioned.
- P.** Show centerline survey data.
- Q.** Sheet references with station numbers shall be shown at all match lines.
- R.** 6.5' bike lanes should be provided on both sides on all arterials and major collectors (measured from back of curb to center of striping).
- S.** All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.

- T. If a portion of the street improvements for this development is within State, City, or Town jurisdiction, plans are subject to review and approval by that public agency.

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CHAPTER 14 DRY UTILITIES AND OTHER IMPROVEMENT PLANS NOT SPECIFIED

14.1 General Information.

This chapter provides guidance and minimum design criteria for the modification and construction of dry utilities and other improvement plans that may be required that are not specified in this manual. It is intended for use in planning, design and plan preparation processes. Dry utilities and other improvement plans include but are not limited to: electrical, telecommunications and natural gas systems. These systems bring power, communication and fuel into a building, distribute it throughout. Examples of dry utility systems include electrical power, natural gas, telephone and cable. From time to time due to unique development conditions, the County Engineer may require plan submittals for dry utility installation or special improvement plan that does not fit into other improvement plans specified in the Manual. The County Engineer may require additional notes or utilize other specifications to ensure compliance with this Manual, other applicable Codes and Ordinances, and plan preparation and infrastructure design practices.

14.1.1 Plans shall be prepared in accordance with the Improvement Plan Requirements shown in Chapter 5 of this Subdivision & Infrastructure Design Manual.

14.2 Additional Dry Utilities and other Improvement Plans Requirements.

The following requirements apply to Dry Utilities and unspecified Improvement Plan Submittal to Pinal County:

14.2.1 Cover Sheet

- A.** Blue Stake notification.
- B.** Project Heading Block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Engineer's name, address, and telephone number.
- H.** Engineer's stamp - signed and dated.

- I. Legend identifying grades, symbols, lines, etc.
- J. Quantities.
- K. Basis of bearings and benchmark (NAVD 88 datum).
- L. Sheet numbering format - "1 of XX", where XX is the total amount of sheets.
- M. Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
 PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
 APPROVAL EXPIRES:*

DATE

DATE

Δ **RE-APPROVED BY:*

*PINAL COUNTY ENGINEER
 PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
 APPROVAL EXPIRES:*

DATE

DATE

- N. Utility Company or provider and ADEQ approval block (if applicable). Both approvals are required prior to County approval.
- O. Provide a Record Drawing Certification Statement for "as-builts" on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

14.2.2 General Requirements and Notes

The following are required for all dry utility construction and other unspecified improvement plans. In addition, these requirements must be set forth as general notes on all plans.

- A.** Contractor shall obtain a Pinal County Right of Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Inspection Section at least 14 working days prior to work. The proposed traffic control plan may be submitted along with the Permit.
- B.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- C.** All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of construction. (If located outside pavement section, prefer level with finished grade but allow 6" max above finished grade.)
- D.** Contractor is responsible for Blue Stake marking as construction is in progress.
- E.** All residents to be notified in person a minimum of 24 hours prior to driveway crossing.
- F.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices and Pinal County requirements. Contractor to supply lighted barricades with open trench signage.
- G.** Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least fourteen (14) working days prior to work for review and approval.
- H.** Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- I.** No trench to be left open/uncovered after working hours unless properly signed and barricaded per the approved Traffic Control Plan.
- J.** All trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.
- K.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

14.2.3 Plan Sheets

- A. Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required.
- B. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C. Blue Stake Notification.
- D. Sheet references shall be shown at all match lines.
- E. Project Heading, title block (located in the lower right hand corner or right side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- F. Utility lines shall be placed within the pavement section.
- G. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- H. If a portion of the street improvements for this development is within State, City or Town jurisdiction, plans are subject to review and approval by that public agency.

14.2.4 Details

- A. Plans shall include a typical detail for the trench. Trench typical detail per MAG Standard Specifications. Pea gravel material will not be allowed within rights-of-way or public utility easements. Detail shall include the following note:

"Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6."
- B. Plans shall include a typical service location detail.

CHAPTER 15 AS-BUILT PLANS REQUIREMENTS

15.1 General Information.

This chapter provides guidance and minimum requirements for the preparation of As-Built Plans. It is intended for use during construction and documentation of infrastructure projects.

In accordance with the Pinal County Subdivision Regulations acceptable As-Built Plans are required prior to the release of a Certificate of Completion. Additionally, any type of construction will not be accepted until certified As-Built Plans have been submitted to and accepted by the County.

15.1.1 Submittals

- A.** “As-Built” Plans shall be 24” x 36”, one bond copy and one electronic copy in PDF format.
- B.** “As-Built” Plans shall be signed and sealed by a Professional Engineer or Land Surveyor registered in the State of Arizona with a completed and sealed “RECORD DRAWING CERTIFICATION” approval block.

15.2 Minimum As-Built Requirements.

These are the minimum technical requirements for As-Built Plans. The As-Built Plans must also include all noted changes to the improvement plans.

15.2.1 Paving Plans

- A.** Station for all grade breaks.
- B.** Back of curb offset dimension at all changes in alignment.
- C.** Top of curb, gutter and pavement centerline elevations at all grade breaks, curb return, valley gutters, plus any other location necessary to adequately show drainage.
- D.** Survey monuments – installation and accuracy certifications.

15.2.2 Irrigation and Storm Drain Plans

- A.** Street centerline station and offset dimension to the main at all changes in alignment and/or changes in grade.
- B.** Street centerline station and offset dimension to all structures and changes in alignment.

- C. Top and invert elevations for all structures.

15.2.3 Grading Plans

- A. Elevations at all drainage control points (i.e. retention overflow point, tops and bottoms of retention basins, drain rims, valley gutters, and curbs).
- B. Dimensions of all retention areas.
- C. Retention calculations revised to as-built condition.
- D. Finished pad and finished floor elevations.

15.2.4 Water System Plans

- A. Street centerline station and offset dimensions to:
- B. All fire hydrants and fittings (i.e. valves, blow-offs, etc.).
- C. Main at all changes in alignment.
- D. All horizontal control points (i.e. centerline intersects, P.C., P.T.).
- E. Station and elevations given at all vertical alignment changes.
- F. Centerline station and offset to each service tap; size of tap and dimension to nearest side property line.
- G. Note centerline station, offset and elevations to all changes in vertical alignment (i.e. dips, bends, etc., required to avoid conflicts with other utilities).

15.2.5 Sewer System Plans

- A. Street centerline station and offset dimension from street centerline to main at manholes and all changes in alignment.
- B. Sewer line station at centerline of each manhole.
- C. Rim and invert elevation for each manhole.
- D. Calculated slope between manholes.

- E.** Sewer line stationing at centerline of each service tap at 90 degrees to main; if not installed 90 degrees to main, station and offset to end of each service tap.

15.2.6 Landscape and Irrigation Plans

- A.** All plant material placed in the sight visibility triangle easements shall have a maximum growth height of 24 inches. All intersections, including driveways shall comply with the AASHTO Intersection Sight Triangle Requirements.
- B.** All landscaping and irrigation including drainage ways and rights-of-way.
- C.** Trees placed within seven (7') feet of a concrete structure, including sidewalks and curbs, shall have a root barrier installed adjacent to the structure.
- D.** All mainlines and irrigation equipment placed in the landscaped areas outside of the public right of way and public utility easement (PUE).
- E.** All valves, pressure regulators and other devices placed.
- F.** Any and all reclaimed water used for irrigation shall conform to ADEQ Arizona Administrative Code R18-11, Article 3, Reclaimed Water Quality Standards. All reclaimed water lines shall be installed per MAG Specification Section 616.
- G.** Backflow prevention devices placed.
- H.** All BPD devices shall have a minimum 24" X 36" X 4" class B concrete slab with pipe sleeves. If a security cage is installed concrete shall be six (6") inches larger on all sides than the security cage.

CHAPTER 16 PERMITTING, INSPECTION & CONSTRUCTION

16.1 General Information.

This chapter outlines the requirements for permitting, inspection and overall standards for construction in Pinal County

16.2 Permit Requirements.

All infrastructure improvements within right-of-way shall be constructed under an approved permit from the Pinal County Public Works Quality Assurance Inspection Section. The permit application must be submitted at least fourteen (14) calendar days before work is scheduled to begin. Until all improvement plans, studies, reports, investigations and required assurances have been submitted and approved, the permit application for work within the subdivision and rights-of-way will not be accepted.

16.3 Notification of Construction.

The County Engineer or his designee shall be notified at least fourteen (14) calendar days prior to the start of construction.

16.4 Specifications.

16.4.1 All work and material shall conform to the current Uniform Standard Specifications for Public Works Construction (MAG).

16.4.2 It is not the intention of the Pinal County Public Works Department to prohibit use of other materials, methods or designs for infrastructure improvements. Other County specifications may be substituted as satisfactory alternates with prior submission of structural designs, tests and other supporting data and upon written approval of the County Engineer prior to approval of plans or performance of work.

16.5 Materials.

16.5.1 Aggregate Base Material - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction. The total thickness shall be determined by laboratory tests of the subgrade materials with a minimum of six-inch Class II Aggregate Base.

- 16.5.2** Asphaltic Concrete - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction. Local residential streets, use Marshall Mix design; Collector and Arterial streets Gyratory Mix designs.
- 16.5.3** Concrete for all curb, gutter, sidewalks, driveway entrances, wash crossings and street related concrete construction shall meet MAG Uniform Standard Specification and Details for Public Works Construction.
- 16.5.4** Reinforced Concrete Pipe - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction.
- 16.5.5** Corrugated Metal Pipe - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction.
- 16.5.6** Polypropylene Pipe – Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction Section 740 and AASHTO M330.
- 16.5.7** Miscellaneous - All construction shall meet MAG Uniform Standard Specifications and Details for Public Works.

16.6 Pavement.

- 16.6.1** All pavement and curbs and gutters shall be constructed to the grades set by the Engineer of the project per the approved plans.
- 16.6.2** The subgrade of the street shall be scarified to a depth of at least 6" and thoroughly compacted by wetting and rolling per MAG specifications.
 - A.** On every project samples of the subgrade material shall be taken per each soil type on the project or as determined by the County Engineer. Samples shall be tested by an approved laboratory. Laboratory reports shall be submitted to the County Engineer with street paving plans. The report shall show plastic index and gradation. The depth of the base material required shall be established after analysis of the subgrade soil and shall be in accordance with the plasticity index/grading chart set forth in these regulations.
 - B.** The base material shall conform to MAG Specifications 310.2. Each layer shall be bladed to a smooth surface conforming to the cross sections shown on the plans and shall be watered and thoroughly rolled in a manner satisfactory to the County Engineer. Laboratory reports showing gradation and the plasticity index, shall be submitted to the office of the County Engineer.
 - C.** Asphaltic concrete shall conform to MAG Specification Sections 321 and 710.
 - D.** The cost of all sampling and testing shall be borne by the subdivider or contractor.

- E. Seal Coat. A construction fog seal shall be applied at the 1 year warranty walkthrough, at such a time all pavement marking shall also be refreshed according to approved as-built plans.

The Fog Seal Concentrate shall be composed of a petroleum resin-oil base uniformly emulsified with water and shall conform to the following physical and chemical requirements:

Designation	Test Method	Requirements
Viscosity, S.F. at 77°F, sec	ASTM D244-60	May-40
Residue, % (1)	ASTM D244-60 (Mod)	58-62
Cement Mixing Test, %	ASTM D244-60	Zero
Sieve Test, % Max. (2)	ASTM D244-60 (Mod)	0.1
Particle Charge Test	ASTM D244-60	Positive
Test on Residue from	ASTM D244-60	(Mod):
Viscosity, sc., 140°F	ASTM D445	100-200
Asphaltness, % Max	ASTM D2006-62T	0.75

- F. ASTM 244 Modified Evaporation Test for percent of residue is made by heating 50 gram sample to 300°F. until foaming ceases, then cool immediately and calculate results.
- G. Test Procedure identical with ASTM D244 except that distilled water shall be used in place of 2% sodium oleate solution.

16.7 Compaction.

- 16.7.1** Subgrade: Top six inches of pavement and curb and sidewalk subgrade shall be compacted to a minimum of ninety-five percent (95%) of the maximum density of the material. Sidewalk subgrade and shoulder shall be compacted to a minimum of ninety-five percent (95%) of the maximum density of the material.
- 16.7.2** Aggregate Base Material: The base course shall not be placed on subgrade until compaction tests of the subgrade have been completed by the Engineer of Record and found to meet the specifications contained herein and the grade has been string line checked by the Inspection Section. Base material shall be compacted, full depth, to a minimum of one hundred percent (100%) of the maximum density of the material being used.

16.8 Contraction and Expansion Joints.

Contraction and Expansion joints shall be placed per MAG Standard Specifications section 340.

16.9 Utilities.

It shall be the subdivider's responsibility to arrange for all necessary installation, relocation or removal of all conflicting utilities at no expense to the county. Before placement of base course or pouring of concrete the subdivider shall furnish to Pinal County Public Works Inspection Section utility clearance certificate from each utility having facilities in the area. Test reports as required by Chapter 16 herein, Special Provisions for Installation of Underground Utilities, must also be received by Pinal County Public Works prior to issuance of approval for paving or curb operations. The County Engineer will give approval for utility installation, grading and subgrade compaction.

16.10 Traffic Control Devices.

The existence of any traffic control device within the limits of the construction area shall be shown on the plans and detailed as to legend or purpose. Under no circumstances shall the owner, their agent, or contractor be allowed to disturb any device so shown on the plans except with the approval of the County Engineer. The owner or their agent shall make known to the Pinal County Public Works Inspection Section in writing his desire for removal or relocation of any such device and it shall be so noted on the plans.

16.11 Street Signs and Street Survey Monuments.

No approval or acceptance of a project will be given until street names signs and survey monuments are completely in place.

16.12 Dust Control.

Existing regulations of the Pinal County Aquifer Protection Division, Pinal County Air Quality Department, and other applicable federal, state and county ordinances and regulations shall be rigidly observed and enforced. Water or other approved dust palliative in sufficient quantities shall be applied during all phases of construction involving open earth work to prevent the unnecessary discharge of dust and dirt into the air. An air quality permit shall be required. The Subdivider shall contact Pinal County Air Quality Division.

16.13 Individual Mail Boxes.

Individual mail boxes are permitted to be placed only in such locations that will not interfere with traffic, either vehicular or pedestrian, or create a hazard of any nature. If a sidewalk is constructed adjacent to the curb, the box shall be located behind the sidewalk and clear of the vertical projection of the back edge of the sidewalk by a minimum one-foot. If no sidewalk is constructed, the box must clear the vertical projection of the back edge of the curb by a minimum of one foot. If no curb is constructed the box must clear the vertical projection of the edge

of the pavement by a minimum of three feet. Installation of individual mail boxes in the County right-of-way shall be done under permit from the Pinal County Public Works Inspection Section.

16.14 Inspection.

All work within rights-of-way shall be inspected by the Pinal County Public Works Department Inspector. The inspector has the authority to reject work or material that is not in compliance with the approved improvement plans and County requirements.

16.15 Testing.

16.15.1 The samples and tests of material shall be made in accordance with the Uniform Standard Specifications and Details for Public Works Construction as furnished by the Maricopa Association of Governments (MAG) and as follows and additionally specified in **Exhibit 7.0** of this Manual:

- A.** Pavement Subgrade - one compaction test per 500' each lane with a minimum of one test per street; 95% minimum compaction required.
- B.** Curb Subgrade - one compaction test per 500' with a minimum of one test per street, per side; 95% minimum compaction required.
- C.** Sidewalk Subgrade - one compaction test per 500' with a minimum of one test per street, per side; 95% minimum compaction required (both attached and detached sidewalk)
- D.** Base Material - one compaction test per 500' per lift, per lane with a minimum one test per street; 100% minimum compaction required. One sample required per 1000 tons with a minimum one sample per day and one per source.
- E.** Trench Backfill - one compaction test per 500' of mainline trench per lift, with a minimum of one test per street. One third of all service trenches shall be tested; 95% minimum compaction required on all trenches full depth including trenches in the PUE.
- F.** Structure Backfill - one compaction test per 100 cubic yards of backfill; 95% minimum compaction required. One sample shall be taken for every 500 cubic yards placed.
- G.** Fill Construction (Borrow/Embankment) - one compaction test per 750 cubic yards placed, per lift; 95% minimum compaction required. One sample shall be taken per soil type/source or as directed.
- H.** Portland Cement Concrete - See Section 725 of the MAG Uniform Standard Specifications for required concrete tests.

- I. Asphaltic Concrete - See Section 321 of the MAG Uniform Standard Specifications for required asphaltic concrete tests.

16.16 Approval.

The street improvements will not be considered ready for final inspection until all drainage items, grading, and backfill are complete and pavement, curbs, and sidewalks swept clean of all dirt and debris. Curbs and the area behind curbs shall be totally backfilled and neatly dressed to a maximum 4:1 slope. The contractor shall furnish a water truck at the time of final inspection for the purpose of testing street drainage. Any ponding in excess of one-quarter inch in depth shall require corrective action by the contractor. The corrected "As-Built" plans as described in Chapter 15 herein must be submitted before final project approval.

CHAPTER 17 UTILITY CONSTRUCTION IN COUNTY RIGHT-OF-WAY

17.1 General Information.

This chapter presents the special provisions and requirements for design, permitting, and testing requirements for construction of utilities in dedicated County right-of-way.

Prior to the issuance of a permit to allow the excavation and installation of underground utilities, i.e., (electric power, cable, fiber optic, telephone, and water) in any County right of-way, the subdivider, contractor or person installing underground utilities shall conform to the requirements of this Manual.

17.2 General Requirements.

All work and materials shall conform to the current Uniform Standard Specifications and Details for Public Works Construction as furnished by the Maricopa Association of Governments (MAG) apply to trench backfill material, backfill compaction and roadway surface restoration, except as noted in this chapter. In case of conflict between the MAG Standard Specifications and these Special Provisions, the Special Provisions shall govern.

Other agency specifications for construction material which are equal to or greater than Pinal County Specifications, listed herein, may be substituted as satisfactory alternates with prior written approval of the County Engineer.

Other construction methods, which are determined from engineering studies and laboratory tests, may be substituted as satisfactory alternates with prior written approval of the County Engineer.

17.3 Utility Separation.

All underground electric power lines installed in the streets, alleys, roads, highways or right-of-ways belonging to the County, shall be installed at least twelve (12) inches below any underground water pipelines at the point where underground electric power lines cross or intercept any underground water pipelines. In addition, underground electric power lines shall be encased in conduit for a distance of at least five (5) feet on each side of the point of intersection with underground water pipelines. All installation costs of underground electric power lines and conduit shall be borne by those installing the underground electric power lines.

17.4 Additional Utility Plan Requirements.

17.4.1 All preparation of plans, specifications, construction and inspection within County right-of-way shall be performed under the supervision of a Civil Engineer registered in the State of Arizona. Plans may be submitted electronically.

17.4.2 Plans shall be submitted on a maximum sheet size of 24" x 36" and must be neat, clear, legible, and completed in all respects. Profiles will be required on projects involving installation of sewer and underground irrigation lines in dedicated right-of-way. Power facilities must also be submitted in profile where the trade size of a single conduit exceeds six inches (6") in diameter or where multiple conduits including the concrete encasements are sixty (60) square inches or greater in cross-sectional area. In addition, profiles may be required by the County Engineer in cases of possible alignment or grade conflicts, cover problems, or crossing conflicts. Plans shall be submitted to the Pinal County Public Works Department for review and approval. The application for the construction permit will not be accepted until all improvement plans have been approved. Upon approval of all plans, the right-of-way permit application shall be submitted at least seven (7) working days prior to beginning of work.

17.4.3 Upon completion of Construction, a set of As-Built Plans shall be submitted to the Public Works Quality Assurance Inspection Section.

17.5 Backfill and Compaction.

17.5.1 Backfill: Material shall conform to the latest edition of the MAG Uniform Standard Specifications and Details for Public Works Construction Section 601.

17.5.2 Compaction:

A. All trenches shall be thoroughly compacted to a uniform density of not less than 95%

B. Asphalt concrete or chip seal roadway trench repairs shall be constructed in accordance with Type A, B, or T-Top trench repair of MAG Std. Detail 200-1 and section 336 (G) with the exception of backfill. All backfill material shall be ABC per MAG section 702 & 601 or CLSM (Controlled Low Strength Material) per MAG section 604 & 728. All joints of new asphalt patches shall be crack sealed after patching.

17.5.3 Where an excavation meets the criteria of Section 16.5.2b above, the excavation shall be filled with A.B.C. or granular select material, placed at optimum moisture in lifts sufficiently thin to ensure required compaction for the full depth of the lift, and in no case greater than thirty inches (30") compacted depth, unless previously approved in writing by the County Engineer. Granular select material shall not exceed three inches (3") in diameter and shall be graded in such a manner as to ensure the exclusion of any and all voids in the backfill. The upper two feet (2') is to be mechanically compacted to not less than ninety-five percent (95%) of maximum density. Sufficient water may be added to raise the moisture content to optimum only. Below these two feet (2'), the material shall be compacted to not less than eighty-five percent (85%) of the maximum density for the backfill material as determined by AASHTO Test T-99. Field determination of density shall be made in accordance with AASHTO Test T-147 or other test procedure previously approved in writing by the County Engineer.

- 17.5.4** The minimum cover for utility lines shall be thirty-six inches (36") other than direct burial cable which shall be twenty-four inches (24"). Cover is defined as the difference in elevation between the top of the line or pipe and the ultimate gutter grade of the roadway.

For facilities outside the area defined in Section 16.5.2b above, cover is defined as the difference in elevation between the top of the line or pipe and the natural or regarded ground surface, whichever is lesser.

17.6 Compaction Test Reports.

- 17.6.1** The cost of making compaction tests shall be paid by the owner or the contractor. The tests shall be made at the locations and depths specified by the County Engineer or his or her representative. A minimum of one set of tests shall be required for each one foot (1') of trench depth for trenches within the area defined in 16.5.2b above. The minimum number or passing tests per set anticipated to prove specification compliance may be estimated at the following rates:

- A.** Pavement Cut Crossings – one (1) test per crossing.
- B.** Pavement Cuts or Trenches within two feet (2') of pavement edge one (1) test per five hundred lineal feet (500').
- C.** At all other locations – one (1) test per five hundred lineal feet (500').
- D.** Test may be taken at four-foot (4') vertical increments in the same vertical plane at the option of the Engineer of Record.
- E.** Copies of all test reports shall be sent directly to the Engineer of Record from the testing laboratory, and to the Pinal County Public Works Inspection Section within five (5) days after tests are conducted.

17.6.2 Pavement Cutting and Restoration:

- A.** Within one year of construction of new streets, renovation or reconstruction of a street, no street cuts will be permitted. Consideration will be given on a case-by-case basis for those cuts that are emergency in nature but are still subject to restoration as stated in the Pinal County Development Services Code, Title 7, Chapter 7.05, Section 7.05.060.
- B.** In order to limit the potential for pavement cuts to occur early in the life of a new or reconstructed pavement section, the developer shall coordinate their improvements plans with all utility companies providing service in the area.
- C.** All cuts in asphalt or concrete pavement shall have saw cut or neat and straight edges. Excavated pavement material shall be removed from the site.

D. Pavement Cut Replacement: The asphaltic material used for replacement of pavement cuts shall conform to MAG Uniform Standard Specifications and Details for Public Works Construction, MAG Standard Detail 200-1.

- 1.** The thickness of the pavement and aggregate base replaced shall be consistent with the thickness of the existing asphalt pavement and base but shall not be less than three inches (3") of asphaltic pavement over nine inches (9"), compacted depth, of aggregate base compacted to one hundred percent (100%) of maximum density for the material.
- 2.** For Portland cement concrete paving cut replacement this same specification shall apply. The existing pavement shall be trimmed to a neat edge and the edge shall be treated with a proper emulsion to ensure a bond between the existing pavement and the patch.

E. It is required that all roadway crossing of lines four inches (4") in diameter or less to be installed under pavement which is less than three (3) years old, be bored under the pavement.

17.6.3 Surface Restoration of Graveled or Earth Surfaced Roads: The surface replacement of gravel surfaced roads shall be consistent with the existing surface material in place, and consist of select material or A.B.C. as directed by the County Engineer.

Fill placed on existing gravel surfaced roads or earth surfaced roads to obtain minimum allowable cover over the pipe of utility lines shall be placed to proper grade for the full width of the existing roadway and shall be compacted and graded to the satisfaction of the County Engineer.

17.6.4 The Contractor shall secure a County Right-of-Way Use Permit prior to start of any construction operations within County right-of-way. The permit application must be submitted at least seven (7) working days before work is scheduled to begin.

- A.** The permittee shall notify the property owner or resident of adjoining occupied property at least two (2) working days prior to disruption of access to the property, and at no time deny access to the property longer than one (1) normal working day, and shall provide plank for crossings, if necessary.
- B.** The permittee shall maintain all existing traffic control signs within the construction area, and shall reset all signs in their original locations as soon as construction operations will permit. The permittee shall place and maintain traffic warning signs during the course of work, as required by the County Engineer.
- C.** Only rubber-tired equipment shall be used on pavement except that crawler equipment using street pads may be used.

- D.** Existing regulations of the Pinal County Aquifer Protection Division and Air Quality Division as applicable shall be rigidly observed and enforced. Water or approved dust palliative in sufficient quantities shall be applied during all phases of construction involving open earth work to prevent the unnecessary discharge of dust and dirt into the air.
- E.** During the course of work, the permittee shall maintain the work area in a clean and orderly condition. Excess excavation, debris, etc., shall not be permitted to accumulate on the road surface or shoulders. Work shall progress in such a manner that no condition such as soft trenches, drop-offs from the edge of pavement, etc., shall exist. Upon completion of installation, the permittee shall clean the pavement surface, pull and dress shoulders, and otherwise put in order the entire work area to the satisfaction of the County Engineer. If said work is not completed in a manner acceptable to the County Engineer, the utility doing the work shall be held responsible and further permits shall not be issued pending the completion of the work.
- F.** All work in County right-of-way shall be performed by a licensed contractor in the State of Arizona. The contractor shall show proof of liability insurance. Documents shall be submitted to Pinal County Public Works Inspection Section simultaneously with the permit application.

CHAPTER 18 STREET LIGHTING

All Street Lights located in public or private Right-of-Way shall have LED lighting fixtures installed to the satisfaction of the County Engineer subject to the follow criteria:

18.1 Specifications.

Street Light plans and details shall be included with the improvement plans and shall be submitted for review by the County. Street Light design and construction plans shall be prepared and sealed by a licensed professional engineer registered in the State of Arizona.

18.1.1 All new Street Light poles installed on arterial and collector streets shall be on a concrete foundation. New streetlight poles on local streets shall be direct bury type.

18.1.2 Traffic signs shall not be installed on a streetlight pole without approval from the County Engineer.

18.1.3 Street Lights, if installed as approved By County Engineer, shall have LED luminaries that are fully shielded and a color temperature of no more than 3000 Kelvin.

18.2 Location.

The Street Light system shall be installed within the right-of-way where possible. Where right-of-way is not available and where a utility easement allows for streetlight equipment, the engineer may design equipment for installation within the utility easement with approval from the County Engineer. If located on private property the installation shall follow the currently adopted requirements of Title 2 of the Pinal County Development Services Code.

18.3 Horizontal Clearances.

Street Light poles shall be subject to the following horizontal clearances:

18.3.1 Street Light poles shall be located a minimum of one (1) foot behind the back of sidewalk where the sidewalk abuts the curb.

18.3.2 Where no sidewalk exists, the Street Light pole shall be located a minimum of five (5) feet behind the back of curb.

18.3.3 Where no sidewalk and no curb exists, Street Light poles shall be installed a minimum of ten (10) feet from the edge of pavement.

18.3.4 Street Light poles should maintain a minimum of seven (7) feet of horizontal clearance between fire hydrants, and water services facilities.

18.3.5 Street Light poles should maintain a minimum of three (3) feet of horizontal clearance from service taps (water/sewer) and two (2) feet of clearance from storm drains and sewer facilities.

18.3.6 Street Light poles should also be located a minimum distance of six (6) feet from driveways. If the driveway has a wing, streetlight poles must be located a minimum distance of six (6) feet from the wing.

18.4 Additional Requirements.

All other Street Light requirements not mentioned herein shall conform to the design standards and specifications of the local electrical utility. Where no standards exists, the designer shall refer to Arizona Public Service (APS) standards and specifications.

EXHIBIT 3.1:

[illegible]

EXHIBIT 6.1:



EXHIBIT 6.2:

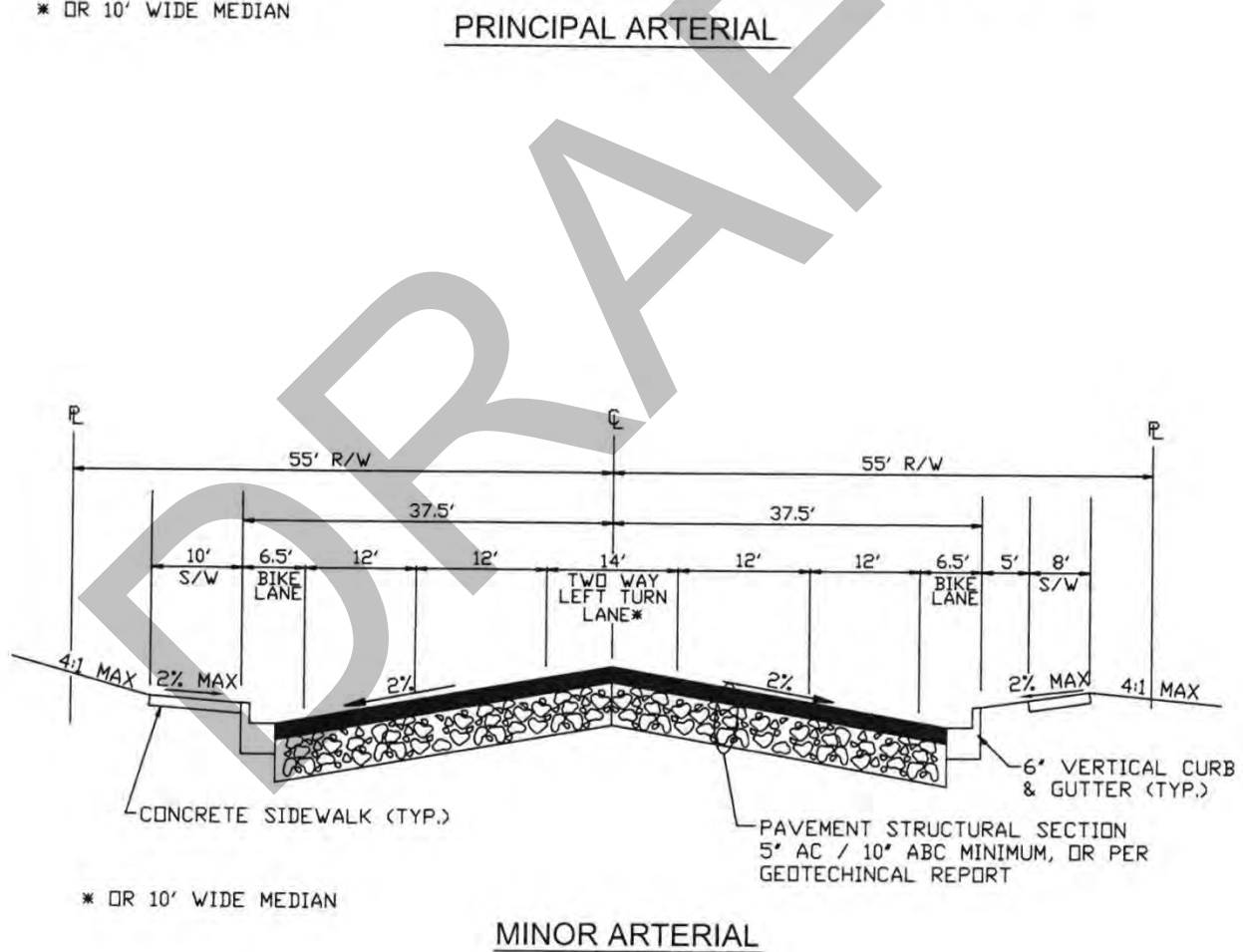
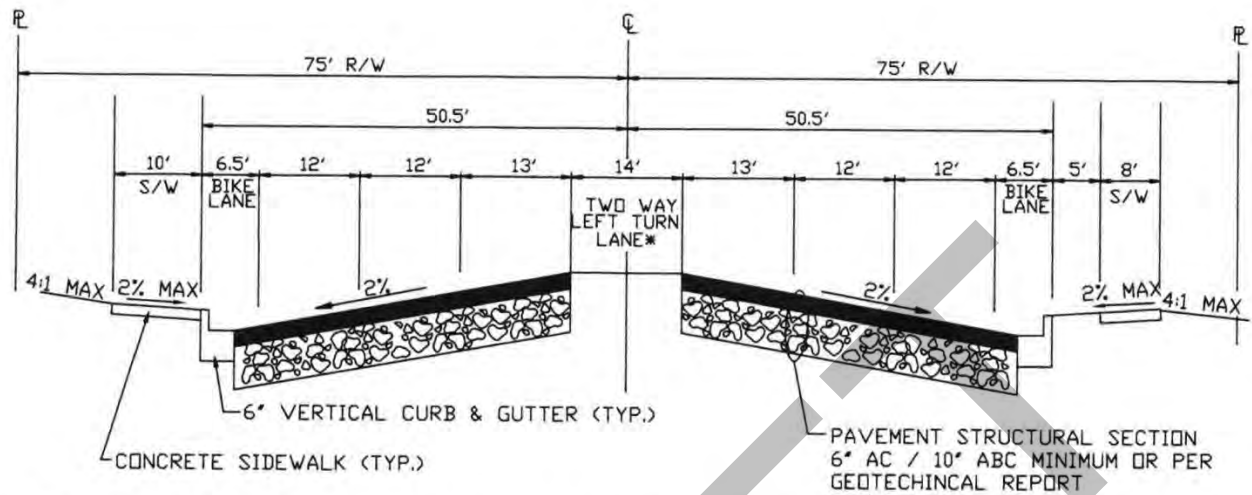
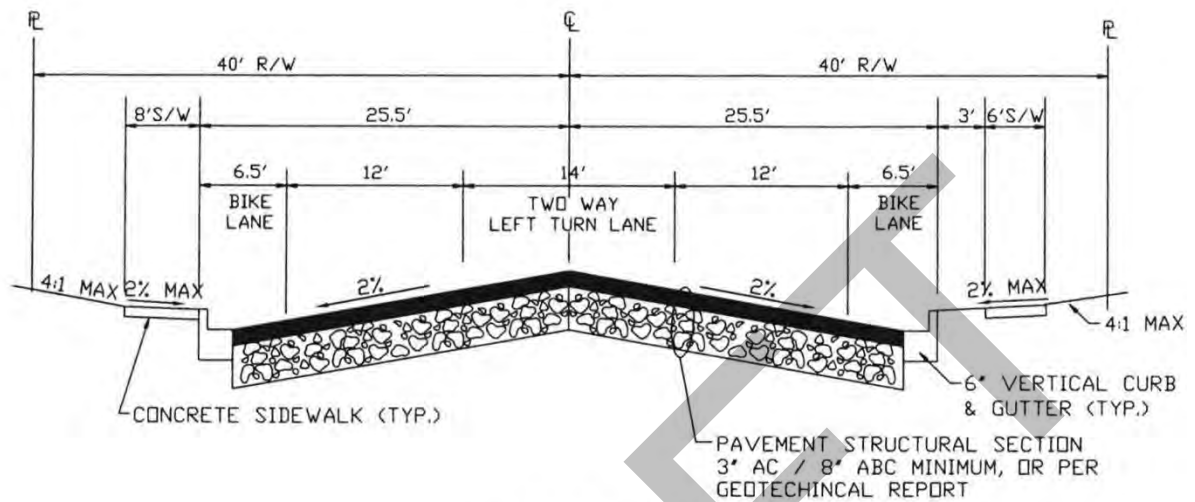
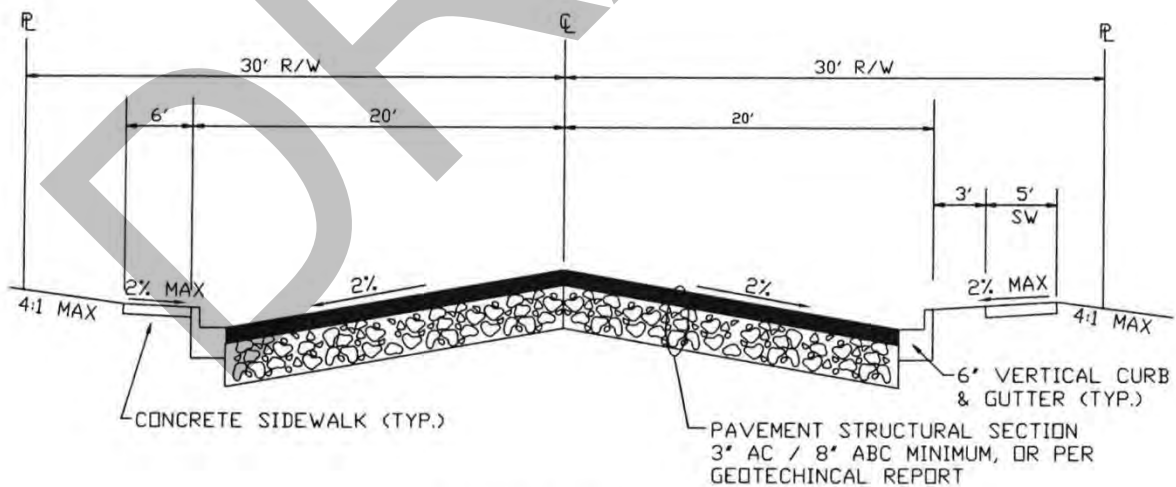


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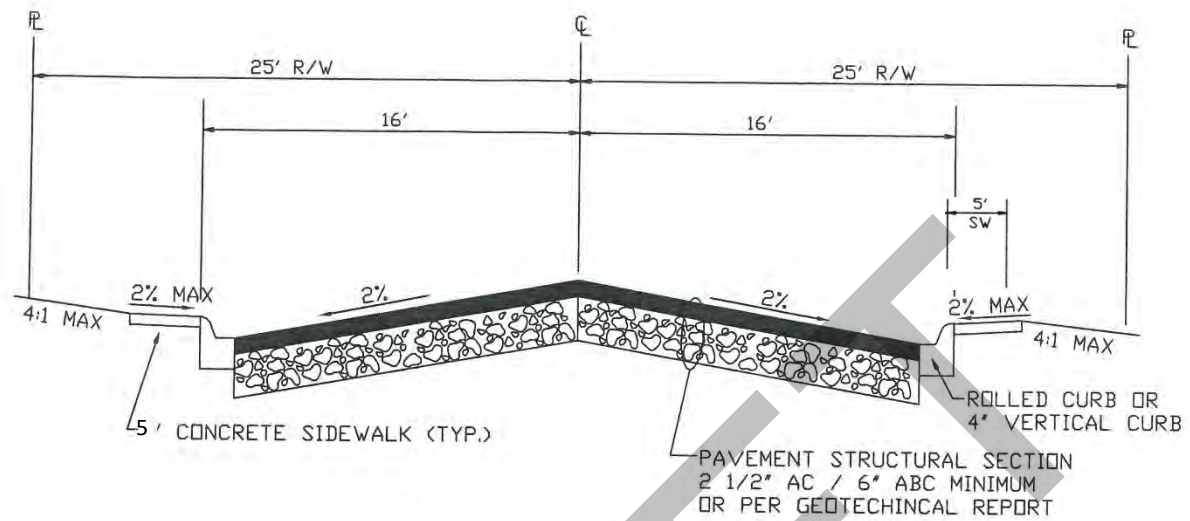


MAJOR COLLECTOR

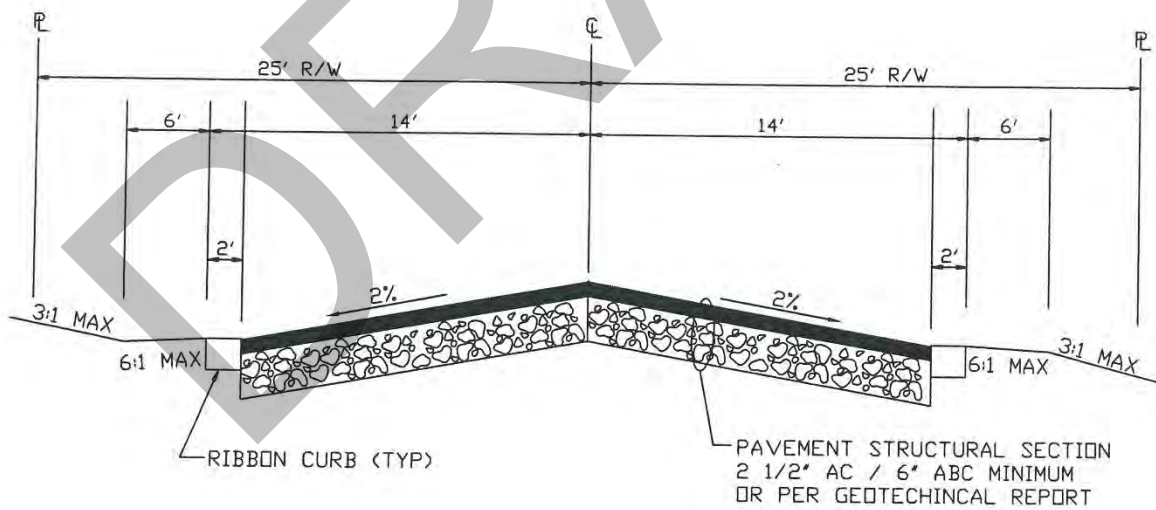


MINOR COLLECTOR

EXHIBIT 6.2 (cont'd)



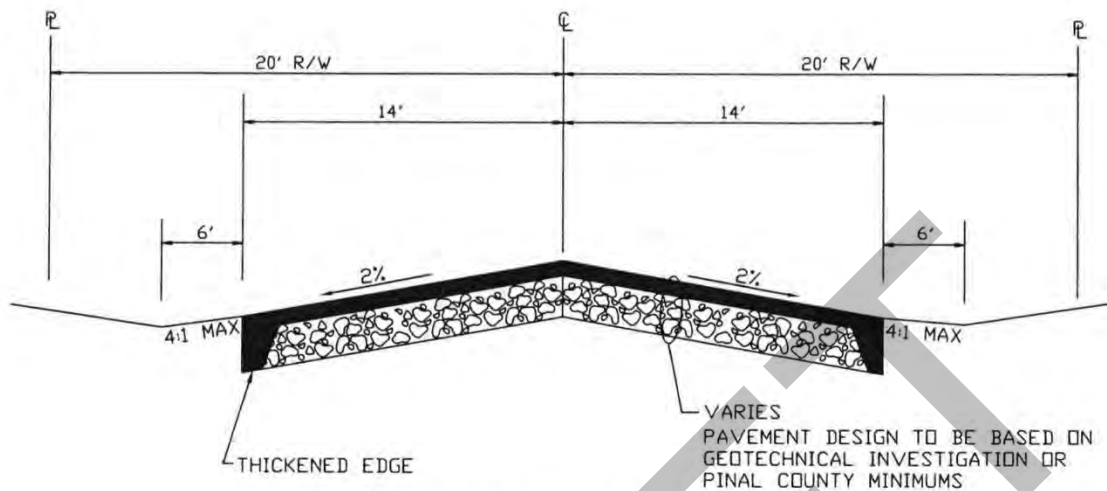
LOCAL RESIDENTIAL ROAD



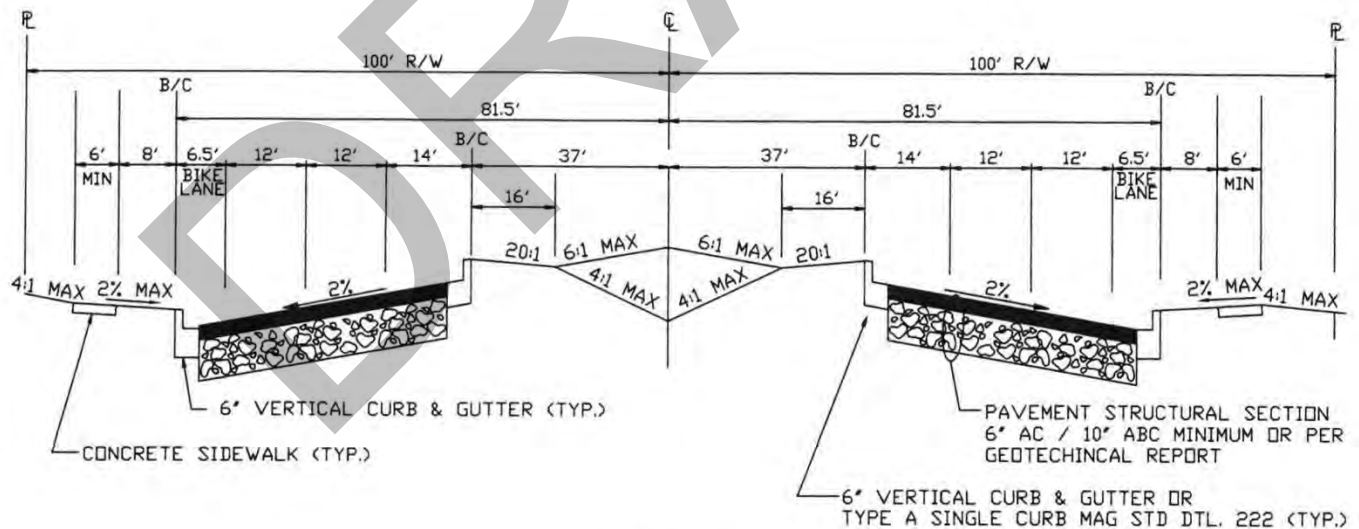
LOW DENSITY LOCAL ROAD

LOTS 1 ACRE TO 3.33 ACRE AREA
WITH ON-LOT RETENTION

EXHIBIT 6.2 (cont'd)



**PAVED ALL-WEATHER
PUBLIC ACCESS ROAD**

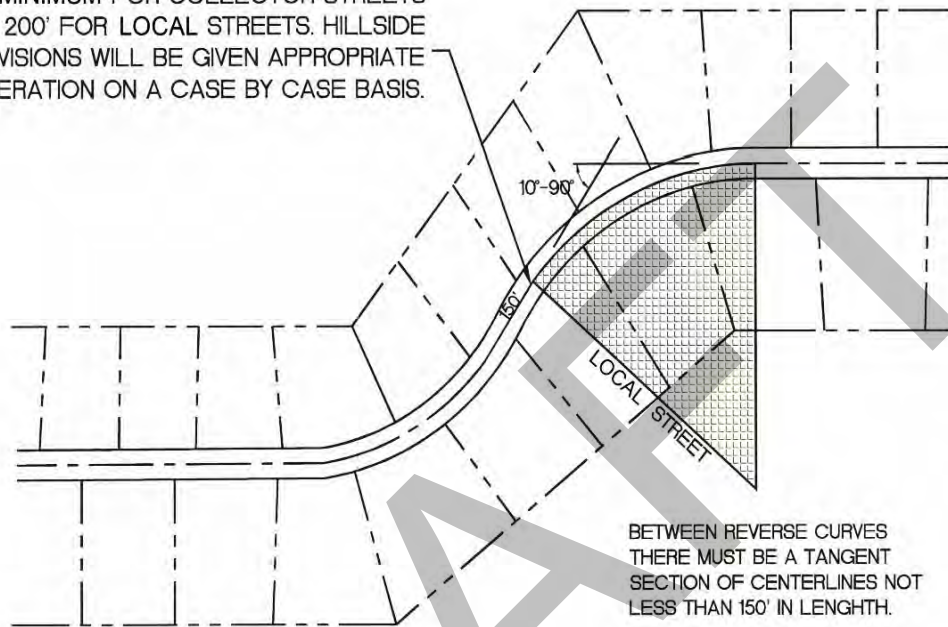


PARKWAY

*FINAL DESIGN SUBJECT TO COUNTY ENGINEER APPROVAL

EXHIBIT 6.3

WHEN TANGENT CENTERLINES DEFLECT MORE THAN 10° AND LESS THAN 90° THEY SHALL BE CONNECTED BY A CURVE WITH MINIMUM RADIUS EQUAL TO 300' MINIMUM FOR COLLECTOR STREETS AND 200' FOR LOCAL STREETS. HILLSIDE SUBDIVISIONS WILL BE GIVEN APPROPRIATE CONSIDERATION ON A CASE BY CASE BASIS.



BETWEEN REVERSE CURVES THERE MUST BE A TANGENT SECTION OF CENTERLINES NOT LESS THAN 150' IN LENGTH.

NOTE: HORIZONTAL ALIGNMENTS ON ARTERIAL ROUTES SHALL BE DETERMINED BY THE COUNTY ENGINEER.

CENTERLINE DEFLECTION AND REVERSE CURVES FOR COLLECTOR AND LOCAL STREETS

EXHIBIT 6.4

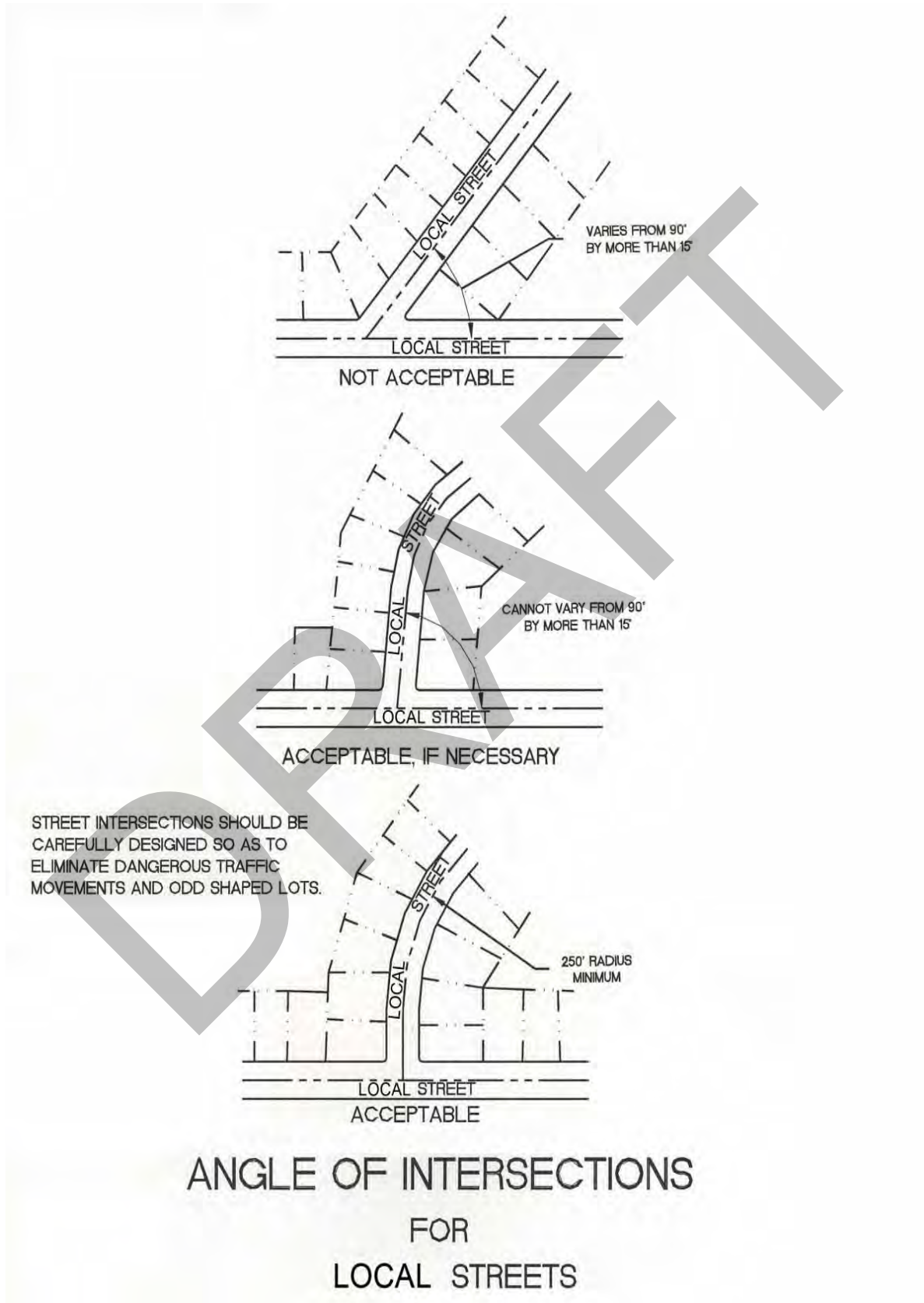
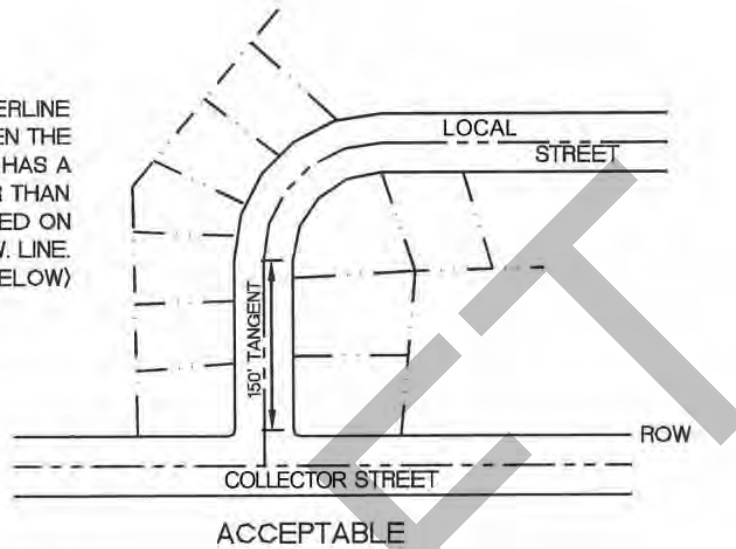
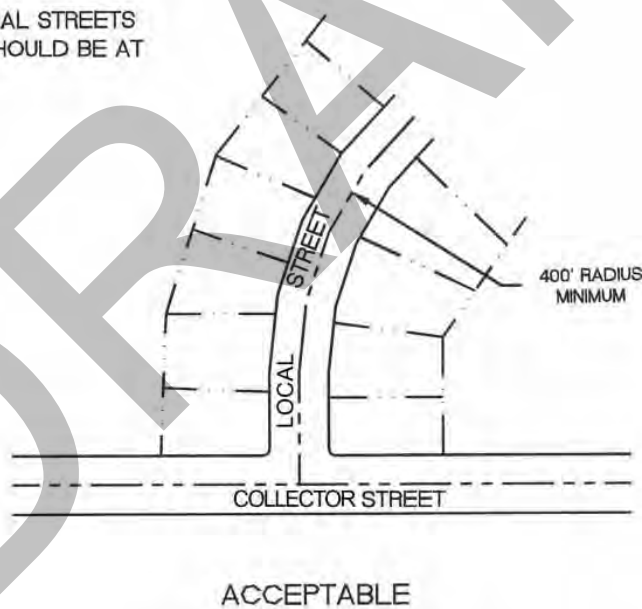


EXHIBIT 6.5

150' TANGENT SECTION OF CENTERLINE IS REQUIRED EXCEPT WHEN THE LOCAL STREET CURVE HAS A CENTERLINE RADIUS GREATER THAN 400' WITH THE CENTER LOCATED ON THE ARTERIAL STREET R.O.W. LINE. (SEE BELOW)

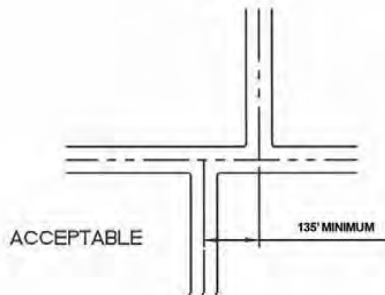
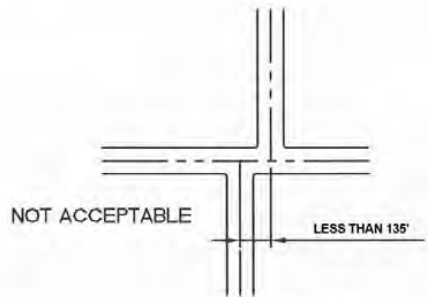


ALL INTERSECTION OF ARTERIAL STREETS AND COLLECTOR STREETS SHOULD BE AT RIGHT ANGLES.

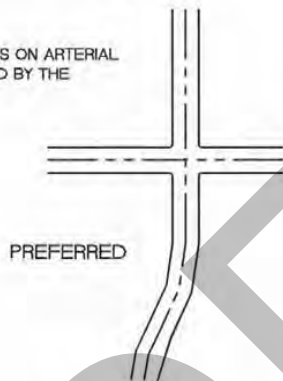


ANGLE OF INTERSECTIONS FOR COLLECTOR STREETS

EXHIBIT 6.6 & 6.7

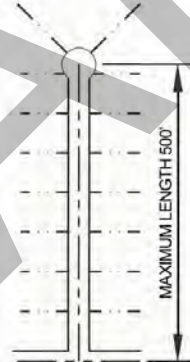
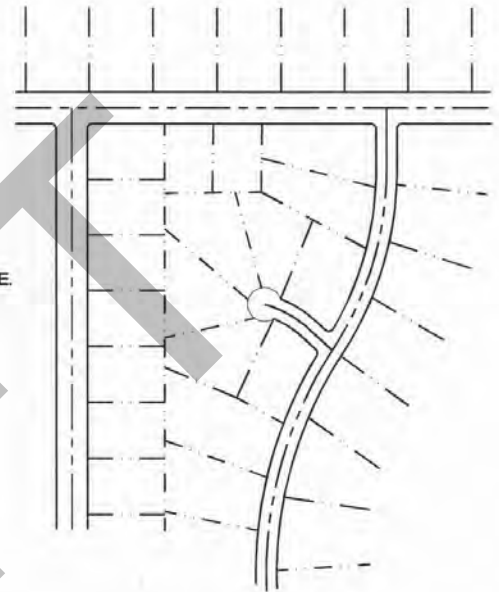


NOTE: HORIZONTAL ALIGNMENTS ON ARTERIAL ROUTES SHALL BE DETERMINED BY THE COUNTY ENGINEER.



STREET JOGS
FOR
LOCAL AND COLLECTOR
STREETS

CUL-DE-SACS SHALL BE USED TO SERVE IRREGULAR AREAS OF A TRACT THAT WOULD OTHERWISE BE INACCESSIBLE. CUL-DE-SACS SHALL NOT BE USED EXCESSIVELY NOR AS A PRIMARY DESIGN FEATURE.



CUL-DE-SACS MAY NOT BE LONGER THAN 500 FEET AND SHALL TERMINATE IN A TURN-AROUND AT THE CLOSED END.

CUL-DE-SACS
FOR
LOCAL STREETS

EXHIBIT 6.8

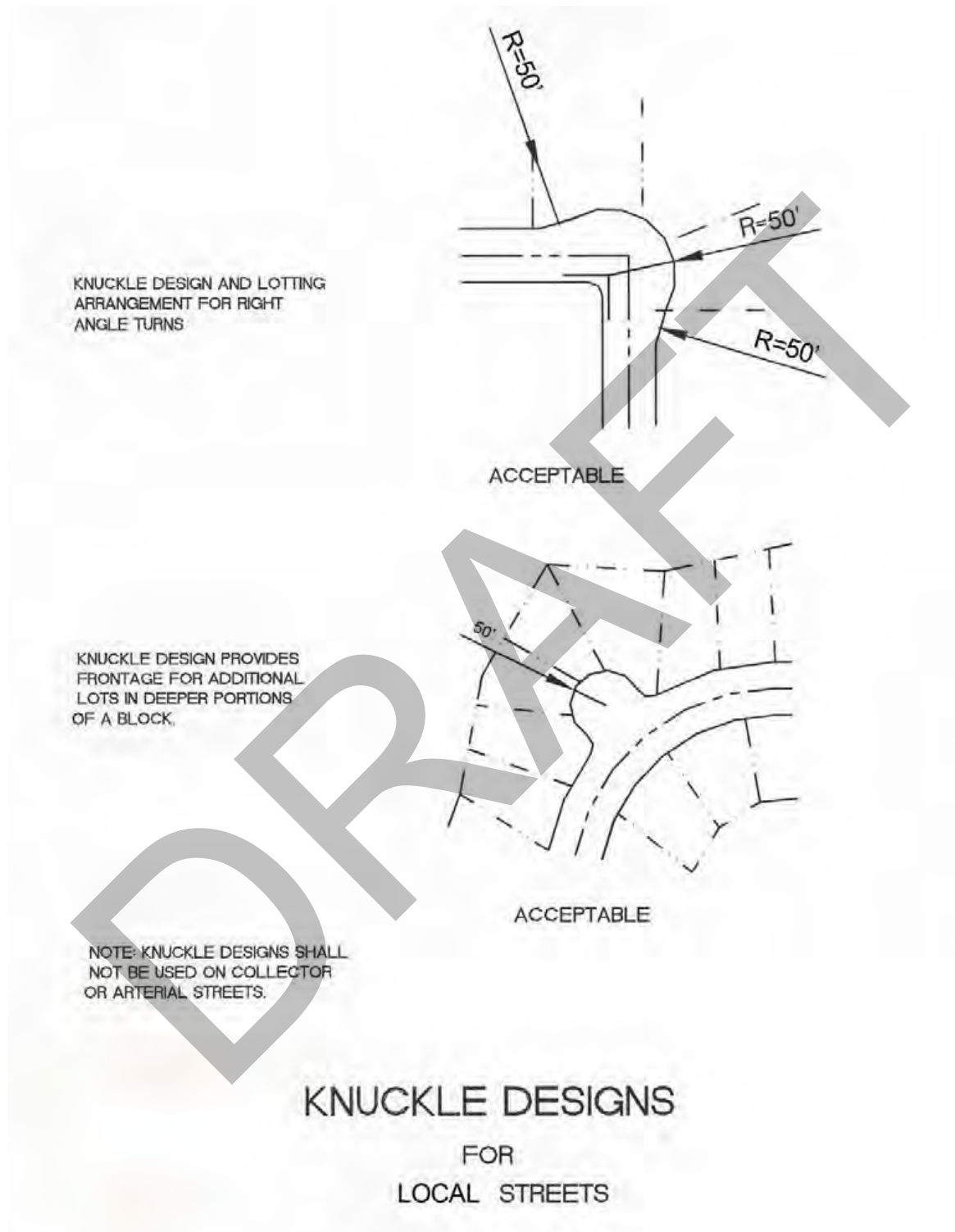
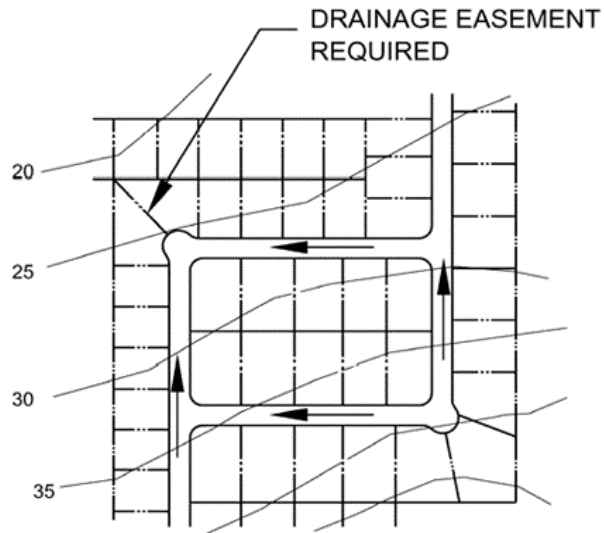
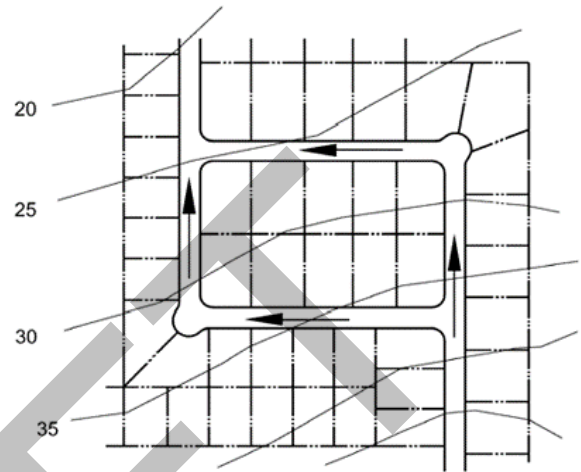


EXHIBIT 6.9



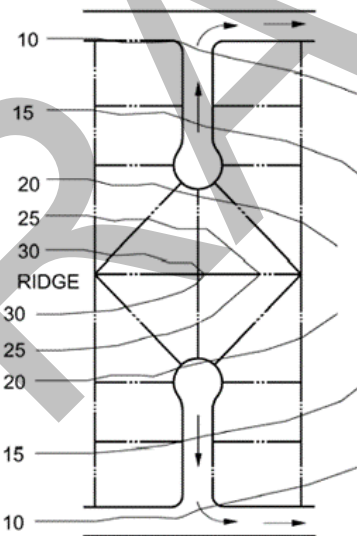
NOT ACCEPTABLE



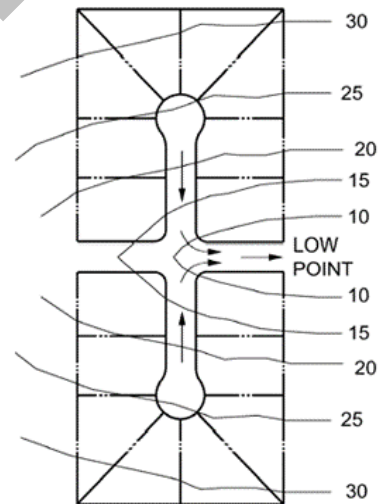
ACCEPTABLE

STREETS SHOULD BE SO DESIGNED AND ARRANGED IN RELATION TO EXISTING TOPOGRAPHY AS TO FACILITATE DRAINAGE. PROPER DESIGN WILL ELIMINATE EXCESSIVE CUTS AND FILLS AND UNNECESSARY DRAINAGEWAYS BETWEEN LOTS.

STREETS SHOULD NOT BE USED AS PRIMARY DRAINAGE, UNLESS CURB AND GUTTER IS INSTALLED.



ACCEPTABLE



STREET DRAINAGE FOR LOCAL STREETS

EXHIBIT 7.0

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Borrow / Fill			
Gradation	AASHTO T 27	Stockpile	1 per 1000 CY per Source
X Value	MAG 210.2		
PI	AASHTO T 89 AASHTO T 90		
Proctor Density	ASTM D 698	Stockpile	1 per Source and as needed
Field Density	ASTM D 6938	In-place	1 per 500 CY, minimum 1 per lift
Subgrade & Existing Ground			
Gradation	AASHTO T 27	Roadway	1 per Soil Type
PI	AASHTO T 89		
Proctor Density	ASTM D 698		
Swell	ASTM D 4546	Roadway	As needed
Field Density	ASTM D 6938	In-place	1 per 5000 SY/per lift
Aggregate Base Class			
Fractured Coarse Aggregate Particles	ASTM D 5821	Crusher Belt or Stockpile	1 per 1,200 CY
Gradation	AASHTO T 27	Crusher Belt or Stockpile	1 per 1,000 CY
PI	AASHTO T 89 AASHTO T 90		
Proctor Density	ASTM D 698		
Field Density	ASTM D 6938	Roadway	1 per 1,000 CY (100 % Min Density)
LA Abrasion & Loss	AASHTO T 56	Crusher Belt or Stockpile	1 per Source

EXHIBIT 7.0 (cont'd)

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Concrete			
Temperature	ASTM C 1064	Point of Discharge	1 per 100 CY per Class, per Day
Slump	ASTM C 143		
Compressive Strength	ASM C 31 & ASTM C 39		

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Asphaltic Concrete Pavement			
Gradation	AASHTO T-308	Roadway	1 per subplot
Binder Content	AASHTO T-308		
Bulk Density	AASHTO T-245 or AASHTO T-312		
Maximum Theoretical Density	AASHTO T-209		
Laboratory Air Voids	AASHTO T-269		1 per lot
Compaction	ASTM D-2950		Periodic during paving
Thickness	ASTM D-3549		1 per sub-lot
In-Place Voids	AASHTO T-269		

EXHIBIT 7.0 (cont'd)

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Asphalt Rubber Asphalt Concrete (ARAC) Pavement			
Gradation	AASHTO T-308	Roadway	1 per sublot
Binder Content	AASHTO T-308		
Bulk Density	AASHTO T-245 or AASHTO T-312		
Maximum Theoretical Density	AASHTO T-209		
Laboratory Air Voids	AASHTO T-269		1 per sublot
Compaction	ASTM D-2950		Continuous during paving
Thickness	ASTM D-3549		At the Engineer's Discretion

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Trench Backfill			
Gradation	AASHTO T 27	Stockpile	1 per 1000 CY per Source
PI	AASHTO T 89 AASHTO T 90		
Proctor Density	ASTM D 698	Stockpile	1 per Source and as needed
Field Density	ASTM D 6938	In-place	1 per 300 LF, per lift

EXHIBIT 7.0 (cont'd)

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
RIP RAP MAG 220			
Specific Gravity	ASTM C 127	Stockpile	1 Per Source
LA Abrasion	ASTM C 535		
Gradation	AASHTO T 27	Stockpile	1 per 1000 Tons Per Source
Flat Elongated Particles	ASTM D 4791	Stockpile	1 per 100 Tons, Per Source

APPENDIX A:

RESOLUTION NUMBER	SECTIONS AFFECTED	DESCRIPTION	DATE
	Multiple	Adoption	

DRAFT

CHAPTER 1 ADMINISTRATION, DEFINITIONS AND REFERENCES

1.1 Administration.

1.1.1 Applicability:

All applications for subdivision approval that have been accepted as complete, including Tentative or Final Plats, and are under County review on the effective date of this Manual shall be reviewed under County regulations existing at the time of acceptance. This Manual will apply if, during plat review, any approvals lapse or processing deadlines expire. This manual shall also apply to any residential, commercial, or industrial Site Plans having improvements within, adjacent, or connecting to the public right of way

1.1.2 Conflict:

This Manual is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulations, statute, or other provision of law except as provided in this Manual. Where any provision of this Manual imposes restrictions different from those imposed by any other provision of law, the provision that is more restrictive or imposes higher standards upon the development and use of land shall control.

1.1.3 Severability:

If any section, sub-section, sentence, clause, phrase, term, part or provision of this Manual is held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall be confined in its operation to the section, sub-section, sentence, clause, phrase, term, part or provision or application directly involved in the controversy or validity of the remaining portions of this Manual or the application thereof to other persons or circumstances.

1.1.4 Flexibility Provisions:

The County Engineer may approve alternate specifications for public improvements for special circumstances as provided in Title 3. The County Engineer or their designee may prescribe an application process for an alternate standards request.

1.2 General Information & Rules.

1.2.1 Words used in the present tense shall include the future.

1.2.2 Words used in the singular number shall include the plural.

1.2.3 Words in the plural shall include the singular.

1.2.4 Words in the masculine gender shall include the feminine gender, corporate or other form.

- 1.2.5 The word "shall" is mandatory and not discretionary.
- 1.2.6 The word "may" is permissive.
- 1.2.7 The particular controls the general.
- 1.2.8 Enumeration is not limited. The word "herein" means "in this manual" and the word "regulations" means "the Pinal County Subdivision Regulations".
- 1.2.9 The word "person" includes a corporation, a partnership, and an unincorporated association of persons such as a club.
- 1.2.10 The words "used" or "occupied" as applied to any land or building shall be construed to include the words "intended, arranged, or designed to be used or occupied".

1.3 Definitions.

For the purpose of this manual, certain words, phrases, terms, and abbreviations shall have special meaning as defined herein, unless the context requires otherwise:

- 1.3.1 **ADEQ:** The Arizona Department of Environmental Quality.
- 1.3.2 **ADOT:** The Arizona Department of Transportation.
- 1.3.3 **ADWR:** The Arizona Department of Water Resources.
- 1.3.4 **All Weather Access:** Road Roadway designed to convey discharge from a specific design storm beneath the roadway, with the 100-year storm conveyed in combination of culvert and overland flow at specific depths as specified in the Pinal County Drainage Ordinance.
- 1.3.5 **A.L.T.A. / A.C.S.M.:** American Land Title Association / American Congress on Surveying and Mapping
- 1.3.6 **ASLD:** The Arizona State Land Department
- 1.3.7 **Board:** The Board of Supervisors of Pinal County.
- 1.3.8 **Buffer:** A strip of land established to protect one type of land use from another land use or to provide screening. Normally, a buffer yard is landscaped and developed in open space areas.
- 1.3.9 **CAG:** Central Arizona Governments

- 1.3.10 CD:** Compact Disk used to submit electronic versions of documents
- 1.3.11 Clerk of the Board:** The Clerk of the Pinal County Board of Supervisors.
- 1.3.12 CLOMR:** A Conditional Letter of Map Revision issued by FEMA. A CLOMR is a letter from FEMA commenting on whether a proposed project, if built as proposed, or proposed hydrology changes would meet minimum National Flood Insurance Program standards.
- 1.3.13 Commission:** The Pinal County Planning and Zoning Commission.
- 1.3.14 Community Development:** The Community Development Department of Pinal County
- 1.3.15 Community Development, Director:** The Director of the Community Development Department of Pinal County or his/her designee
- 1.3.16 County:** Pinal County, a political subdivision of the State of Arizona.
- 1.3.17 County Engineer:** The Pinal County Engineer or designee.
- 1.3.18 Cul-de-sac:** A non through road or street, typically with only one access point and with a large radius at it's terminus for vehicle turn around. Such roads may be augmented with landscape islands, parking, or similar features intended to minimize the effects of an otherwise large paved surface.
- 1.3.19 Division:** Individual unit of the Community Development Department
- 1.3.20 FEMA:** The Federal Emergency Management Agency
- 1.3.21 Grade:** The slope of a road, street, or way specified in percentage terms.
- 1.3.22 G&SRB&M, Pinal County, Arizona:** Gila and Salt River Base and Meridian.
- 1.3.23 LOMR:** Letter of Map Revision issued by FEMA. A LOMR A LOMR is a letter from FEMA officially revising the current NFIP map to show changes to floodplains, regulatory floodways, or flood elevations. Reference Code of Federal Regulations Title 44 Parts 60, 65, and 72. A community or individual can request a LOMR to update the following:
- A. Flood Hazard Boundary Map
 - B. Flood Insurance Rate Map
 - C. Flood Boundary and Floodway Map
 - D. Flood Insurance Study Report
- 1.3.24 MAG:** The Maricopa Association of Governments.
- 1.3.25 Non-Potable Water:** means, water that does not meet Federal Environmental Protection Agency drinking water standards for human consumption.

- 1.3.26 PAD:** means, a Planned Area Development meeting the requirements of Title 2 of the PCDSC.
- 1.3.27 Panhandle lot:** also known as a flag lot, is a lot with street frontage that is less than 40% of its required width.
- 1.3.28 Potable Water:** means, water that meets Federal Environmental Protection Agency drinking water standards for human consumption
- 1.3.29 Public Works Department:** The Pinal County Department of Public Works.
- 1.3.30 Public Works Director:** The Pinal County Public Works Director or designee.
- 1.3.31 Regulations:** The Pinal County Subdivision Regulations and as applicable the Pinal County Development Services Code
- 1.3.32 Right-of-Way:** An area of land which by deed, conveyance, agreement, dedication, or process of law is dedicated to Pinal County for public purposes including, but not limited to, streets, highway, public utility, pedestrian facility, bikeway or drainage.
- 1.3.33 SCMPO:** Sun Corridor Metropolitan Planning Organization.
- 1.3.34 State:** State of Arizona.
- 1.3.35 Street, Parkway:** Designed for relatively uninterrupted, high-volume mobility with few grade separated traffic interchanges.
- 1.3.36 Street, Arterial:** A general term including section line, major streets, state or county highways providing a system for through traffic movement.
- 1.3.37 Street, Collector:** Provides the traffic movement within neighborhoods, between major streets and local streets, and for direct access to abutting property.
- 1.3.38 Street, Local:** Provides for direct access to residential, commercial, industrial or other abutting land; primarily for local traffic movements with connections to collector streets.
- 1.3.39 Structures:** Anything constructed or erected which requires location on or in the ground or is attached to something having a location on the ground. Structures do not include ditches and their appurtenances, poles, lines, cables, or transmission or distribution facilities of public utilities, freestanding mailboxes, on-grade slabs, walks, driveways, landscaping materials or fences.

1.4 References.

The user should always refer to the latest version of all publications.

- American Association of Nurserymen
- American Association of State Highway and Transportation Officials (AASHTO), Policy on Geometric Design of Highways and Streets
- Arizona Administrative Code Title 18, Chapter 9, Articles 2 & 3
- Arizona Nurserymen's Association
- Arizona Supplement to the adopted Manual on Uniform Traffic Control Devices (ADOT),
- Guide to Standardized Highway Lighting Pole Hardware; (AASHTO)
- International Fire Code
- All ICC codes as applicable per the discretion of the Community Development Director
- MAG Uniform Standard Details for Public Works Construction
- Manual of Approved Signs; (ADOT)
- Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD)
- Roadway Lighting Design Guide; (AASHTO)
- Pinal County Drainage Manual
- Regionally Significant Routes for Safety and Mobility Final Report and Access Management Manual.
- Signs and Marking – Standard Drawings; (ADOT)
- Standard Specifications for Road and Bridge Construction Manual, (ADOT)
- Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals; (AASHTO)
- Traffic Control Manual for Highway Construction and Maintenance; (ADOT)
- Traffic Controller Assemblies with NTCIP Requirements TS2-1998, National, Electrical Manufacturers Association
- Traffic Guidelines and Processes; (ADOT)
- Traffic Signals and Lighting and Signing and Marking – Standard Drawings; (ADOT)
- Electrical Manufacturers Association
- Uniform Standard Specifications and Details for Public Works Construction As Published by Maricopa Association of Governments

CHAPTER 2 DEVELOPMENT CLASSIFICATION

2.1 **General Information:**

The design guidelines that apply to each development may vary depending on the intended land use. This chapter notes the criteria used to classify each development as a residential, commercial or industrial subdivision.

2.2 **Residential Subdivisions:**

Residential subdivisions are those where property is used for single family or multi-family dwellings regardless of the zoning classification. Residential condominiums shall be platted per A.R.S. § 33-1219.

2.3 **Commercial or Industrial Subdivisions:**

In general, any subdivision whose intended use is not for residential dwellings shall be considered a commercial or industrial subdivision for the purpose of this Manual.

2.4 **(Reserved for “Specific Site Plan Review”)**

CHAPTER 3 TENTATIVE SUBDIVISION PLAT REQUIREMENTS

3.1 General Information.

The Tentative Plat stage for land subdivision involves detailed subdivision planning, including the submittal, review and approval of the Tentative Plat. This chapter covers various requirements for preparation of the Tentative Plat. In addition to the requirements of Title 3, Pinal County Subdivision Regulations, the following requirements apply. Also, any proposed subdivision intending to alter any existing floodplain, as shown on the current FIRM panels, shall be required to provide a hydrologic and hydraulic analysis to be done in accordance with standard engineering practice in Pinal County as well as FEMA as part of a Conditional Letter of Map Revision (CLOMR). CLOMR must be submitted to Pinal County at time of Final Plat submittal. FEMA approval of the CLOMR shall be supplied to the Flood Control District prior to the approval of the subdivision's Final Plat. After construction of the proposed improvements is complete, a Letter of Map Revision (LOMR) shall be prepared and submitted to Pinal County as well as FEMA. FEMA approval of the LOMR must be supplied to the Flood Control District prior to the issuance of any building permits for structures within the subdivision.

3.2 Tentative Plat Format.

The Tentative Plat shall be in the following format and may be submitted digitally (See Exhibit 3.1 for cover sheet layout for Tentative & Final Plats)

- 3.2.1** Tentative Plats shall be submitted on two or more sheets of 24"x36". Clearly and legibly drawn to show all required details at a scale not greater than 100 feet to an inch. No architect or uncommon scale will be accepted.
- 3.2.2** When two or more sheets are used, the number of sheets must be noted on the bottom right corner (i.e. sheet of sheets).
- 3.2.3** Plats must be drawn with the north direction toward the top, or the right of the sheet. A graphical scale will be located directly below the North arrow. All text shall be oriented to be readable from the bottom or the right of the sheet.
- 3.2.4** Provide a location map (small scale vicinity map) which includes, but not limited to:
 - A.** The subject property, centered and identified, within a minimum one square mile area;
 - B.** Adjacent conditions, subdivisions, unsubdivided land, and schools, etc.;
 - C.** Major streets, rivers, reservations, national forests, railroads and school sites;
 - D.** Section, township and range of the subject plat;
 - E.** Label sections;

- F. A North arrow, oriented with the north toward the top or the right of the sheet;
- G. The city, town or other jurisdictional limits, where applicable;
- H. A reference key or legend, if the plat has more than one sheet. Indicate the area covered by each sheet; and
- I. Access to the subject property.

3.2.5 Provide a Title Block, located at the top of each sheet including:

- A. The name of the subdivision.
- B. Lot numbers, i.e. lot numbers ____ (units or blocks) through ____ and common areas.
- C. On cover sheet only, a brief legal description, including the Section, Township and Range reference (G&SRB&M, Pinal County, Arizona). If the proposed subdivision is a replat of an existing plat of record, include full information on the original plat, including which lots are being replatted.
- D. Labeled as "Tentative Plat".

3.2.6 A replat cannot bear exactly the same name as its precedent subdivision. If a subdivision is recorded and subsequently re-recorded, the second plat must bear a slightly different name from the original (i.e. "replat of" in front of the subdivision name). Subdivisions platted separately but representing phases of a project can bear the same name, so long as the lot numbers are sequential, or the name is followed by "unit" and a unit number only.

3.2.7 The subdivision boundary line, boundary lines of lots and common areas shall be drawn with a solid line. All easements lines and existing lot lines (if a replat) shall be shown with a dashed line. The subdivision boundary line width should be bolder (wider) than any other line on the plat.

3.2.8 Name, registration number, seal and signature of the land surveyor or other professional licensed and registered in the State of Arizona who is eligible to be responsible for conducting the land survey and preparing the Tentative Plat.

3.3 General Requirements.

3.3.1 Planning Division

- A. Name, address, zip code, and phone number of persons involved in the tentative plat application (e.g. owner, subdivider, engineer, land surveyor, preparing the plat, including the registration number).
- B. Date of preparation including dates of any subsequent revisions.

- C.** Site data, including gross area of proposed subdivision, number of lots proposed, approximate area of the open space, and other proposed non-residential uses.
- D.** Proposed lot lines, typical and minimum lot sizes, for each type of proposed lot and density (lots per gross acre).
- E.** Typical lot layout, including minimum building setback lines related to all right-of-way; dimensions of all corner lots and lots on curvilinear sections of street; each lot numbered individually and total number of lots shown.
- F.** Show and label existing uses of land and zoning district classifications and uses on and immediately adjacent to the subdivision site. All lots must be consistent with zoning requirements. If more than one zone is involved, provide the number of acres within each zone, and identify the lots within each zone. If rezoning has been filed, provide designation of proposed zoning district and rezoning case number.
- G.** Reference by dimension and bearing to section corners and quarter-section corners.
- H.** Provide benchmark location, description, and elevation. Elevations shall be based on North America Vertical Datum 1988 (NAVD 88). Upon adoption of a newer national standard the County Engineer may at his/her discretion require conversion to the new standard or by policy adopt the new standard.
- I.** The subdivision boundary lines will be labeled with distances and bearings.
- J.** Record name, record date, and book and page or cabinet and slide or fee number of adjacent subdivisions or the names of record owners of adjoining parcels of unsubdivided land with Assessor Parcel Number (APN).
- K.** List and label area, to be shown as tracts, if any, to be reserved or dedicated for parks, open spaces, playgrounds, schools, fire stations or other public uses.
- L.** If a plat includes land for which multi-family, commercial or industrial use is proposed, such areas shall be clearly designated on the plat.
- M.** Designate existing use of property and area and number of tracts, if any, to be excluded or abandoned from the proposed subdivision.
- N.** All lots shall utilize a lot numbering system to be numbered consecutively throughout the plat. Exceptions such as tracts and private parks shall be so designated, lettered or named, and clearly dimensioned. Ownership and maintenance responsibilities for tracts and private parks shall be indicated on the plat.
- O.** Label, city limits, well sites and vacant areas (state land, federal land, etc.).

- P. Lots backing or siding on streets may require tracts to allow for Public Utility Easements (PUE's) and landscaping.
- Q. Show location of all proposed monument signs.
- R. All existing or proposed streets shall be identified by street names.
- S. Include zoning information such as building height, minimum lot area, minimum lot width, minimum front yard setback, minimum side yard setback, minimum rear yard setback, and percentage of open space.

3.3.2 Engineering Division

A Tentative Plat shall contain the following information, and be accompanied by an A.L.T.A./A.C.S.M. Title Survey:

- A. Location and widths of all existing or proposed right-of-way, streets, intersections, and other ways, drainage ways, if any, and other rights-of- ways and easements, whether public or private and their purposes, within and adjacent to the tract, including all connections to adjoining platted or un-platted tracts, railroad rights-of-way and other important features such as section lines, political subdivision or corporate lines.
- B. Show all centerline data (delta, length, and radii), roadway dimensions and property line data (delta, length, and radii and/or radial bearing if not tangent).
- C. Designation of all land to be dedicated, provided, or reserved for public uses (including all easements, with the use(s) indicated).
- D. Identification of all utility services in and for the subdivision, both existing and proposed; source of utilities service provider table; and whether such utilities will be underground or above ground.
- E. Any relocating, modification, etc., of the existing utilities and/or improvements required by this subdivision development will be paid by the subdivider.
- F. Information sufficient to locate accurately the property shown on the plat, with reference to survey markers or monuments, and bearings and distances.

- G.** When lots are greater than one acre, existing and proposed contours at an interval and accuracy acceptable to the County Engineer shall be provided. When any of the lots are one acre or less, the following contour intervals shall be required and be sufficient to indicate drainage for all lots and streets. Contours taken from U.S. Geological Survey maps are not acceptable.

1. Gradual slopes	0 to 2%	2-foot intervals
2. Medium slopes	2 to 15%	5-foot intervals
3. Steep slopes above	15%	10-foot intervals

- H.** Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend approximately 100' beyond property boundary.
- I.** At intersections with streets, show cross corner sight visibility triangle easement with appropriate dimensions and clearly indicate building setbacks in these locations.
- J.** All existing and proposed easements (with their dimensions, purposes, whether they are private, public or specific and recording information for existing easements) will be shown on the plat. Easements which are no longer used and obsolete should be cleared from the title prior to Final Plat recordation.
- K.** Identify drainage flows across or along proposed or existing streets and adequate access during flow times must be shown.
- L.** All existing drainage patterns affecting the land included in the Tentative Plat must be shown. A preliminary location of the proposed storm drain system shall be shown.
1. If any part of the storm water flow is to be handled by an underground storm drain system, the tentative location of the inlets, must be shown.
 2. Development must be in accordance with the current Pinal County Drainage Ordinance.
- M.** Paved all weather roads shall be provided to all lots within this subdivision.
- N.** Vicinity map showing proposed subdivision and surrounding subdivisions and major streets located within a ½ mile radius.
- O.** Legend identifying symbols.
- P.** Basis of Bearings.
- Q.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.

- R. Property line minimum radii shall be 25' or 50' (for all arterial intersections).
- S. Sight Visibility Triangle Easements (SVTE) shall be 21' x 21' (local to local) and 33' x 33' (for all others).
- T. Minimum right-of-way (ROW) width dimensions shall be: major arterials - 150' ROW; minor arterials (section lines) - 110' ROW; major collectors (mid-section lines) - 80' ROW; minor collectors - 60' ROW; and local streets - 50' ROW. (Refer to exhibits in this manual for cross sections)
- U. Intersection spacing along an Arterial shall be approximately every 1,320' (1/4 mile) or as specified in the most recent Regionally Significant Routes for Safety & Mobility Manual.
- V. Avoid street jogs with centerline offsets of less than 135'. Collector or another arterial street intersecting with an arterial street should align if possible or meet the minimum requirement for spacing along an arterial.
- W. Local Streets are not permitted to intersect with an Arterial Street.
- X. Residential lots shall front only local streets.
- Y. Intersections shall intersect at right angles if possible, but no less than 75 degrees.
- Z. Maximum length of a Cul-de-Sac is 500 ft. Minimum right-of-way radius for Cul-de-Sac and its returns is 50'. **See Exhibit 6.7.**
 - 1. Show all location and description of primary control points of reference. At least two corners of the subdivision shall be tied by bearing and distance to a section corner, a quarter section corner, or established city or county survey monument.
 - 2. Show location and description of street centerline monuments and other survey points in place.
 - 3. Show surrounding land around subdivision to include, but not limited to, existing right-of-ways, existing easements, existing plats and other properties.
 - 4. Public Utility Easements (PUE) shall be a minimum 8' wide. PUE's are to be located outside the rear and side of all lots.
 - 5. 1' vehicular non-access easement (VNAE) shall be dedicated on all lots adjacent to or backing up to any tract, drainage feature, Collector Street and Arterial Street.
 - 6. Survey monuments are required on monument lines at intersections, PC's, PT's, and PI's. Also required at knuckles or Cul-de-Sacs.

3.3.3 Pinal County Flood Control District.

A Tentative Plat shall contain the approximate boundaries of all areas subject to flooding as designated by FEMA Special Flood Hazard areas and the location and extent of all water courses and the nature of the water flow whether continuous, intermittent or sporadic.

3.3.4 Building Safety Division and Aquifer Protection Division.

A Tentative Plat shall contain the following information:

- A.** It shall be the responsibility of the subdivider to furnish the County Aquifer Protection Division and Arizona Department of Environmental Quality, (ADEQ) such evidence as those departments may require for their satisfaction as to the design and operation of sanitary sewage facilities proposed. A statement as to the type of sewage disposal facilities proposed shall appear on the Tentative Plat. In subdivisions which are proposed to be served by individual lot septic tanks, percolation tests and test boring logs in accordance with the requirements of the County Aquifer Protection Division and ADEQ shall be taken within the proposed subdivision.
- B.** It shall be the responsibility of the subdivider to furnish the County Building Safety Division such evidence as that department may require for its satisfaction as to the design and construction of connections to sewage facilities.
- C.** If a portion of the subdivision is to be used for a water supply facility, it shall be so indicated on the plat.

3.3.5 Fire District in which the Subdivision is located or the Supplier of the existing or proposed fire protection.

- A.** The Tentative Plat shall contain the identification of method and source of fire protection as needed to meet applicable Fire District requirements.
- B.** The service provider shall provide a letter indicating if the provider is an official provider approved by the State of Arizona

3.4 General Notes.

3.4.1 Planning Division.

- A.** The gross area of the subdivision is _____ acres.

- B. Zoning Information: Zoning is _____. (If more than one zone is involved provide the number of acres within each zone, and identify the lots within each zone.)
- C. The number of lots is _____.
- D. The approximate area in acres and percentage of total plat area of parks, recreation areas, drainage ways, open space and all other proposed non-residential uses.

3.4.2 Engineering Division.

- A. Street name [to be inserted] is the nearest paved access maintained by the County which serves this subdivision. It is _____ miles/feet away from or adjacent to, this subdivision.
- B. Any relocating, modification, undergrounding, etc., of the existing utilities and/or improvements required by this subdivision development will be paid by the subdivider.
- C. Note any proposed abandonment of public rights-of-way. Abandonment of any public rights-of-way must follow Title 7 Chapter 7.10, Roadway Disposition, of the Pinal County Code.

3.4.3 Building Safety Division and Aquifer Protection Division

A. If Public Sewers:

1. Prior to the issuance of building permits, all connections to public sanitary sewer facilities will be constructed in accordance with plans approved by the County Building Safety Division.
2. Prior to the issuance of any Certificate of Occupancy building permits, all public sanitary sewer facilities shall have received an Approval of Construction from the County Aquifer Protection Division, and Certificate of Approval of Sanitary Facilities from ADEQ.

B. If Private Sewers:

1. Onsite sanitary sewers will be constructed, operated and maintained on a private basis, except public sewers within public sewer easements or rights-of-way. The location and method of connection to an existing public sanitary sewer is subject to review and approval by the County Building Safety Division at the time of submittal of plumbing or building plans. The size, location and construction of septic tanks are subject to review and approval of the County Aquifer Protection Division, CAG and ADEQ at the time of Building Permit Application.

2. A Third party shall be utilized to accept responsibility and liability for construction, maintenance, operation, and control of all private sewers located in private sewer easements or private rights of way. The third party must be the sole owner and/or responsible party for the sewer system.
3. Statement regarding the location, collection, method of sewage disposal and the distance to the nearest solid waste disposal area by road. Identify the party or agency having operating jurisdiction.
4. A statement as to the type of domestic water supply facilities, both existing and proposed, and the name of the provider shall be placed on the plat.

3.5 Special Notes.

3.5.1 Planning Division

- A. If any variance, waiver or special use permit approval is received, add a note stating who approved it, what was approved, and when it was approved and the case number. Provide a copy of the minutes on each official action with the Tentative Plat.
- B. Indicate FEMA Flood Zone(s) designation.
- C. Minimum lot size _____ square feet.
- D. The following lots are subject to Hillside Development Design: [list lots]

3.5.2 Building Safety Division and Aquifer Protection Division

A. Public Sewers:

1. The required off-site public sanitary sewer line will be designed and constructed to ADEQ criteria.
2. The required off-site public sanitary sewer augmentation will be designed and constructed to ADEQ criteria.
3. All sanitary sewers will be designed to provide gravity flow. (This note to appear if invert and rim elevations are not shown on preliminary sewer plans).
4. The relocation, if any, of public sewers will be constructed, inspected, completed, and approved by ADEQ prior to issuance of County building permits.

5. The relocation of the existing public sewer is being done for the convenience of the subdivider.

B. Private Sewers:

1. The required offsite sanitary sewer line will be constructed operated and maintained on a private basis. The location and method of connection to an existing public sanitary sewer is subject to review by the County Building Safety Division at the time of submittal of plumbing or building plans.
2. Sewerage disposal for lots ____ through ____ will be by private individual disposal systems.

C. Drywells:

1. The following statement shall appear on all plats for developments which uses drywells:

All drywells shown on this plat shall be regularly maintained by the owner and are to be replaced by the HOA/Owner when they cease to drain the stored surface water in a 36-hour period. Annual inspection and maintenance of the dry well silting chamber is required.

3.5.3 Flood Control District

A. Floodplains:

Floodplains shall be delineated on the plat (if applicable). Where delineated floodplains are shown, the following statement shall appear on the plat: "The Flood Insurance Rate Map (FIRM) information provided herein is based upon the maps published by the Federal Emergency Management Agency (FEMA) in effect at the time this plat was recorded. Note that newer versions of the FIRMs may have been published after the recordation of this plat."

B. Flood Zone:

Indicate Flood Zone designation(s), FIRM panel number(s), community number, panel effective date(s) and index map date.

3.6 Other Information.

During the course of staff review of the tentative plat additional information or notes may be required to carry out the purpose and intent of the Pinal County Subdivision Regulations.

CHAPTER 4 SPECIFICATIONS FOR FINAL PLAT

4.1 General Information.

The final plat stage includes the final design of the subdivision, engineering plans for the public improvements and submittal of the subdivision improvement plans to the Pinal County Development Services Department. In addition to the requirements of Title 3, Pinal County Subdivision Regulations, the following requirements apply.

4.2 Final Plat Format.

- 4.2.1 The original of the Final Plat shall be drawn in black suitable ink on polyester or mylar, and shall include all affidavits, certificates, endorsements, and acknowledgments. All signatures shall be signed in black suitable ink, with the ink surface coated with a suitable substance when used on polyester based film to assure permanent legibility. Copies of the record plat shall be reproduced in the form of blueline or blackline prints on a white background. Copies submitted for review may be submitted digitally.
- 4.2.2 Where necessary the plat may be on several sheets. The size of each sheet shall be 24"x36" in size with a left margin of one and one-half (1½) inches and be drawn to an accurate scale not to exceed 100 feet to an inch.
- 4.2.3 The subdivision boundary line, boundary lines of lots and common areas shall be drawn with a solid line. All easement lines and existing lot lines (if a replat) shall be shown with a dashed line. The subdivision boundary line width should be bolder (wider) than any other line on the plat.
- 4.2.4 The number of sheets must be so noted at the bottom, right corner of each sheet comprising the final plat, i.e., "sheet of sheet(s)".
- 4.2.5 North arrow and scale (both written and graphic). Each sheet comprising the final plat should be oriented with north toward the top of the page, or the right and include a north arrow on each sheet. The scale should be shown beneath the north arrow. All text should be readable from the bottom and the right side of the sheet.
- 4.2.6 **Cover Sheet:**

Every Final Flat shall have a cover sheet either as a separate page or as part of the Final Plat. **(See Exhibit 3.1 for cover sheet format for Tentative & Final Plats)** Said cover sheet shall contain the following:

 - A. The name or title under which the subdivision is to be recorded. The name or title of the subdivision shall not duplicate the name of any existing subdivision. A replat cannot bear exactly the same name as its precedent subdivision. If a subdivision is recorded and subsequently re- recorded, the second plat must bear a slightly different name from the original (i.e. "replat of" in front of the subdivision

name). Subdivisions platted separately but representing phases of a project can bear the same name, so long as the lot numbers are sequential, or the name is following by "unit" and a unit number only.

- B.** Below the title shall be a sub-title consisting of a general description of all the property being subdivided, by reference to subdivisions or to sectional surveys.
- C.** References to subdivisions shall be worded identically with original records, with references to the record name, record date and book and page, or cabinet and slide of the adjoining subdivision(s).
- D.** Affidavits, certificates, acknowledgments, and endorsements, acceptances of dedication and Notaries' seals required by law and by this Manual.
- E.** A vicinity map showing the proposed subdivision and surrounding subdivisions and streets located within a one-half mile radius of the boundaries of the proposed subdivision.
- F.** A legend which describes all symbols used.
- G.** Planning Division case numbers.
- H.** Basis of bearings.
- I.** Pinal County Recorder's Block required on the upper right corner for each page of the final plat. **(See Exhibit 3.1)**
- J.** General Notes.
- K.** Benchmark.
- L.** Base Zoning & Zoning Case Number.
- M.** Location Map.
- N.** Approvals.
- O.** Declaration, Title Warrant and Dedication.
- P.** Developer, Owner and Engineer contract information.

4.2.7 A title block shall appear on each of the remaining sheets comprising the Final Plat, if any, consisting of:

- A.** The name of the subdivision.
- B.** The number of lots, units, blocks or common areas (whichever is applicable)

- C. A brief legal description, including the Section, Township and Range reference (G&SRB&M, Pinal County, Arizona). If the proposed subdivision is a replat of an existing subdivision, include full information on the replat, including which lots are being resubdivided.

4.3 General Requirements. (Items in *Italics* are required text)

4.3.1 Planning Division

- A. Name, registration number, surveyor seal, and signature of the land surveyor or engineer licensed and registered in the State of Arizona who is responsible for conducting the land survey and preparing the Final Plat. This shall be provided on each sheet.
- B. Name and registration number of the land surveyor licensed and registered in the State of Arizona who is responsible for the surveying that is necessary in preparation of the proposed subdivision.
- C. Date of plat preparation.
- D. Primary control points or descriptions and ties to such control point, to which all dimensions, angles, bearings, and similar data on the plat shall be referred, and where a coordinate system shall have been established by the County Engineer, primary control points shall have been referenced thereto; at least two corners of a subdivision shall be tied by bearing and distance to a section corner, a quarter section corner, or established city or county survey monument, and the final plat must include a description of the corner marker, and indicate how the bearings were determined.
- E. Any excepted lots or parcel(s) within the plat boundary shall be accurately described by bearings and distances. Proper street and alley dedications adjacent to any proposed tracts or excepted parcels shall be provided by the subdivider by inclusion within the plat or by separate dedication noted on the plat.
- F. Location and dimensions of all lots shall be shown. Lot dimensions shall be indicated for at least one side lot line and either the front or rear lot line when lots are rectangular or square. If lots are not rectangular or square all lot line dimensions shall be indicated. Typical minimum setback lines shall also be located and dimensioned. Such lot dimensions, areas or building setback lines shall not be less than required by the County Zoning Ordinance or building line regulations applying to the property. Minimum finished floor elevations shall be indicated on all lots subject to inundation of a 100-year storm.
- G. All required "Sight Visibility Triangle Easements" (SVTE) shall be indicated at street corners.
- H. Where a subdivision is part of a Planned Area Development (PAD), those standards approved by the Board shall be shown on the Final Plat.

- I. All lots shall utilize a block and lot numbering system or be numbered consecutively throughout the plat. Exceptions such as tracts and private parks shall be so designated, lettered or named, and clearly dimensioned. Ownership and maintenance responsibilities for tracts and private parks shall be indicted on the plat.
- J. The accurate outline of all property which is offered for dedication for public use with the purpose indicated thereon and all property that may be served by deed covenant for the common use of the property owners in the subdivision.
- K. Identify all the uses and types of development proposed.
- L. Name, Book and Page Number or Cabinet and Slide Number, or Fee Number of adjacent recorded subdivisions with location of existing adjacent lot, easements and rights-of-way show, or notation "unsubdivided" where appropriate.
- M. Lienholders' ratification.
- N. Identify and label all required tracts by letter designation.
- O. Provide the area of each lot, tract and common area. The area of the common area may be shown in the general notes.
- P. For final approval, submit one bond set and one set of mylars and one electronic copy (multi-page PDF) when requested in writing by the Planning Division.
- Q. Certification of survey with surveyor seal, signature, printed name, address and registration number of a land surveyor licensed and registered in the State of Arizona:

LAND SURVEYOR'S CERTIFICATION

I hereby certify that the survey and subdivision of the premises described and platted herein were made under my direction during the month of _____, 20____, and this plat represents the survey made. I further certify all exterior boundary monuments shown hereon actually exist and their location, size and material are accurately shown and are sufficient to enable the survey to be retraced.

[Type in name, address & phone number] Date:

Arizona Registered Land Surveyor, # _____

[apply seal, also sign & date seal]

- R. Agreement by owners of record that all lots will be staked and a certification of said staking filed with the Planning Division prior to issuance of any building permit:

It is agreed that prior to the sale of any lot or the issuance of any building permits, whichever occurs first, all lots will be accurately staked and marked, as designated on this plat, and a certification filed with Pinal County by an Arizona registered land surveyor certifying such lots are accurately staked and marked, as designated on this plat, and describing the type of markers used.

5. Dedication Requirements.

1. The following dedications are required, if applicable, for all subdivision plats.
2. All signatures shall be original and appear in black ink.
3. Dedications should be in substantially the standard language indicated below. Alternative language may be needed for exceptional circumstances.
4. Declaration statement:

DECLARATION, TITLE WARRANTY, AND DEDICATION KNOW ALL MEN BY THESE PRESENTS:

5. Statement of subdivision, including name of subdivision and legal description of property being subdivided:

***[name of fee title owner]**, a **[Type of company and state of incorporation]**, as owner has subdivided under the name of **[name of subdivision]** located in **[legal description of subdivided property]** as shown platted hereon and hereby declares this plat sets forth the location and gives the dimensions of the lots, tracts, streets, and easements constituting same and that said lots, tracts and streets shall be known by the number, letter or name given each respectively.*

6. Warranty of title for public streets and easements:

***[name of fee title owner]**, a **[Type of company and state of incorporation]**, is the owner of fee title in: (A) the property being dedicated on this plat to the public for roadway purposes and all incidentals thereto; and (B) the property upon or across which easements are being dedicated on this plat to the public. **[name of owner]** hereby warrants to Pinal County, a political subdivision of the State of Arizona, the title to such property against all persons, subject to all matters of record.*

7. Warranty of title for easements only [when streets are private streets only]:

***[name of fee title owner]**, a **[Type of company and state of incorporation]**, is the owner of fee title in the property upon or across which easements are being dedicated on this plat to the public. **[name of fee title owner]** hereby warrants to Pinal County, a political subdivision of the State of Arizona, the title to such property against all persons, subject to all matters of record.*

8. Dedication of public streets:

Streets shown on this plat are dedicated to the public for roadway purposes including, but not limited to, access, drainage, telecommunications and public utilities.

9. Dedication of right-of-way:

*A total of _____ feet from the center line of **[insert name of road]** along the **[insert one: east, west, south, north]** property line, as designated on this plat, is hereby dedicated as right-of-way (fee) to the public for roadway purposes including, but not limited to, access, drainage, telecommunications and public utilities.*

10. Dedication of sight visibility triangle easement for public streets:

Right-of-way sight visibility triangle easements as designated on this plat are hereby dedicated to the public at all intersections with a public street, 21' x 21' at local to local intersections and 33' x 33' at arterial or collector intersections with a public street.

11. Dedication of right of ingress and egress for emergency vehicles:

***[name of fee title owner]** hereby dedicates, grants and conveys rights of ingress and egress for all emergency vehicles and/or government vehicles over and across all private streets as designated on this plat.*

12. Dedication of vehicular non-access easement when adjacent to public tracts, public drainage easements, tracts or facilities or adjacent to public arterial or collector streets:

As designated on this plat, one foot wide negative easements prohibiting vehicular ingress and egress are hereby dedicated to the public upon all lots adjacent to public drainage easements, tracts, or facilities and/or adjacent to public arterial or collector streets.

13. Drainage easement dedication to the Public:

*Non-exclusive drainage easements are hereby dedicated to the public upon, over, across and through **[tracts and/or those areas designated as such hereon]**. No use shall be permitted within the drainage easements which would prohibit or interfere with the drainage use. Maintenance of the drainage easements shall be the responsibility of the **[insert name of homeowner's association]**. Should the association not adequately maintain the drainage easements, the governing entity having jurisdiction over the area in which the drainage easements are located, at its discretion, may enter upon and maintain the drainage easements, and charge the homeowners association the cost of the maintenance. All other easements are subordinate to the drainage easements.*

14. Public utility easement dedication:

Public utility easements are hereby dedicated to the public upon, over, under, across and through those areas designated as such hereon for the installation, maintenance, repair, and removal of underground utilities, including, but not limited to, water, sewer, gas, electric, and

telecommunications. Maintenance of the areas subject to such public utility easements shall be the responsibility of the lot or tract owner.

15. Water and/or sewer easements dedication [if not part of public utility easements]:

***[select and insert: Water and/or sewer]** easements are hereby dedicated to the public upon, over, under, across and through those areas designated as such hereon for the installation, maintenance, repair and removal of **[water/sewer]** lines. Maintenance of the areas subject to such easements shall be the responsibility of the lot or tract owner.*

16. Signature block for owner(s):

IN WITNESS WHEREOF:

[owner's name], a [Type of company and state of incorporation], as owner, has hereunto caused its name to be affixed and has executed this subdivision plat by the signature of the undersigned, duly authorized, this day of _____, _____. [INSERT NAME OF OWNER and type of company and state of incorporation]

By: _____

Title: _____

17. Acknowledgment block for owner(s):

On this day of _____, _____, _____ before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed this plat for the purposes therein contained.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

[Note: If a second and different company, corporation or partnership is the Manager for the owner, then the following acknowledgment will apply.]

On this day of _____, _____, _____ before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed this plat for the purposes therein contained.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

18. Ratification language (if applicable)

A. LIENHOLDER'S RATIFICATION

The undersigned is the holder of the beneficiary's interest under Deed of Trust dated and recorded on, as instrument No. _____, in the official records of the County Recorder of Pinal County, Arizona, and does hereby ratify this plat this _____ day of _____, _____.

[Insert beneficiary's name], [insert type of company and state of incorporation]

By: _____

Title: _____

On this _____, _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of **[insert beneficiary's name]** a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

[Note: If a second and different company, corporation or partnership is the Manager for the beneficiary, then the following acknowledgment will apply.]

On this _____, day of _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[Title of office held]** of **[name of second entity]**, a **[insert type of company and state of incorporation]**, as **[Manager]** for **[beneficiary's name]**, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entities, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

B. LIEN HOLDER'S RATIFICATION

_____, a **[insert type of company and state of incorporation]**, holds a lien on the real property identified in this plat by **[identify lien instrument]** and does hereby ratify this plat this _____, day of _____, ____.

[name and type of company and state of incorporation],

By: _____

Title: _____

On this _____, day of _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of **[INSERT name of lien holder NOT the landowner]**, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

C. RATIFICATION BY HOLDER OF OPTION TO PURCHASE

_____, a **[insert type of company and state of incorporation]**, holds an option to purchase certain real property identified in this plat and does hereby ratify this plat this _____, day of _____, ____.

[name]

By: _____

Title: _____

On this _____, day of _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of _____, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

D. [Ratification by holder of an equitable interest]

RATIFICATION

_____, a **[insert type of company and state of incorporation]**, holder of an equitable interest in the real property identified in this plat by **[Superior Court Case No. and Lis Pendens thereon]**, does hereby ratify this plat this _____ day of _____, _____.

[insert company name of lien holder and]

[insert type of company and state of incorporation]

On this _____, day of _____, _____, before me, the undersigned, personally appeared who acknowledged himself/herself to be **[insert title of office held]** of, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed the foregoing Ratification.

STATE OF _____

) ss.

[Seal]

COUNTY OF _____

Notary Public _____ My Commission Expires _____

19. Requirements and Notes.

The following are required, if applicable, for all subdivision plats. In addition these requirements must be set forth as notes on all plats. Notes should be in substantially the standard form below. Alternative language may be needed for exceptional circumstances.

A. Assured Water Supply Certificate in accordance with A.R.S. § 45- 576.

[insert Owner's name] has received a Certificate of Assured Water Supply for this subdivision pursuant to A.R.S. § 45-576, and submits said Certificate with this plat.

[OR]

This subdivision is within the service area of [name of water supplier] which has been designated as having an assured water supply pursuant to A.R.S. § 45-576. A commitment to supply water service to this platted subdivision has been received from said company as evidenced by, a copy of which is submitted with this plat.

B. Private Streets Dedication.

Streets shown as Tract(s) are private and shall be granted and conveyed to the [name of homeowner's association] for roadway purposes including, but not limited to, access, drainage, telecommunications and public utilities.

C. Private Streets/Sight Visibility Triangle Easement.

Right-of-way sight-visibility triangle easements, as designated on this plat, shall be granted and conveyed to the [insert name of homeowner's association] where private streets intersect into private streets, 21' x 21' at private local to local intersections and 33' x 33' at private arterial or collector intersections.

D. Vehicular non-access easement.

As designated on this plat, one foot wide negative easements prohibiting vehicular ingress and egress shall be granted and conveyed to the [name of homeowners' association] upon all lots adjacent to private drainage easements or facilities and/or adjacent to private arterial streets or collector streets.

E. Trees, objects, structures, and landscaping within the right-of-way sight-visibility triangle easement.

No trees are permitted within the right-of-way sight-visibility triangle easements and no temporary or permanent object, structure or landscaping shall exceed twenty-four inches in height within the right-of-way sight-visibility triangle easements.

F. Common Areas.

Tracts are common areas which shall be granted and conveyed to and maintained by the [name of homeowner's association], an Arizona non-profit corporation.

G. Structures in drainage easements.

No structure shall be constructed in nor shall other improvements or alterations be made to the storm water retention areas or to drainage easements without prior approval by Pinal County.

H. Storm Water Retention.

The storm water retention volumes required by the Pinal County Drainage Ordinance have been met and the overall gross retention volumes will not be changed without prior approval by Pinal County. Maintenance of the areas subject to storm water retention shall be the responsibility of the lot or tract owner.

I. Underground utilities.

All new or relocated utilities shall be placed underground.

J. Street Lighting/Landscaping.

*Maintenance of all street lighting and landscaping within the common area(s) and the street rights-of-way shall be the responsibility of the **[name of homeowner's association]**.*

K. Subdivision streets permits/inspections.

All subdivision streets, whether public or private, and work within the subdivision streets and within public rights-of-way require permits from and inspections by Pinal County.

20. Utilities Trench work.

All trench work within public utility easements require permits from and inspections by Pinal County.

21. Building Setbacks.

On all lots the owner and/or developer shall ensure that residential dwellings can fit within the building setbacks including bay windows, fireplaces, porches, covered patios, etc.

22. Fire Code.

This subdivision is subject to the requirements of the International Fire Code, as adopted by Pinal County and administered by the Pinal County Building Safety Division.

23. Agricultural Spray Easement (if applicable)

This subdivision is subject to an agricultural spray easement recorded by fee No. _____, in the official records of the County Recorder of Pinal County, Florence, Arizona.

24. School/Day Care (if applicable)

No school or day care centers shall be located within 1/4 mile of land in agricultural production requiring aerial spraying.

25. Model Homes (if applicable)

There will be a model complex, as an accessory use, on lots ____ through ____ inclusive. Lot ____ will be a sales center. Lot ____ will be a parking area, and lot ____ will be overflow parking. Lots shall be landscaped in conjunction with the parking. Upon completion of the site's use as a model complex, all lots will revert to residential units (upon build-out).

26. On-lot retention (if applicable on an acre size lot, or larger).

All lots in this subdivision require on-lot retention pursuant to the volume table on the plat.

27. Flight/noise (if applicable)

*This subdivision is in the vicinity of the flight pattern/noise corridors of the **[insert name of airport]** and in the future may continue to be within the flight pattern/noise corridor of the said airport.*

28. State land/Indian land (if applicable)

This subdivision is adjacent to [Arizona state land/Indian Community land], which may be developed for any possible land use in the future.

29. CC&Rs

*Covenants, conditions and restrictions were recorded on **[insert recording date]** by fee number _____ in the official records of the County Recorder of Pinal County, Arizona.*

30. APPROVALS

This plat has been approved as to form by:

_____	_____
<i>Pinal County Planning Division</i>	<i>Date</i>
_____	_____
<i>Pinal County Aquifer Protection Division</i>	<i>Date</i>
_____	_____
<i>Pinal County Engineer</i>	<i>Date</i>

Assurances in the form of have been submitted to Pinal County with this plat to guarantee installation of all required major infrastructure for this project.

This plat has been approved as to form in accordance with A.R.S. § 11-822, this ____ day of _____, _____. Approval or recordation of this plat shall not be deemed to constitute or effect an acceptance by Pinal County for designation of any street, highway, bicycle facility or other way or open space shown upon this plat into the County maintenance system.

PINAL COUNTY BOARD OF SUPERVISORS

By: _____	ATTEST: _____
<i>Chairman</i>	<i>Clerk</i>

31. Full Approval and Acceptance:

The Board of Supervisors of Pinal County, Arizona, hereby approves this plat as to form in accordance with applicable Arizona statutes and on behalf of the public accepts all parcels of land offered by dedication for public use in conformity with the terms of the offer of dedication. This approval or the recordation of this plat shall not be deemed to constitute or affect any acceptance by Pinal County for designation of any street, highway or other way or open space shown upon the plat into the county maintenance system.

_____	_____
<i>Chairman of the Board</i>	<i>Date</i>
ATTEST:	
_____	_____
<i>Clerk of the Board</i>	<i>Date</i>

- 32.** The following recording block shall be included on the cover sheet and all subsequent pages of the final plat.

RECORDING

State of Arizona)

) ss.

County of Pinal)

I hereby certify that this instrument is filed at the request of _____ on this _____ day of _____, 20____, by fee number _____ thereof at Pinal County

Recorder

_____ *Deputy*

4.3.2 Engineering Division

- A.** Tract boundary lines, right-of-way lines of streets, easements and other rights-of-way, and property lines of all lots, common areas and other sites; with accurate dimensions, bearings or deflection angles and radii, arcs, semi-tangents and central angles of all curves.
- B.** Names, centerlines, right-of-way lines, bearings, lengths and widths of all streets (public or private) and utility easements, radii, points of tangency and central angles of all curvilinear streets, and radii of all rounded street line intersections and identify as public or private.
- C.** All drainage ways shall be shown on the plat and identified as public or private and designate as onsite or offsite drainage.
- D.** Location and description of all permanent monuments, lot corners and other survey points in place.
- E.** Show and label all drainage easements and drainage ways with appropriate dimensions and bearings, width, purpose and recording information, and identify as public or private. Major drainage ways may be dedicated to the public upon recommendation of the County Engineer and with Board approval.
- F.** All tracts, easements, and drainage ways designated as private shall be maintained by the Home Owners' Association.
- G.** Signatures shall be in permanent black ink.
- H.** Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend approximately 100' beyond property boundary.

- I. Vicinity map showing proposed subdivision and surrounding subdivisions and streets located within a ½ mile radius.
- J. An overall key map to be provided to include proposed street names and neighboring properties to be noted as “UNSUBDIVIDED” if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- K. Property line minimum radii shall be: 25’ or 50’ (for all intersections with arterials).
- L. The minimum right-of-way widths shall be: Parkways – 200’ ROW; principal arterials - 150’ ROW; minor arterials (section lines) - 110’ ROW; major collectors (mid-section lines) - 80’ ROW; minor collectors - 60’ ROW; and local streets - 50’ ROW. **(See Exhibits contained in this manual for illustrations)**
- M. Intersection spacing along an arterial shall be approximately every 1,320’ (1/4 mile), or as specified in the most recent RSRS Document.
- N. Avoid street jogs with centerline offsets of less than 135’. Collector or another arterial street intersecting with an arterial street should align if possible or meet the minimum requirement for spacing along an arterial.
- O. Local streets are not permitted to intersect with an arterial street.
- P. Residential lots shall front only local streets.
- Q. Intersections shall intersect at right angles if possible, but no less than 75 degrees.
- R. Maximum length of a cul-de-sac is 500 ft. (measured from the centerline of the intersecting street to the radius point of the turnaround). Minimum right-of-way radius for a cul-de-sac and its returns shall be 50’.
- S. Plat shall show all locations, dimensions, and purposes of any existing and proposed easements and right-of-ways.
- T. Show surrounding land around subdivision to include, but not limited to, existing right-of-ways, existing easements, existing plats and other properties.
- U. Show Public Utility Easements (PUE) - minimum 8’ wide. PUEs are to be located in tracts outside the rear and side of all lots.
- V. Survey monuments are required at all street intersections and at the PCs and PTs of all curves.

4.3.3 Flood Control District

A. Floodplain

Floodplains shall be delineated on the plat (if applicable). Where delineated floodplains are shown, the following statement shall appear on the plat: “The Flood Insurance Rate Map (FIRM) information provided herein is based upon the maps published by the Federal Emergency Management Agency (FEMA) in effect at the time this plat was recorded. Note that newer versions of the FIRMs may have been published after the recordation of this plat.”

B. Flood Zone

Indicate Flood Zone designations(s), FIRM panel number(s), community number, panel effective date(s) and index map date.

4.4 Legal Survey.

The Final Plat shall be based on an A.L.T.A./A.C.S.M. Title Survey of the subdivision and shall conform to the conditionally approved Tentative Plat by the Commission, and the requirements and specifications of this manual, other applicable county ordinances and regulations, and applicable state and federal regulations.

(Pinal County does not have published benchmarks. If you are unable to find reliable National Geodetic Survey (NGS) benchmarks in the area you are working, Pinal County Survey suggests following the instructions for establishing ellipsoid heights found in NGS document NOS NGS-58 and establishing orthometric heights found in NGS document NOS NGS-59.)

4.4.1 Section Corners

Two (2) corners of the Final Plat shall be tied by bearing and distances to a separate section corner, quarter section corner or established city or county survey monument, as designated by the County Engineer. Additional data required as follows:

- A.** The survey ties shall be shown on the Final Plat and be ground measured bearings and distances. Pinal County will provide descriptions and coordinates of the control monuments for the section in which the subdivision is contained. Contact Pinal County Public Works GIS Section. Refer to the Pinal County Control Network on the Pinal County Public Works Website.
- B.** If monumentation of any existing Section Corner or Quarter Section Corner is other than a G.L.O. Brass Cap or Pinal County Cap, it may be replaced, at the expense of the Subdivider, under the supervision of a Land Surveyor, registered in the State of Arizona, with an Aluminum Cap or Brass Cap provided by Pinal County. Provide detail on Plat of all monumentation stamped per Arizona Boundary Survey minimum standards.

- C. All surveys shall be conducted as per the Arizona Board of Technical Registration Minimum Standards for Boundary Surveys.
- D. Any Section Corner or Quarter Section Corner monumentation disturbed or destroyed during construction of the subdivision or off-site improvements shall, at expense to the Subdivider, be replaced under the supervision of a Land Surveyor registered in the State of Arizona, with a monument provided by Pinal County. Provide detail on Plat of all monumentation stamped per Arizona Boundary Survey minimum standards.
- E. All Section Corner and Quarter Section Corner monuments set shall be marked with appropriate Corner information per Arizona Boundary Survey minimum standards.
- F. The subdivider shall, at his or her own expense, provide to Pinal County NAVD 88, State Plane, Arizona Central coordinate values in the form of a recorded Arizona Land Survey Corner Record, sealed by a Land Surveyor registered in the State of Arizona for any Section Corner or Quarter Section Corner set utilizing the following fields and precision:
 - Latitude/Longitude to 5 decimal places,
 - Northing/Easting to 3 decimal places,
 - Elevation to 2 decimal places,
 - A point description.
- G. All Final Plats shall be submitted in NAVD 88, State Plane, and Arizona Central data in the form of a recorded Arizona Land Survey Corner Record.
 - Northing/Easting to 3 decimal places,
 - Elevation to 2 decimal places,
 - A point description.

CHAPTER 5 GENERAL REQUIREMENTS FOR IMPROVEMENT PLANS

5.1 General Information.

Proposed development projects that involve construction of any infrastructure improvements (streets, grading and drainage facilities, utilities, etc.) are required to submit improvement plans and supporting reports to Pinal County for review, approval and permitting. This chapter describes the general requirements for all plans prepared for subdivision and infrastructure improvements in Pinal County. Other improvement plan requirements that are specific to the type of improvements proposed are identified in other chapters of this manual.

5.1.1 Improvement Plan Submittals

- A. The improvement plans submitted to Pinal County for County Approval shall adhere to professional standards for submittal of complete improvement plans for construction. Improvement plans shall include all details, technical and drainage reports etc. Improvement plans that do not meet the professional standards or are incomplete will be returned by the County Staff without review comments and be classified as the subdivision's first submittal.
- B. Improvement plans may be submitted digitally.

5.2 General Requirements.

5.2.1 Civil Engineering Standards: Pinal County uses the adopted version of the Uniform Standard Specifications and Details for Public Works Construction as published by Maricopa Association of Governments (MAG) engineering standards for construction of public infrastructure, the US Department of Transportation, Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways, the Standard Specifications for Road and Bridge Construction, Arizona Department of Transportation and the State of Arizona Department of Transportation Signing and Marking Standard Drawings.

Document Size: Improvement plans shall be on 24" x 36" sheets with blue or black line types with a minimum of a 1 ½" left border and a ½" border on other sides.

5.2.2 Reports: All supporting or supplement reports shall be letter sized (8.5" x 11"). Any larger maps included within the reports are to be folded to letter size and bound or provided in a folder.

5.2.3 Final Approval Submittal: Improvement plans submitted for final approval shall be original 4 mil grade Mylar drawings. Plan submittals shall consist of one (1) Mylar cover sheet, one (1) bond copy and an electronic copy (multipage PDF). The County Engineer may authorize a "protected" PDF submittal in lieu of mylars.

- 5.2.4** Sheet Orientation: Plans shall be oriented with north towards the top or right of each sheet. A North arrow and scale (both written and graphic) shall be provided. All text should be readable from the bottom and the right of the sheet.
- 5.2.5** Text Designation: Minimum lettering and numbering size shall be 3/16" for manually drafted or 12-point font for mechanically/electronic produced letters, numbers and symbols. Lettering, numbering and line work must be uniform and with clear definition to be retrievable after microfilming.
- 5.2.6** Improvement Plan Designation: Separate improvement plans shall be provided for the following:
- A.** Paving and Storm Drain Improvements shall be on the same sheet.
 - B.** Water system improvements
 - C.** Sanitary sewer improvements
 - D.** Grading and Drainage improvements
 - E.** Traffic Signalization
 - F.** Traffic Signing and Pavement Marking improvements
 - G.** Open space, Recreational Amenities, Landscape and Irrigation improvements
 - H.** Streetlight and Electrical improvements
 - I.** Reclaimed Water
 - J.** Force Mains, Lift Stations, Pump stations and other water/waste water infrastructure
- 5.2.7** Drawing Scales: The following are standard minimum drawing scales to be used for improvement plans submitted to Pinal County. Note: The Engineer shall take into account when selecting drawing scales, line weights and lettering size that the improvement plans may be photocopied, microfilmed or digitally scanned. Depending on the complexity of the design, a larger scale maybe required.
- A. Grading:** 1" = 40' Horizontal
 - B. Water and Sewer:** 1" = 40' Horizontal 1" = 4' Vertical
 - C. Paving and Storm Drain:** 1" = 40' Horizontal 1" = 4' Vertical
 - D. Traffic Signalization:** 1" = 20' Horizontal

E. Traffic Signing and Pavement Marking: 1" = 40' Horizontal

F. Landscape and Irrigation: 1" = 30' Horizontal

5.2.8 All existing topography shall be screened. This will typically include existing contours with adequate spot elevations to show drainage, existing aerial and underground utilities, existing irrigation facilities, adjacent land uses, city limits, county limits where applicable, 100-Year Floodplain, flood elevations and floodway limits where applicable.

5.2.9 Plans shall show existing and proposed right of way, easements and property lines. Dimensions of these shall be clearly indicated.

5.2.10 New construction line work and construction notes shall be sufficiently heavier than existing topography so as to allow it to be quickly and clearly identified.

5.2.11 Grade breaks shall be clearly shown with the applicable symbol on the plan and/or profile sheets.

5.2.12 "Blue Stake" (Arizona 811) underground utility notification shall be provided on each sheet.

5.2.13 An individual cover sheet with the following information is required for each type of improvement plan.

A. Project heading block indicating name of project, type of plans. (Title to be consistent with the Final Plat).

B. Below the heading include the words "Pinal County, Arizona".

C. Title Blocks: All plan sheets shall note the project's title or address in a title block on the sheets lower right hand corner. Project addresses may be located either along the bottom of the sheet, or the right hand side of the sheet.

D. Developer's name, address, telephone number and contact person.

E. Engineer's name, address, telephone number and contact person.

F. Engineer's seal with signature and date. (Provided on each sheet).

G. Vicinity Map indicating the general location of the project with major arterial streets labeled and geographic orientation.

H. Provide the Section, Township and Range data.

I. Basis of bearings and benchmark (NAVD 88 datum).

- J.** Sheet Index.
- K.** County Case number (S-000-00) at the lower right hand corner.
- L.** Estimate of Quantities for all improvements.
- M.** Legend for symbols, abbreviations, grades and lines, etc.
- N.** Fire Department and Utility Company approval with signature block for Water, Sewer and Natural Gas. (Proof of Approval required prior to County approval)
- O.** Arizona Department Environmental Quality (ADEQ) approval block on Water and Sewer Improvement plans. Approval required prior to County approval.
- P.** Provide Pinal County Engineer Approval Block:

APPROVED BY:

PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

DATE

APPROVAL EXPIRES:

DATE

*Δ *RE-APPROVED BY:*

PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

DATE

APPROVAL EXPIRES:

DATE

Q. Provide a Record Drawing Certification Statement on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER: _____

5.3 Registrants Seal and Signature.

The County requires that all improvement plans, specifications and reports submitted for review shall be sealed in accordance with the requirements of the Arizona State Board of Technical Registration.

5.4 Plan Sheets.

Improvement plans for proposed construction shall consist of standard plan only sheets or standard plan and profile sheets. Plan sheets shall provide the following:

- 5.4.1 Professional Seal:** Each sheet shall be sealed, signed and dated in accordance with the Arizona Board of Technical Registration requirements.
- 5.4.2 Title Blocks:** All plan sheets shall note the project's title or address in a title block on the sheets lower right hand corner.
- 5.4.3 Dimensioning:** Pinal County requires that all existing and proposed improvements shall be dimensioned in accordance with the following:
 - A.** All plan sheets showing street improvements or dedicated rights-of-way shall be dimensioned per MAG Standard Detail 112.
 - B.** All plan sheets showing the construction of utilities or existing utilities shall also dimension the utilities using the format of MAG Standard Detail 112.
 - C.** All plan sheets showing the construction of utilities within an easement shall dimension the overall width of the easement, the offset of the proposed or existing utilities from the centerline or edge of the easement.

5.4.4 Horizontal Control:

- A.** The origination point of all position systems shall be based on an established survey point or monument and identified on the plans.
- B.** Position systems shall be designed to proceed from South to North, West to East, left to right.
- C.** All plan sheets shall be stationed in 100-foot intervals minimum.

5.4.5 Symbols: Symbols noted on the plan sheets shall be per MAG Standard Detail 110. Special symbols not represented on MAG Standard Detail 110 may be used provided the symbol representation is identified.

5.4.6 Construction Notes: Construction notes for all new construction shall be noted on each plan sheet.

5.4.7 Required Information to be Shown on Plans:

- A.** Existing and proposed rights-of-way shall be shown and dimensioned.
- B.** Projects that are adjacent to corporate limits of municipalities shall delineate the location of the corporate limits and identify the jurisdictions on all applicable sheets.
- C.** Plans shall differentiate between the existing and proposed improvements and show all the existing conditions.
- D.** Plans shall show all existing utilities complete with line sizes, types (water, sewer, gas, etc) and locations.

5.5 Plan and Profile Sheets.

5.5.1 Plan and profile sheets are required for the following:

- A.** All parkway, arterial, collectors, local streets and access road paving and storm drain improvement plans. Provide separate profiles for left curb or left edge of pavement, right curb or right edge of pavement and the centerline.
- B.** Waterline improvement plans for construction with size twelve (12) inches in diameter or greater.
- C.** All sanitary sewer improvement plans.
- D.** All storm drain improvement plans.
- E.** All reclaimed water line improvement plans.

F. If required by the Planning Division, any other utility plan.

5.5.2 The profile shall indicate elevations and the stationing grid clearly.

5.5.3 The profile of the existing surface shall be shown with the proposed construction line work and construction notes (i.e. elevations, slopes, grade breaks).

5.5.4 The existing and proposed utility crossings shall be shown in the profile view. Utility conflicts and design resolutions shall be noted in all the appropriate profiles.

5.6 Detail Sheets

Supplement sheets that depict special construction details required to clarify some aspect of the proposed improvements.

5.6.1 Professional Seal: Each sheet shall be sealed, signed and dated in accordance with the Arizona Board of Technical Registration requirements.

5.6.2 Standard Details: MAG Standard Details are not to be included on the detail sheets unless the Detail is being modified. The modifications shall be clearly identified and the detail shall be titled "Modified MAG Detail."

5.7 Technical Reports.

The following reports shall be submitted with each subdivision project.

5.7.1 Traffic Impact Analysis (TIA)

Developers shall be required, at the time of final plat submittal, to submit a Final Traffic Impact Analysis for review and approval. Analysis shall be prepared in accordance with the Pinal County TIA Guidelines & Procedures, the Pinal County Regionally Significant Routes for Safety and Mobility and the Pinal County Access Management Manual. Recommendations provided in the approved Traffic Impact Analysis must be reflected in the improvement plans. Any previously approved agreements for installation of improvements recommendations shall be submitted with the TIA.

5.7.2 Geotechnical Report

Developers shall be responsible to submit a geotechnical report with street construction plans indicating "R" value, sieve analysis, plastic index of the subgrade and street structural cross section design. The design engineer is responsible for investigating and evaluating the existing pavement structure. Equivalent Single Axle Load (ESALs) factors shall be obtained from ADOT's "Materials Preliminary Engineering and

Design Manual" - Appendix A: Traffic Data Procedures and Analysis. The existence or absence of fissures on or adjacent to the proposed development shall be noted within the report. Existing fissures shall be addressed with all mitigating measures noted. Recommendations provided in the approved Geotechnical Report must be reflected in the improvement plans.

5.7.3 Drainage Report

Developers shall be required, at the time of final plat submittal, to submit a final Drainage Report for review and approval. The report shall be prepared in accordance with the current Pinal County Drainage Ordinance, Drainage Manual and Pinal County Floodplain Management Ordinance.

5.7.4 Phase 1 Environmental Report (or equivalent as approved by the Community Development Director)

Developers shall be responsible to submit for review an Environmental Report that addresses the following:

- A.** Provisions for a supply of adequate and safe drinking water for all lots and land tracts.
- B.** Provisions for adequate sewage disposal for all lots must be assured. The use of individual sewage disposal systems are discouraged.
- C.** Provisions for the collection and disposal of solid waste generated by the development.
- D.** Information regarding Air Quality and if located in a non-attainment area.
- E.** Information regarding Cultural Resources.
- F.** A report utilizing the Environmental Review Tool from the Arizona Game and Fish Department.
- G.** A statement if a Phase 2 study is recommended based on findings.

5.8 Plan Review Comments.

All plan review comments (Redlines) shall be corrected or clarified. If there is a discrepancy with a review comment, contact the County plan review staff. The redline set of plans shall be returned with the next improvement plan submittal. Include a separate redline correction response letter addressing each comment and correction measure provided. The letter shall address each comment with plan sheet location noted, along with the applicable resolution of the comment.

Failure to identify all of the changes shall result in the return of the plans with an additional review required and shall require additional fees based on the approved Public Works Department Fee Schedule.

5.9 Approval of Plans.

- 5.9.1** When the improvement plans meet the requirements for approval in accordance with Article 8 of the Pinal County Subdivision Regulations, the original mylar cover sheet will be requested. With the submittal of the original mylar cover sheet include one (1) full size bond sets of plans, an electronic copy (multipage PDF) and an Engineer's Opinion of Probable Cost. Prior to County Engineer signature all applicable reviewing agencies shall have signed the cover sheet. If an agency does not sign the cover, a letter of their approval shall accompany the cover sheet and the letter date and signing party noted on the cover sheet. Plan approval is valid for one year from date of signature. If construction has not begun prior to the plan approval expiration date the plans become void. A re-approval of the construction plans are required and applicable plan review fees will apply.
- 5.9.2** The County will review all such plans and specifications and may require revisions therein to comply with standards and specifications of these regulations and other applicable laws and ordinances. After the completion of revisions, the County Engineer may require that the Engineer's Cost Estimate be revised to reflect such revisions. The County Engineer shall only approve said plans and drawings if the improvements indicated are found to be in conformance with the standards and specifications of these regulations and other applicable laws and ordinances. Said approval shall be in writing.

5.10 As-Built Plans (Record Drawings).

As-Built Plans shall be prepared in accordance with Chapter 14 of this Manual.

CHAPTER 6 STREET DESIGN REQUIREMENTS

6.1 General Information.

- 6.1.1** This chapter describes the geometric requirements for any public and private street classification: arterial, collector, local and all-weather access roads. The minimum requirements described herein are primarily based on safety considerations; therefore, standards that provide a greater degree of safety may be used.
- 6.1.2** Civil Engineering Standards: the most current Uniform Standard Specifications and Details for Public Works Construction as published by Maricopa Association of Governments (MAG) engineering standards for construction of public infrastructure, the US Department of Transportation, Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways, the Standard Specifications for Road and Bridge Construction, Arizona Department of Transportation and the State of Arizona Department of Transportation Signing and Marking Standard Drawings, Chapter 10 of the Maricopa County Department of Transportation (MCDOT) Roadway Design Manual.

6.2 Street Improvements.

- 6.2.1** All subdivision projects within the County shall provide a paved interior street system adequate to ensure that all lots, tracts, parcels, or facilities within the subdivision shall have improved access to the balance of the public street system. Subdivider shall provide access into the subdivision for public service and/or emergency operations.
- 6.2.2** The subdivider is responsible for construction of all street improvements along the subdivision's frontage to the ultimate grade and alignment for the said perimeter street. This shall include the removal and replacement of the existing street surface to the centerline. Roadway Improvements, utilities, street lighting, landscaping and relocation of overhead and irrigation facilities will be required at the sole expense of the subdivider.
- 6.2.3** A Paved All-Weather Public Access Road shall be installed for legal ingress and egress to the subdivision or private development from a paved public roadway as required by the County Engineer.

6.3 Street Classifications.

- 6.3.1** Pinal County has seven basic classifications of streets for use relating to subdivision development. The location and street classification is determined as part of the site planning and platting process. The County Engineer will review each tentative plat and will specify any changes needed to conform with previously planned and approved street alignments. The County Engineer will also specify the classification for each street involved in the tentative plat. Refer to Exhibit 6.2 for Street Cross Sections.

All subdivisions shall provide for public arterial and collector streets at their normal alignments and as determined by the County Engineer.

- A. Parkway:** Parkways provide uninterrupted, high-volume mobility with few grade-separated traffic interchanges. The standard cross section for a principal and minor arterial is shown in **Exhibit 6.2**.
- B. Arterial Street:** Arterial streets provide regional continuity and carry large volumes of traffic between areas of the County and through the County. The normal alignment for an Arterial Roadway is along a section line. The standard cross section for a Principal and Minor Arterial is shown in **Exhibit 6.2**.
- C. Collector Street:** Collector streets provide direct access to abutting land uses, handle local traffic and provide access to the arterial street system. The normal alignment for a Major Collector roadway is along a mid-section line. The standard cross sections for major and minor collector streets are shown in **Exhibit 6.2**.
- D. Local Street:** Local streets provide direct access to abutting land uses and handle local traffic. Local Streets will not be connected to arterial streets. Local Streets provide access to the collector street system. The standard cross section for a local street is shown in **Exhibit 6.2**.
- E. Low Density Local Street:** Low Density Local Streets will not be connected to arterial streets. Low Density Local Streets provide access to the collector street system. Low Density Local Streets are for subdivisions with a lot size of not less than 1.0 acre or greater than 3.33 acres. The standard cross section for a Low Density Local Street is shown in **Exhibit 6.2**.
- F. Paved All-Weather Public Access Road:** A roadway that connects the subdivision or private development to an existing paved public street. The access road shall be within dedicated public right-of-way with a minimum pavement width of 28 feet to accommodate two-way traffic. The standard cross section for a paved all-weather public access road is shown in **Exhibit 6.2**.

6.4 Subdivision Street Planning.

Subdivision street plans should provide the minimum number of intersections and wash crossings, and discourage through traffic.

- 6.4.1** All streets shall conform to the Pinal County Comprehensive Plan, County standards, related transportation studies, specifications and requirements, and with due consideration to their relation to existing and other planned streets. This shall also include topographical conditions, surface drainage in and through subdivisions, public convenience and safety, and appropriate relation to the proposed uses of the land to be served by such streets. Where not shown in the Pinal County Comprehensive Plan, arrangement and other features of the streets shall provide for appropriate continuation of existing arterial and collector streets in surrounding areas where essential for circulation and access to community facilities.

- 6.4.2** Street configuration shall conform to the Traffic Impact Analysis and as approved by the County Engineer.
- 6.4.3** The subdivider may be required to provide additional right-of-way for local service or access along major streets, or other treatment to provide local access to residential properties.
- 6.4.4** Along a railroad right-of-way or limited access highway right-of-way, a parallel street may be required at a distance suitable for appropriate use of the intervening land, such as for park purposes in residential districts or for commercial or industrial purposes in appropriate locations; such distances also to be determined with due regard for their requirements of approach grades and future grades separation as approved by the County Engineer.
- 6.4.5** Provisions shall be made for railroad and other public or private utility crossings necessary to provide access to or circulation within the proposed subdivision, including the obtaining of all necessary permits from the public or private utilities involved, and any regulatory agencies having jurisdiction. The costs of such crossings shall be the responsibility of the subdivider.
- 6.4.6** Adequate provisions shall be made in the design of subdivisions for access to each lot or parcel, and for access to adjacent properties.

6.5 Street Right-of-Way Requirements.

- 6.5.1** All public street right-of-way dedication shall be at no cost to the public and unencumbered. The public right-of-way requirements shall meet the ultimate development requirements. The dedicated right-of-way shall provide sufficient area for the installation for utilities, cut or fill slopes, sidewalks, traffic control devices, signs, fire hydrants, landscaping and other public facilities that must be located adjacent to street pavements.
- 6.5.2** Additional Right-of-Way widths may be required in special circumstances for the following conditions:
- A.** Cut or fill slopes cannot be confined within the typical right-of-way.
 - B.** Minimum sight distance lines on horizontal curves do not meet the standards.
 - C.** Minimum sight distances at intersections do not meet the standards.
 - D.** Auxiliary traffic lanes are required.
 - E.** Allow for maintenance and inspection of drainage structures.
 - F.** Other conditions that may be required by the County Engineer.
 - G.** The minimum right-of-way requirements are as follows:
 - Parkway 200 feet

▪ Principal Arterial	150 feet
▪ Minor Arterial	110 feet
▪ Major Collector	80 feet
▪ Minor Collector	60 feet
▪ Local Street	50 feet
▪ Low Density Local Street	50 feet
▪ Paved All-Weather Public Access Road	40 feet

6.6 Easements and Dedications.

6.6.1 Public Utility Easements (PUE) shall be a minimum of 8 feet wide and located adjacent to each side of the dedicated street right of way. Public Utility Easements shall not be located within the side or back property lines.

6.6.2 Drainage easement dedications shall be provided conforming substantially with the lines of any water course, drainage way, channel, or stream and such further width or construction, or both, as will be adequate for the purpose. Parallel streets or parkways may be required in connection therewith. All drainage easements shall be outside the roadway right-of-way.

6.7 Pavement Cross Section.

6.7.1 The minimum pavement width requirements are as follows (back of curb to back of curb):

▪ Parkway	163 feet
▪ Principal Arterial	101 feet
▪ Minor Arterial	75 feet
▪ Major Collector	51 feet
▪ Minor Collector	40 feet
▪ Local Street	32 feet
▪ Low Density Local Street	32 feet
▪ Paved All-Weather Public Access Road	28 feet (No Curbing)

6.7.2 The minimum* pavement section requirements are as follows:

▪ Parkway	6" AC/10" ABC
▪ Principal Arterial	6" AC/10" ABC
▪ Minor Arterial	5" AC/10" ABC
▪ Major Collector	3" AC/8" ABC
▪ Minor Collector	3" AC/8" ABC
▪ Local Street	2.5" AC/6" ABC
▪ Local Residential	2.5" AC/6" ABC min
▪ Low Density Local Street	2.5" AC/6" ABC
▪ Paved All-Weather Public Access Road	Per Geotechnical Report or as approved by the County Engineer

*as MAG Standards are revised the minimum pavement section will be per the current MAG Standards

6.7.3 The above referenced pavement sections are minimums. Actual or alternate pavement sections shall be determined by geotechnical analysis and pavement design prepared and sealed by a professional engineer registered in the State of Arizona, and approved by the County Engineer. The actual pavement thickness shall be the greater of either the Pinal County minimum thickness contained herein or as determined by the geotechnical analysis, irrespective of whether treatment is required for expansive soils.

6.7.4 Undivided streets should have a normal crown that is a two-way cross slope with the cross section high point on the street centerline. Divided streets should have cross slope on each pavement section. The high point of each slope on each pavement section shall occur on the edge of the pavement nearest the median. Unusual conditions may cause cross slope requirements to vary, but normally the desirable cross slope is 2%, with a maximum cross slope of 3%. Any deviation from the desirable cross slope is subject to approval by the County Engineer.

6.7.5 Normal cross sections in street dip sections are discouraged. Where storm drainage runoff flows must cross the street, dip sections are needed. The pavements through the dip section should have a one-way slope (no crown, super elevated), curbing and medians must not be raised and cut off walls shall be installed. Transitions back to normal street cross slopes will be needed at both ends of the dip section.

6.7.6 All utility services to each lot of the subdivision shall be installed prior to placement of pavement.

6.7.7 Half-Street Improvements: Half-streets are to be avoided, except where essential to the reasonable development of the subdivision in conformity with this manual and where dedication of the other half will be practical when the adjoining property is subdivided. Where said partial rights-of-way would require the dedication of additional contiguous rights-of-way to make it full width, the subdivider shall include evidence that the additional right-of-way is available or is permanently reserved for future road purposes.

The minimum width for half-street improvements shall be twenty-four feet (24') measured from back of curb to the edge of the asphaltic pavement. Half-street improvements terminating at the roadway monument or centerline shall be constructed with a thickened edge per MAG Standard Detail 201 Type A.

6.7.8 Alleys are not permitted unless approved by the County Engineer.

6.8 Decorative Paving.

Decorative paving is not to be used without the County Engineer's approval. The local Homeowner's Association shall maintain all decorative paving. As an alternative to decorative paving, decorative stamped concrete may be used with the County Engineer's approval.

6.9 Curb and Gutter.

6.9.1 The minimum curb and gutter requirements are as follows:

▪ Parkway	6" Vertical Curb
▪ Principal Arterial	6" Vertical Curb
▪ Minor Arterial	6" Vertical Curb
▪ Major Collector	6" Vertical Curb
▪ Minor Collector	6" Vertical Curb
▪ Local Street	4" Rolled/4" Vertical Curb
▪ Low Density Local Street	Ribbon Curb
▪ Paved All-Weather Public Access Road	Thickened Edge
▪ Pavement Tracts	Vertical Curb

6.9.2 Curb, Gutter, and any scuppers, catch basins, or street drainage infrastructure shall be per the current MAG Uniform Standard Details, unless otherwise approved by the County Engineer.

6.9.3 All curb returns, except for local streets that have ribbon curbs shall (PC to PT) be constructed with vertical curb regardless of whether the tangent curb sections are vertical or roll curb. All curb returns shall be provided with sidewalk from PC to PT of the same width as that provided for the sidewalk behind the tangent curb sections. If no sidewalk is provided adjacent to the return, behind the tangent curb sections, the curb return sidewalk shall be a minimum width of five feet (5').

6.9.4 All street intersections should be constructed with concrete vertical curb returns with a sidewalk ramp per the current MAG Uniform Standard Details and the American Disabilities Act (A.D.A.). Any fifty foot (50') radius shall have a dual ramp (per MAG detail).

6.9.5 The radii for curb returns shall be in accordance with the table shown below: All dimensions are to back of curb.

Street Classification	Minor Arterial	Major Collector	Minor Collector	Local
Parkway	50'	50'	50'	-
Principal Arterial	50'	50'	50'	-
Minor Arterial	50'	50'	50'	-
Major Collector	50'	30"	30'	25'
Minor Collector	50'	30'	30'	25'
Local	-	25'	25'	20'

- 6.9.6** In locations where dip sections are permitted the installation of a cut-off wall conforming to MAG Uniform Standard Details shall be installed.

The exposed portion of the cut-off wall shall have the appearance of a ribbon curb, with the same width as the street's regular curb and gutter. The cut-off wall shall extend across the flow path in the dip section to protect the pavement structure during runoff flows from a 100 year storm. Install a five foot (5') transition section at each end of the dip section to match the street curb and gutter.

6.10 Sidewalks.

- 6.10.1** Streets constructed to Pinal County standards shall have sidewalks installed per Standard Street Cross Sections **Exhibit 6.2** and MAG Standard Detail 230

Sidewalks shall be installed within right of way or sidewalk easement. Sidewalk Widths:

- A.** Parkway: Detached Sidewalk = Six (6) feet wide with a minimum separation from back of curb of eight (8) feet.
- B.** Principal Arterial Street: Detached Sidewalk = Eight (8) feet wide with a minimum separation from back of curb of 5'. Meandering sidewalk requires a minimum radius of 150'. Attached Sidewalk = Ten (10) feet wide.
- C.** Minor Arterial Street: Detached Sidewalk = Eight (8) feet wide with a minimum separation from back of curb of 5'. Meandering sidewalk requires a minimum radius of 100'. Attached Sidewalk = Ten (10) feet wide.
- D.** Major Collector Street: Detached Sidewalk = Six (6) feet wide with a minimum separation from back of curb of 3'. Meandering sidewalk requires a minimum radius of 50'. Attached Sidewalk = Eight (8) feet wide.

E. Minor Collector Street: Detached Sidewalk = Five (5) feet wide with a minimum separation from back of curb of 3'. Meandering sidewalk requires a minimum radius of 50'. Attached Sidewalk = Six (6) feet wide.

F. Local Street: Five (5) feet wide (Attached).

6.10.2 Sidewalks are not required for residential subdivisions with lots one (1) acre and greater in area

6.10.3 Sidewalks are required on both sides of the local street for subdivisions with lot sizes less than one (1) acre.

6.10.4 Sidewalks are required on both sides of arterial and collector streets. Sidewalk Curb Ramps shall be per MAG Uniform Standard Details and Specifications. Truncated domes (detectable warning) shall be constructed out of high-strength concreted material only. The material is to be durable with a non-slip surface not subject to spalling, chipping, delamination or separation. Detectable warning tiles shall have a design working life of at least 30 years.

6.11 Horizontal Alignment.

6.11.1 A horizontal curve is required when the angle of change in horizontal alignment is equal to or greater than ten (10) degrees.

6.11.2 The Minimum Curve Radius requirements are as follows when tangent centerlines deflect more than ten (10) degrees and less than ninety (90) degrees:

▪ Local	200'
▪ Minor Collector	300'
▪ Major Collector	800'
▪ Minor Arterial	1,500'
▪ Principal Arterial	1,500'
▪ Principal	2,000'

6.11.3 Compound curves (two curves with different radii in same direction) should be avoided. However if site conditions make the use of compound curve unavoidable, the shorter radius shall be at least 2/3 the length of the longer radius when the shorter radius is 1,000 feet or less. Compound curves are not permitted when design speeds require the shorter radius to be greater than 1,000 feet.

6.11.4 On two lane roads, tangent sections are required between compound curves.

6.11.5 A tangent section must be provided between reverse curves as shown in **Exhibit 6.3**.

6.11.6 A tangent section shall be provided between an intersection and a curve for all collector and arterial intersections.

6.11.7 Minimum horizontal clearance for roadways shall be in accordance with the most recent version of the AASHTO Policy on Geometric Design of Highways and Streets.

6.11.8 Superelevation is discouraged on horizontal curves; however, superelevation of 2% may be used when the standard radius cannot be provided due to circumstances beyond the control of the engineer and the general alignment cannot be changed. Superelevation greater than 2% may not be used except when approved by the County Engineer. In no case shall a superelevation exceed 6%. For superelevations, refer to the AASHTO publication, A Policy on Geometric Design of Highways and Streets.

6.11.9 Whenever superelevation is allowed on a divided street, a storm drainage system to collect the runoff along the median curb shall be provided. In no case shall nuisance water from the higher traveled way be allowed to cross the lower traveled way.

6.12 Vertical Alignment.

6.12.1 The maximum longitudinal street grade requirements are as follows:

▪ Parkway	6%
▪ Arterial (Principal & Minor)	6%
▪ Major Collector	8%
▪ Minor Collector	10%
▪ Local	12%

6.12.2 The minimum longitudinal street grade for ALL streets is 0.40%.

6.12.3 A vertical curve is required when grade changes are greater than 1.5% for parkways, arterials, and collector streets and greater than 2% for local streets (excluding areas of valley gutters and stop conditions). All sections of a street's vertical alignment must meet passing and stopping sight distance requirements for design speed established for the street. For further details, see the AASHTO publication, A Policy on Geometric Design of Highways and Streets.

6.12.4 When horizontal and vertical curves are combined, the horizontal curve shall lead and follow the vertical curve. For additional information on this topic, refer to the AASHTO publication, A Policy on Geometric Design of Highways and Streets.

6.13 Intersections.

6.13.1 Intersections occurring on the inside of horizontal or crest vertical curves are prohibited. Where the grade of the through roadway is steep, flattening through the intersections is required as a safety measure.

6.13.2 A right angle intersection provides the shortest crossing distance for intersecting traffic streams. Where special conditions exist, intersection angles may diverge from a right angle by a maximum of 2 degrees on arterial and major collector streets and by a maximum of 15 degrees on minor collector and residential streets as shown in **Exhibits 6.4 and 6.5**.

6.13.3 Street jogs with centerline offsets will be a minimum of 135 feet as shown in **Exhibit 6.6**.

6.13.4 All intersections shall comply with the current AASHTO Intersection Sight Visibility Triangle Requirements. A minimum 33' x 33' sight visibility triangle easement shall be provided for all intersections of collector or arterial streets. A minimum 21' x 21' sight visibility triangle easement shall be provided for all local street intersections. Sight visibility triangle easements shall be measured from the property line (PL).

6.13.5 Property lines at street intersections shall be rounded with a radius of 25 feet for local and collector streets and 50 feet for arterial streets to allow maintenance of sight distance.

6.13.6 Street intersections with more than four legs and y-type intersections where legs meet at acute angles are prohibited.

6.13.7 Concrete valley gutters shall be constructed at all intersections where the drainage pattern requires them.

A. Asphalt valley gutters will not be permitted.

B. Valley gutters crossing a local street may be installed. Exceptions must be approved by the County Engineer.

C. Valley gutters shall be constructed in accordance with MAG Uniform Standard Details.

6.13.8 Intersections onto arterial streets shall be approximately every (1/4) mile intervals.

6.14 Cul-de-Sacs and Knuckles.

Cul-de-sac streets shall terminate in a circular right-of-way turnaround area of at least fifty (50) feet in radius and returns of the same radius. The County Engineer may approve an equally convenient form of turnaround area where extreme conditions justify. Cul-de-sac streets shall not exceed 500 feet in length (measured from the centerline of intersecting street) to the radius point of the turnaround. Cul-de-sac streets in excess of 500 feet must be approved by the County Engineer. Knuckles shall have a minimum right-of-way radius of 50' and returns of the same radius. Acceptable use of cul-de-sacs and knuckles are shown in **Exhibits 6.7 and 6.8**.

6.15 Dead End Streets.

6.15.1 Dead end streets shall be required where a street connection is necessary to serve adjacent properties that will develop at a future date. A temporary turn-around shall be provided within the subdivision at all dead end streets.

6.15.2 The maximum length of a dead end street shall be the same as that of a cul-de-sac street.

6.15.3 Alternative types of turnarounds, such as “T” (Hammerhead) or “Y” style road geometries may be accepted if approved by the fire authority provide coverage over the area. If used, a “T” or “Y” roadway terminus shall have minimum leg lengths of fifty (50) feet.

6.16 Blocks.

Block lengths, widths, and shapes of blocks shall be determined with due regard to:

6.16.1 Provision of sites suitable to the type of use contemplated.

6.16.2 Zoning requirements as to lot sizes and dimensions.

6.16.3 Need for convenient access, circulation, control and safety of street and pedestrian traffic.

6.16.4 Limitations and opportunities of topography.

6.16.5 Circulation within the subdivision, and access to the community facilities.

6.16.6 Lengths as long as practicable but not to exceed 1500 feet.

6.17 Turning Lanes and Medians.

A separate turning lane permits separation of conflicting traffic movements and removes turning vehicles from the intersection area. Raised medians shall be used as directed by the County Engineer to separate traffic flows, channelize left turns and reduce conflicts. On collector streets, painted medians provide space between the through traffic lanes for left turning vehicles.

6.17.1 Right turn lanes shall be provided on arterial streets at all street intersections, where warranted per the Traffic Impact Analysis.

- 6.17.2** For left turn lanes at signalized intersections, dual turn lanes should be considered when the turn volume exceeds 25 vehicles per hour, the opposing through volume exceeds 100 vehicles per hour, or the delay to left turning vehicles exceeds 45 seconds. Abrupt reduction of alignment and sight distance standards should be avoided.
- 6.17.3** All medians are to be hardscape (i.e. – concrete, pavers, stamped concrete etc.) unless otherwise approved by the County Engineer. The median surface shall maintain positive drainage.
- 6.17.4** Within the County right-of-way, full and partial median openings on a parkway, major and minor arterial shall be per the current Regionally Significant Routes for Safety and Mobility Final Report and Access Management Manual. Partial median openings and full median openings will be permitted per the approved Traffic Impact Analysis. In built up areas, where reasonable alternate access is not available, median openings may be provided at smaller intervals with the approval of the County Engineer.
- 6.17.5** The cross-slope in the median opening shall be limited to 2%. Median openings on curves with super elevation exceeding 2% will not be permitted.
- 6.17.6** Deceleration lanes may be required on streets in conjunction with driveways per the approved Traffic Impact Analysis and may require additional right-of- way.
- 6.17.7** Deceleration lanes are required as determined by the approved Traffic Impact Analysis. In addition, deceleration lanes are required when both of the following factors are determined to apply:
- A.** The 85th percentile traffic speed on the street is at least 35 miles per hour or 45 miles per hour for a two lane (one lane each direction) roadway.
 - B.** At least 20 vehicles will be making right turns into the access way and 100 vehicle directional traffic during a one hour period.

6.18 Driveways.

- 6.18.1** Driveways are to be constructed in accordance with MAG Uniform Standard Details.
- 6.18.2** The minimum residential driveway length is 20 feet, measured from the face of the garage opening to the back of sidewalk or the back of curb if no sidewalk is provided.
- 6.18.3** The minimum length for a commercial or industrial driveway is 30 feet, measured from the entrance to the off-street parking area to the back of sidewalk or the back of curb if no sidewalk is provided.
- 6.18.4** A maximum of one driveway opening shall be permitted to a particular residential site or residential parcel from each abutting street(s). One additional driveway entrance may be permitted by the County Engineer.

6.18.5 A new driveway will not be allowed within 30 feet of any commercial property line, except when it is a joint use driveway, serving two abutting commercial properties and access agreements have been exchanged between, and recorded by, the two abutting property owners. Commercial driveways will not be allowed within 50 feet of the right of way line of an intersecting non-arterial street or within 600 feet of two intersecting arterial streets. Exceptions may be permitted by the County Engineer.

6.18.6 Driveway profile standards are illustrated in MAG Uniform Standard Details.

6.19 Multi-Use Trails.

Trails constructed in County rights-of-way, such paths or trails must be approved by the County Engineer, and Open Space and Trails Department shall require a permit from the Pinal County Public Works Department and the Community Development Department.

6.20 Existing Adjacent Unimproved Roads.

Existing unimproved roads in public right-of-way and adjacent to a subdivision may be required to provide a dust palliative such as a double chip seal.

6.21 Local Street Drainage.

Streets shall be designed and arranged in relation to existing topography to facilitate drainage. Drainage ways between lots are discouraged. Streets shall not be used as primary drainage, unless curb and gutter is installed. Samples of residential street drainage are shown in **Exhibit 6.9**.

6.22 Roundabouts.

When considered as an alternative traffic control device, roundabout designs are to comply with Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 672 Roundabouts: An Informational Guide, Second Edition produced in cooperation with the U.S. Department of Transportation, Federal Highway Administration (FHWA).

Certain physical or geometric complications may make it uneconomical or ineffective to construct a roundabout at the location being evaluated. These could include right of way limitations, utility conflicts, drainage problems, and proximity of significant traffic generators or traffic control devices requiring pre-emption, as needed at railroad crossings. Specific conditions in which the use of roundabouts will be unacceptable include the following:

- Where roadway grade exceeds 4%;
- Where there is inadequate sight distance;
- Where major roadway ADT exceeds 90% of total intersection ADT
- Where high volumes of pedestrians with special needs would have difficulty crossing the road.

- Where a downstream traffic control device such as a traffic signal would result in a queue that extends into the functional area of the roundabout.
- At a single intersection within coordinated signal network.
- Multi-Lane Roundabouts (May be considered in High Density Urban Environments subject to review and approval by the County Engineer)

The design process for roundabouts is usually an iterative process of evaluating the geometric layout for operational performance, and safety. Minor adjustments in geometry can result in significant changes in the safety and/or operational performance. Thus, the designer often needs to revise and refine the initial layout attempt to enhance its capacity and safety. NCHRP Report 672, Exhibit 6-1 provides a general outline for the design process with cross-references to other sections of the Report for each individual step within the process. Roundabouts may follow the most current MCDOT Roadway Design Manual for general guidance subject to review and approval by the County Engineer.

6.23 Street Name Signs.

The subdivider shall be responsible for purchase and installation of all street name signs within a subdivision, including intersections with perimeter streets. All street name signs shall conform to county standards and shall be furnished and installed at no cost to the County at locations as shown on the approved plans.

6.24 Survey Monuments.

Survey monuments are required at all street intersections and at the point of curvature and point of tangency of all curves on street monument line. Survey monuments shall conform to the applicable MAG Uniform Standard Details and shall be furnished and set by the subdivider at no cost to the County at locations as shown on the approved plans or as required by the Pinal County Public Works Department.

6.25 Traffic Signals.

Traffic signals shall be designed and constructed in accordance with Arizona Department of Transportation (ADOT) when required by the Traffic Impact Analysis. Refer to **Chapter 12** of this manual.

6.26 Paving Improvement Plan Requirements.

The following requirements are for Paving Improvement Plan Submittal to Pinal County:

6.26.1 Cover Sheet:

- A.** Blue Stake notification.

- B.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Engineer's name, address, and telephone number
- H.** Engineer's stamp – signed and dated.
- I.** Legend identifying all grades, symbols, lines, etc.
- J.** Quantities.
- K.** Basis of bearings and benchmark (NAVD 88 datum).
- L.** Sheet numbering format - "1 of XX" where XX is total amount of sheets.
- M.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information. (can either be on cover sheet or sheet 2)

N. Pinal County Engineer Approval Block.

APPROVED BY:

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

*Δ *RE-APPROVED BY:*

APPROVED BY:

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

O. Provide a Record Drawing Certification Statement for as-builts on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

6.26.2 General Requirements and Notes.

The following are required for all paving construction. In addition, these requirements must be set forth as general notes on all paving plans.

- A.** Contractor shall obtain a Pinal County Right-of-Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Quality Assurance Inspection Section at least fourteen (14) calendar days prior to work.
- B.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- C.** All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of paving or related construction.
- D.** Contractor is responsible for Blue Stake marking as construction is in progress.
- E.** All residents to be notified in person 24 hours prior to driveway crossing.
- F.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices or Pinal County requirements.
- G.** Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least fourteen (14) calendar days prior to work for review and approval.
- H.** All pavement structural sections shall be per the approved Geotechnical Engineering Report or Pinal County minimums as identified in the Pinal County Subdivision and Infrastructure Design Manual, whichever is greater
- I.** Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- J.** Street name sign installation – street name signs are to be installed at each intersection. If street name signs are to be installed on an existing or proposed street light pole, each sign is to be installed on a separate bracket. For street name sign blades that are 3" and under, a 12" bracket should be used. For blades that are 24" to 35", an 18" bracket is to be used. For blades that are 36" and above, a 24" bracket shall be used.
- K.** All Warning, Regulatory and Street Name signs will be installed on 2" square tubing and "slip base" type foundation system in accordance with ADOT Signing & Marking Standards (Detail S-1).
- L.** All Signs must be manufactured of "ASTM D-4956-01a- Proposed Type XI Sheeting" (3M 4000 DG3 series or equivalent) which will be attached to the standard signage aluminum plates. Sign imaging shall be in compliance with the reflective sheeting manufactures matched component system. Sign imaging shall consist of an acrylic based electronic cuttable film (3M 1170 Series or equivalent) or silk screened (depending on the quantity of signage) with standard highway colors. In addition, if called out on plans, to create a graffiti-protective coating, a premium protective overlay film (3M 1160 or

equivalent) shall be used which is designated to comply with the underlying reflective sheeting match component system.

- M.** Any work done in a drainage channel or wash must comply with state and federal regulations.
- N.** A Storm water Pollution Prevention Plan (SWPPP) shall be submitted to Pinal County Public Works Department prior to issuance of construction permits.
- O.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to commencement of work, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.
- P.** The following notes are required when special preservation or hillside issues are involved:
 - 1.** Before grading in areas containing native desert vegetation, the Contractor must obtain a permit from Arizona Department of Agriculture.
 - 2.** This site has special preservation or hillside issues. The paving plan must show all landscape preservation easements, construction fencing locations, and appropriate areas labeled. Prior to any clearing, grubbing, or grading operations construction fencing shall be shown on approved plans, permitted and inspected and salvage operations permitted, inspected, and completed.

6.26.3 Plan and Profile Paving Sheet Requirements

- A.** Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required.
- B.** Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend approximately 100' beyond property boundary.
- C.** Typical cross sections meet the requirements set forth in Subdivision Ordinance and stipulations or as recommended in the Geotechnical Report, whichever is greater. Shows width of sidewalk and minimum allowable pavement cross-slope. (pavement width is measured back-of- curb to back-of-curb)
- D.** A 21'x 21' (local to local) or 33'x 33' (for all others) sight visibility triangle easement (SVTE) all intersections.

- E.** Typical Roadway Cross Sections shall indicate street names and station to station if more than one section is used for a street.

ROW Width	Pavement Width	Structural Section
200'	163'	6"AC/10"ABC
150'	101'	6"AC/10"ABC
110'	75'	5"AC/10"ABC
80'	51'	3"AC/8"ABC
60'	40'	3"AC/8"ABC
50'	32'	2.5"AC/6"ABC*
*Local Residential – 2.5" AC/6"ABC min		
Note: All pavement structural sections shall be per the approved Geotechnical Engineering Report or Pinal County minimums as identified in the Pinal County Subdivision and Infrastructure Design Manual, whichever is greater		

- F.** Property line minimum radii: 25' or 50' (for all arterial intersections). No chords.
- G.** Intersection spacing along an arterial - approximately 1,320' (1/4 mile)
- H.** Avoid street jogs with centerline offsets of less than 135'. On arterials, intersecting streets should align if possible.
- I.** Local streets not allowed to intersect with an arterial street.
- J.** Residential lots shall front only local streets.
- K.** Have intersections as nearly as possible at right angles and in no case at less than 75°.
- L.** Maximum length of cul-de-sac is 500 ft. (measured from the center line of the intersecting street to the radius point of the turnaround) with minimum right-of-way radius of 50 ft. for both the turnaround and the returns.
- M.** Project Heading, title block (located in the lower right hand corner or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- N.** Locations, dimensions, and purposes of any existing and proposed easements. Show ROW, existing and proposed pavement, curbs, and sidewalk with width dimensioned.

- O.** Show all existing and new utilities in the roadway.
- P.** Show centerline survey data.
- Q.** Label sheet reference with station numbers at all match lines.
- R.** Label station and centerline spot elevation at intersections.
- S.** Survey monuments are required on monument lines at intersections, PC's, PT's and PI's. Also required at knuckles or cul de sacs. Local intersections shall be Type B monuments.
- T.** Station numbers shall be shown at all changes in street alignment, curb returns, and grade breaks.
- U.** Minimum separation between sidewalk ramps and driveways shall be 5'.
- V.** Grading between back of sidewalk and property line shall have a max. slope of 4:1. A minimum one-foot bench is required at the back of sidewalk prior to start of the 4:1 slope.
- W.** Provide typical street cross section. (show cross slopes of roadway and sidewalks and required pavement section).
- X.** Pavement cross slope: 2% min.
- Y.** Minimum longitudinal street grade is 0.25%.
- Z.** A vertical curve is required when grade changes are greater than 1.5% for arterial and collector streets and greater than 2% for local streets, excluding areas of valley gutters and stop conditions. Minimum vertical curve is 75'.
- AA.** Transitions in roadway cross slopes shall be indicated on the plan view.
- BB.** There shall be a minimum of 1' of cover over any pipe under the roadway. Minimum cover shall not include the pavement structural section. For covers less than 1' a structural (load) analysis shall be required.
- CC.** All plans revised after the original approval shall be submitted to Pinal County Public Works for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.

DD. If a portion of the street improvements for this development is within State, City or Town jurisdiction, plans are subject to review and approval by that public agency.

EE. Indicate the locations of all proposed community mailboxes locations. All locations must be ADA accessible and must meet applicable U.S. Postal Service Standards.

6.27 Access to Pinal County Roads and Rights-of-Way.

In addition to any other County requirements, any proposed new access, whether a driveway or public/private roadway, onto an existing County roadway shall only be installed after a Right-of-Way Use Permit has been obtained. Access is subject to approval by the County Engineer and should comply with the Pinal County Access Management Manual (latest version) where applicable. In addition, the following requirements for access also apply:

6.27.1 Throat Lengths and Vehicle Storage, Parking Lots and Access

Adequate vehicle storage capacity shall be provided for both inbound and outbound vehicles, which facilitates the safe and efficient movement of vehicles between the road and the development. The minimum throat length of a non-residential access shall be forty (40) feet. Conflicts with parking spaces or internal drive aisles are not permitted in this length. Additional throat length may be required depending on the type of vehicles typically using the access, the speed of vehicles approaching the access, and expected traffic volumes generated by the access use. The access throat shall be of sufficient length to prevent vehicles from spilling onto the public right-of-way. Inbound vehicle storage areas shall be of sufficient size to ensure that vehicles will not obstruct the adjacent road, sidewalk, or circulation within the facility. Lots in a subdivision or proposed for development shall be platted with sufficient area to accommodate the standards listed within this section.

The access throat shall be of sufficient length and number of lanes to provide adequate storage of outbound vehicles without them interfering with on-site circulation. Outbound vehicle storage areas shall be provided to eliminate backup and delay of vehicles within the development. At signalized intersections adequate storage for the outbound movement must be provided to enable vehicles to exit efficiently on the green portion of a traffic signal cycle.

6.27.2 Gated Access Points (Private Access)

A private access approach that has a gate across it shall be designed so that the longest vehicle using it can completely clear the traveled way and/or roadside pedestrian features (including sidewalks) when the gate is closed. The gate must open swinging away from the County road or must slide laterally parallel to the County Road. In no case shall the gate be closer than 20ft to the traveled way and/or roadside pedestrian features. The County Engineer may require a queueing be included in the Traffic Impact Analysis (TIA) or Statement (TIS) to ensure that no queueing of vehicles will occur in the public Right-of-Way.

6.27.3 Channelization Islands

Channelizing islands may be incorporated into the access design for purposes of limiting movements into or out of accesses. Use of medians to control turning movements is preferred and will be required where physical conditions allow. Channelizing islands are traffic control devices and as such shall not be used solely for ornamental purposes.

6.27.4 Driveway Access Angle

The horizontal axis of the driveway access to the County Road shall be at ninety (90) degrees to the centerline of the roadway and extend a minimum of forty (40) feet from the edge of the roadway or from the right-of-way, whichever is greater. An angle between ninety (90) and seventy-five (75) degrees may be acceptable if the expected traffic volumes utilizing the access is low, physical constraints exist, and if approved by the County Engineer.

6.27.5 Limited or Partial Access Restrictions

The type of access shall provide for safe and efficient operation of the access and the road from which access is provided. As such, some vehicle movements at access points may need to be restricted with the implementation of $\frac{3}{4}$ or $\frac{1}{2}$ access configurations, based on a technical analysis as well as the need to prioritize regional mobility in accordance with the Pinal County Access Management Manual (latest version). A $\frac{3}{4}$ access allows only 3 of 4 turning movements by restricting 1 left turn movement (in or out). A $\frac{1}{2}$ access allows only 2 of 4 turning movements by restricting both left turn movements, in and out (also called a right-in/right-out access). Limited or partial access should be accomplished via the use of raised medians where it is practical to do so. However, in some cases, “pork chops” or curved median diverters may be used with County Engineer approval.

6.28 Neighborhood Traffic Management (Traffic Calming).

The Institute of Transportation Engineers (ITE) defines traffic calming as: “The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users.”

By design, traffic calming is a self-enforcing traffic management approach that forces motorists to alter their speed or direction of travel. The purpose of traffic calming is to improve safety, especially for pedestrians and bicyclists, and to improve the environment or “livability” of streets for residents and visitors. Enhanced safety is one of the most fundamental benefits of traffic calming. By decreasing volume and/or reducing speed the number and severity of accidents is also greatly diminished.

6.28.1 Connections to Existing Roadway Network

Proposed developments that will access existing collector or local county roadways where significant residential driveway access exists shall evaluate the impacts of the proposed development traffic on those roadways. The development should consider implementing traffic calming measures as part of the project improvements on those existing roadways to mitigate the effects of adding new traffic to the existing roadway.

Where the projected traffic volume exceeds 800 vehicles per day (vpd), including background traffic and future traffic, on any existing street with residential driveway access affected by the development, the development shall provide a neighborhood traffic calming plan as part of the Traffic Impact Analysis. The Traffic Impact Analysis should identify and proposed specific traffic calming measures and locations to be incorporated in the development.

6.28.2 Internal Traffic Calming

Where a proposed street with residential driveway access is projected to carry more than 800 vehicles per day (vpd) or when it is longer than 1,000 feet, traffic calming measures or additional roadway access points shall be incorporated into the roadway design. Where the potential for cut-through traffic exists on a proposed street with residential driveway access, the development should consider implementing traffic calming measures to reduce speeds and deter cut-through movements.

Traffic calming measures may be implemented on any local streets not meeting the above threshold as part of the design of the development.

When traffic calming measures are proposed, the Traffic Impact Analysis should identify and propose specific traffic calming measures and locations to be incorporated in the development.

6.28.3 Traffic Calming Design Criteria

If a street is found to be eligible for the installation traffic calming measures, the following design specifications should be used to determine the exact location of traffic calming devices:

- Devices shall be placed in locations where drivers have adequate sight distance to see vertical deflection on the roadway surface, preferably from a distance of at least 250 feet on uninterrupted segments of road for drivers traveling at the design speed;
- Placement of devices must avoid conflicts with other transportation and utility infrastructure;
- Consideration should be given to locate devices near a streetlight to ensure nighttime illumination where possible;
- Devices shall be installed at least 200 feet apart but not greater than 500 feet apart on road segments bounded by two intersections;
- Devices shall be placed at least 5 feet from a driveway, and 20 feet from an alley;
- Devices shall be placed in conjunction with advanced warning signage necessary to warn drivers;

- Devices should be placed at least 200 feet from STOP or YIELD-controlled intersection approaches. However, where other constraints exist (e.g., short block spacing or presence of driveways) a distance of at least 100' may be used provided that proper spacing and placement of warning signs can be maintained;
- Devices should be placed at least 250' from a traffic signal (shorter spacing may be considered on a case-by-case basis);
- Where curb and gutter does not exist, provisions should be made to prevent drivers from driving around the traffic calming devices;
- Devices shall NOT be installed over manholes or water valves;
- Devices shall NOT be installed adjacent to fire hydrants;
- The County Engineer may approve methods of traffic calming measures not meeting the above criteria when unique circumstances exist.

CHAPTER 7 HILLSIDE SUBDIVISION IMPROVEMENT REQUIREMENTS

7.1 General Information.

This chapter addresses special requirements for subdivision design occurring in Hillside areas within Pinal County.

7.2 General Hillside Subdivision Requirements.

In addition to the requirements of Title 3, Chapter 3.25 and Title 2 in the Pinal County Development Services Code, the developer shall strive to sensitively integrate the infrastructure design into the natural hillside character of the development. The location of the roadway both horizontally and vertically as well as the cross-section should be compatible with the surrounding environment. If more restrictive requirements are placed on the development during the Zoning Phase the more restrictive requirements shall govern.

- 7.2.1** Topography with a two foot contour interval showing location of all major and minor washes. The County Engineer may determine a one foot contour interval shall be provided for certain plats. A separate sheet showing proposed contours may also be required if extensive re-grading is proposed.
- 7.2.2** All areas with natural cross-slopes greater than 15 percent shall be indicated on the Final Plat.
- 7.2.3** Street profiles, existing and proposed, for all streets.
- 7.2.4** A building envelope shall be shown on all lots. The building envelope shall occupy not more than 40% of the total lot area. There shall be a minimum ten (10') foot set back from any property line for the building envelope that shall be cordoned off in the field prior to any grading or construction, with the areas outside of the cordoned building envelope remaining in a natural state, both during and after construction. Disturbed areas will be re-vegetated.
- 7.2.5** Prepare/provide indigenous plant list for re-vegetation within the building envelope.
- 7.2.6** Walls or fences on individual lots within the development shall be low walls or open fences (pipe, rail, iron, stonework etc.) except immediately around the home or pool area, where a wall or privacy fence six (6') feet high may be built within the building envelope.
- 7.2.7** Building heights shall not exceed the height of the ridgeline.
- 7.2.8** Subdivision design shall include preservation of existing ridgelines and scenic vistas.

7.3 Special Design Standards.

Given the unique physical conditions of the hillside areas, appropriate design standards are established for areas with natural slopes greater than fifteen (15) per cent, (for example, 15.1%) cross-slope.

- 7.3.1** Street grades shall not exceed twelve per cent (12%) without approval from the County Engineer.
- 7.3.2** If approved, streets grades of twelve per cent (12%) or more shall have a maximum length of six hundred (600) feet.
- 7.3.3** Minimum dedicated street rights-of-way shall be forty (40) feet and are to be allowed only when justified by extreme cross slope or similar conditions and approved by the County Engineer.
- 7.3.4** "T" or "Y" type turning and backing areas may be substituted for circular turnarounds.
- 7.3.5** "Panhandle", double frontage, and other unorthodox lots may be permitted by the County Engineer.
- 7.3.6** Private streets or drives serving not more than three lots shall be permitted to a maximum length of three hundred (300) feet.

7.4 Special Construction Standards.

- 7.4.1** Streets shall be paved with asphaltic concrete not less than twenty four (24) feet wide and a five (5) foot concrete valley gutter on the uphill side and a six (6) foot gravel berm on the downhill side.
- 7.4.2** Where street grades exceed five (5) per cent, slope drainage shall be collected by and carried in a ditch section outside of the right-of-way to an acceptable outlet with provisions for adequate erosion control.
- 7.4.3** Each drainage course shall be piped through the road fill or diverted into an improved drainage conveyance. Size and location, both horizontal and vertical, shall be subject to approval by the County Engineer.
- 7.4.4** Road fills shall have minimum compaction densities per MAG Specifications 601.4.4.
- 7.4.5** Driveway or garage cuts may be made at the time of street grading and before street paving.

CHAPTER 8 GRADING DESIGN REQUIREMENTS

8.1 General Information.

This chapter provides reference, guidance, and minimum criteria for the design of grading and drainage plans within Pinal County. It is intended for use in planning, design, and plan preparation processes.

8.2 General Requirements.

8.2.1 All grading and drainage design improvements for subdivisions shall comply with the current Pinal County Drainage Ordinance and current Pinal County Floodplain Management Ordinance.

8.2.2 It is the County's policy that all subdivisions shall provide adequate drainage facilities so as to convey runoff, generated both on and off the project, around or through the project in such a manner as to ensure that dwellings will be free from flooding and that there is access for emergency and public service vehicles. The subdivider shall install storm sewers, channels and/or other physical improvements necessary to achieve this result.

8.2.3 It is the County's policy that all subdivisions within the County shall provide sufficient retention so as to eliminate any adverse impact of that subdivision on its downstream neighbors. All subdivisions shall provide onsite retention as required by the Pinal County Drainage Ordinance. Such retention facilities shall be a separate and distinct parcel, and maintained by the HOA within the subdivision and shall be planned for accordingly.

8.2.4 The subdivider shall provide a drainage easement maintained by the HOA for storm drainage conforming substantially with the line of such natural water course, channel, stream or creek, or provide an acceptable re-alignment of said water course, based upon a detailed drainage report prepared and sealed by a registered engineer, and meet all applicable requirements which may be required under Pinal County Drainage Ordinance and Pinal County Floodplain Management Ordinance.

8.3 Irrigation & Utilities.

8.3.1 All irrigation facilities, drainage ditches / swales and other utilities must be relocated onto easements at no cost to the County. Unused facilities in the right-of-way must be removed to the satisfaction of the County Engineer.

8.3.2 Any conflicting existing utilities shall be relocated to non-conflicting locations at no cost to the County, as required by the County Engineer.

8.4 Grading Improvement Plan Requirements.

The following requirements are for Grading Improvement Plan Submittal to Pinal County:

8.4.1 Cover Sheet

- A.** Blue Stake notification.
- B.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Engineer's name, address, and telephone number.
- H.** Engineer's stamp - signed and dated.
- I.** Legend identifying grades, symbols, lines, etc.
- J.** Earthwork Quantities.
- K.** For lots 1 Acre or larger and having on-lot retention - provide a table showing retention volumes required and provided for each lot.
- L.** Basis of bearings and benchmark (NAVD 88 datum).
- M.** Sheet numbering format - "1 of XX" where XX is total amount of sheets.

N. Pinal County Engineer Approval Block:

APPROVED BY:

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

*Δ *RE-APPROVED BY:*

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

O. Provide a Record Drawing Certification Statement for “as-built” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

8.4.2 General Requirements and Notes

The following are required for all grading construction. In addition, these requirements must be set forth as general notes on all grading plans.

- A.** Developer shall obtain a Pinal County Grading and Drainage Permit prior to any work being performed. Contact Pinal County Public Works Inspection Section at least fourteen (14) calendar days prior to work.
- B.** Contractor shall obtain a building permit from Pinal County Community Development, Building Safety Division for all retaining walls. Permit applications shall be submitted online at least fourteen (14) calendar days prior to the start of work.
- C.** Drainage plan shall be in accordance with the current Pinal County Drainage Ordinance and Pinal County Drainage Design Manual.
- D.** The Contractor is responsible for obtaining an earth moving permit from Pinal County Air Quality Control and the EPA, and for complying with their requirements for dust control.
- E.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- F.** Contractor is responsible for Blue Stake marking as construction is in progress.
- G.** A Storm water Pollution Prevention Plan (SWPPP) shall be submitted to Pinal County Public Works Department prior to issuance of construction permits.
- H.** All retention basins must drain the design storm runoff volume within 36 hrs. The owner is responsible for any basin failing to meet the requirement and must take corrective action to bring the basin into compliance with this criterion as well as the Pinal County Drainage Ordinance. All retention basins shall have a percolation test to demonstrate compliance.
- I.** All drywells shown on this project shall be maintained by the owners and are to be replaced by the owners when they cease to drain the surface water in a 36-hr period. Regular maintenance of the dry wells' silting chamber is required to achieve the best operation of the dry wells. The owner shall be responsible for registering all drywells with ADEQ or EPA as applicable. Drywell grate elevation shall be a minimum of 0.3 feet (ft.) above the bottom of retention basin to allow for silt accumulation. All drywells shall be tested to verify the percolation rate.
- J.** Any work done in a drainage channel or wash must comply with state and federal regulations.

- K. Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to commencement of work, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.
- L. For plans with 1+ acre lots and on-lot retention: An individual grading and drainage plan for each parcel to be submitted for review and approval. The approved Master Drainage plan will need to be adhered to when individual parcel grading plan is submitted for review/ approval.

8.4.3 Plan Sheet Requirements

- A. Drawing Scale (minimum): 1" = 40'. Depending on complexity of design, a larger drawing scale may be required.
- B. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C. Show sheet reference at all match lines.
- D. Blue Stake notification.
- E. Project Heading, title block (located in the lower right hand corner of plan sheets), drawing scale, North arrow, and PE seal with signature.
- F. Retention basins should be designed in accordance with the Pinal County Drainage Manual.
- G. Volume required, volume provided, bottom elevation, high water elevation, top elevation and emergency outfall location and elevation shall be labeled on each retention basin.
- H. Drywell grate elevation shall be min 0.3 ft above the bottom of retention basin.
- I. Minimum size for storm drain pipe is 18" but 24" is preferred. Headwalls and trash racks are required for both CMP and Polypropylene Pipe. Trash racks shall be installed as required by the Pinal County Drainage Manual. Polypropylene Pipe material allowable under right-of-way at the discretion of the County Engineer. Only AASHTO M330 Polypropylene Pipe, 12-60" diameter is permissible.
- J. Drainage arrows and grade breaks shall be shown to indicate drainage patterns.
- K. Driveway grades shall not be greater than 12%.

- L.** All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- M.** If a portion of the street improvements for this development is within State, Town or City jurisdiction, plans are subject to review and approval by that public agency.

8.4.4 Details

- A.** Plans with proposed drywells shall include a drywell detail. Drywells must be drilled a minimum of 10’ into permeable porous strata or percolation tests will be required.
- B.** Typical lot drainage detail – minimum side lot slope is 0.5%; no drainage from lot to lot allowed.

CHAPTER 9 WATER SYSTEM DESIGN REQUIREMENTS

9.1 General Information.

This chapter provides guidance and minimum design criteria for the modification and construction of water systems within Pinal County. It is intended for use in planning, design and plan preparation processes.

The requirements for development of all potable water supplies shall not be less than those outlined by ADEQ regulations and engineering criteria for such installations. The subdivider shall also design the system to the relevant specifications and standards set by the utility provider who will ultimately own and maintain the structure.

9.2 Water Main Extension.

- 9.2.1** A water system shall be provided, for any subdivision containing lots or parcels less than two acres in area.
- 9.2.2** Water mains connecting with existing potable systems shall be installed to serve each lot when and if connection to such system is available.
- 9.2.3** Prior to the approval of the final plat, the subdivider shall submit to the Planning Department a letter from the governing body of the water system showing the ability of the system to serve the proposed subdivision or development and evidence that a satisfactory agreement has been made for connection to the water system.
- 9.2.4** Fire hydrants and a fire distribution system shall be provided in accordance with the recommendations or requirements of the water system provider, and the fire department having jurisdiction, or by the County Engineer. At the request of the Community Development Director the fire provider must provide adequate proof that the provider has lawful jurisdiction to serve the area under the requested Plat.
- 9.2.5** Water mains and fire hydrants shall be installed to grades, location, design, and sizes on plans submitted and sealed by a registered engineer in the State of Arizona and approved by the County Engineer, County Aquifer Protection Division and Engineer of the water system provider.
- 9.2.6** When connection to a water system is not available, the subdivider may provide service by the establishment of a shared water system in which case water mains and fire hydrants shall be installed to grades, location, design, and sizes as submitted and sealed by a registered engineer in the State of Arizona and approved by the Arizona Department of Environmental Quality (ADEQ), and the water supply shall be from an ADEQ approved source. Requirements for Approvals To Construct Certificates and other ADEQ information can be found at the ADEQ website.

9.2.7 In the case of a subdivision with lots over two acres in area, water supply may be from an individual water system. In this case evidence shall be submitted to the Planning Division in a report showing that sufficient potable water is available, that the subdivision has the rights to the water and that it can be obtained for all lots in the subdivision.

9.2.8 Plans shall be prepared in accordance with the Improvement Plan Requirements shown in Chapter 5 of the Subdivision & Infrastructure Design Manual.

9.3 Water System Improvement Plan Requirements.

The following is required for Water System Improvement Plan Submittal to Pinal County:

9.3.1 Cover Sheet

- A.** Blue Stake notification.
- B.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Engineer's name, address, and telephone number.
- H.** Engineer's stamp - signed and dated.
- I.** Legend identifying grades, symbols, lines, etc.
- J.** Quantities.
- K.** Basis of bearings and benchmark (use NAVD 88 datum).
- L.** Sheet numbering format - "1 of XX", where XX is the total amount of sheets.

M. Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

Δ *RE-APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

N. Utility Company and ADEQ (or appropriate delegated authority) approval block. Both approvals are required prior to County approval.

O. Provide a Record Drawing Certification Statement for “as-built” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

9.3.2 General Requirements and Notes

The following are required for all water construction. In addition, these requirements must be set forth as general notes on all water plans.

A. Contractor shall obtain a Pinal County Right of Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Inspection Section at least 14 calendar days prior to work.

- B.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- C.** All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of construction. (If located outside pavement section, prefer level with finished grade but allow 6" max above finished grade.)
- D.** Contractor is responsible for Blue Stake marking as construction is in progress.
- E.** All residents to be notified in person 24 hours prior to driveway crossing.
- F.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices or Pinal County requirements.
- G.** Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- H.** No trench to be left open/uncovered after working hours unless properly signed and barricaded per the approved Traffic Control Plan. Contractor to supply lighted barricades at 50' intervals with open trench signage.
- I.** Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.
- J.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to work commencing, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

9.3.3 Plan Sheets

- A.** Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required
- B.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C.** Blue Stake Notification.
- D.** Sheet references shall be shown at all match lines.

- E. Project Heading, title block (located in the lower right hand corner, or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- F. Caps on waterlines shall include a blow off valve assembly as required by utility company. All blow-off valve assemblies shall be located outside of the pavement section.
- G. Water meters shall be located out of public rights-of-way.
- H. With PUE: only dry utilities are allowed in PUE - waterline shall be placed within pavement section.

Without PUE: dry utilities to be located in the area between the back of sidewalk and the right-of-way, the waterline shall be placed within the pavement section.
- I. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be “x’d” out and plan remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- J. If a portion of the street improvements for this development is within State, Town, or City jurisdiction, plans are subject to review and approval by that public agency.

9.3.4 Details

- A. Plans shall include a typical detail for the trench. Trench typical detail per MAG Standard specification. Pea gravel material will not be allowed within rights-of-way or public utility easements. Detail shall include the following note:

“Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.”
- B. Plans shall include a typical service location detail.

CHAPTER 10 SEWER SYSTEM DESIGN REQUIREMENTS

10.1 General Information.

This chapter provides guidance and minimum design criteria for the modification and construction of sanitary sewer systems and on-site treatment facilities within Pinal County. It is intended for use in planning, design and plan preparation processes.

The requirements for development of sewer collection systems and sewage treatment facilities shall not be less than those outlined by ADEQ regulations and the engineering criteria for such installations. The sewer collection systems and sewage treatment facilities shall comply with the Arizona Administration Code Title 18, Chapter 9, Articles 2 and 3 (A.A.C. R18-9 – Article 2 & 3).

Minimum lot size may be modified by requirements of the County Aquifer Protection Division pertinent to sanitary sewer systems. Any such modifications shall be based on data provided by the appropriate county departments and approved by the County Engineer or designee.

10.2 Sewer Line Extension.

10.2.1 Where a public/private sewer system is reasonably accessible, the developer shall connect with such sewer system and provide a connection to each lot therein.

10.2.2 A sewer collection and treatment system shall be required for any subdivision containing lots or parcels less than one acre in area unless the County Engineer approves a waiver request from the developer. A waiver to allow on-site wastewater treatment facilities on lots smaller than one acre may be approved if, at a minimum, the following conditions are met:

- A.** No sewer collection system or sewer collection infrastructure exists within one (1) mile of the proposed project site;
- B.** Calculations are provided that demonstrate that the total number of lots within the subdivision does not exceed the total number of acres contained within the boundaries of the subdivision; or If the total number of lots within the subdivision exceeds the total number of acres contained within the boundaries of the subdivision then an alternative septic system that reduces the nitrogen loading requirement according to AAC R-18-9-E23 (i.e. nitrogen reducing system) is required, and provided that approval for the use of this method of sewer treatment and disposal is obtained from the following:

- 1. Arizona Department of Environmental Quality
- 2. Pinal County Aquifer Protection Division (conceptual approval)

- C. The subdivision is not in any sewer district area or mentioned on a Certificate of Need and Necessity (CCN) of a municipal sanitary sewer provider;
- D. No zoning district exist within one mile of the subject site that would permit densities higher than 1 dwelling unit per acre;
- E. The alternate or onsite waste water treatment system is for residential uses only;

10.2.3 Plans shall be prepared in accordance with the Improvement Plan Requirements shown in Chapter 5 of this Subdivision & Infrastructure Design Manual.

10.2.4 A Note shall be placed on the face of the plat and improvement plans that an on-site wastewater treatment facilities is to be utilized.

10.3 Additional Sewer System Improvement Plan Requirements.

The following requirements apply to Sewer System Improvement Plan Submittal to Pinal County:

10.3.1 Cover Sheet

- A. Blue Stake notification.
- B. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C. County Case number at the lower right hand corner.
- D. Vicinity map with North arrow and section data.
- E. Index of plan sheets if more than one plan sheet.
- F. Developer's name, address, and telephone number.
- G. Engineer's name, address, and telephone number.
- H. Engineer's stamp - signed and dated.
- I. Legend identifying grades, symbols, lines, etc.
- J. Quantities.

- K.** Basis of bearings and benchmark (NAVD 88 datum).
- L.** Sheet numbering format - “1 of XX”, where XX is the total amount of sheets.
- M.** Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
 PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
 APPROVAL EXPIRES:*

DATE

DATE

Δ *RE-APPROVED BY:

*PINAL COUNTY ENGINEER
 PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
 APPROVAL EXPIRES:*

DATE

DATE

- N.** Utility Company and ADEQ approval block. Both approvals are required prior to County approval.
- O.** Provide a Record Drawing Certification Statement for “as-builts” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

10.3.2 General Requirements and Notes

The following are required for all sewer construction. In addition, these requirements must be set forth as general notes on all sewer plans.

- A.** Contractor shall obtain a Pinal County Right of Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Inspection Section at least fourteen

14 calendar days prior to work. The proposed traffic control plan may be submitted along with the Permit.

- B.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- C.** All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of construction. (If located outside pavement section, prefer level with finished grade but allow 6" max above finished grade.)
- D.** Contractor is responsible for Blue Stake marking as construction is in progress.
- E.** All residents to be notified in person a minimum of 24 hours prior to driveway crossing.
- F.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices and Pinal County requirements.
- G.** Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least fourteen (14) working days prior to work for review and approval.
- H.** Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- I.** No trench to be left open/uncovered after working hours unless properly signed and barricaded per the approved Traffic Control Plan. Contractor to supply lighted barricades at 50' intervals with open trench signage.
- J.** Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.
- K.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

10.3.3 Plan Sheets

- A.** Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required.

- B. An overall key map to be provided to include proposed street names and neighboring properties to be noted as “UNSUBDIVIDED” if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C. Blue Stake Notification.
- D. Sheet references shall be shown at all match lines.
- E. Project Heading, title block (located in the lower right hand corner or right side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- F. Sewer line shall be placed within the pavement section.
- G. Sewer MH’s shall be located by station and offset.
- H. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- I. If a portion of the street improvements for this development is within State, City or Town jurisdiction, plans are subject to review and approval by that public agency.

10.3.4 Details

- A. Plans shall include a typical detail for the trench. Trench typical detail per MAG Standard Specifications. Pea gravel material will not be allowed within rights-of-way or public utility easements. Detail shall include the following note:

“Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.”
- B. Plans shall include a typical service location detail.

CHAPTER 11 LANDSCAPE AND IRRIGATION REQUIREMENTS

11.1 General Information.

This chapter provides guidance and minimum design standards for Landscape and Irrigation design in subdivisions and associated infrastructure improvement projects that are submitted for review to the County. The intent of this chapter is to establish comprehensive and consistent design standards for the use in preparing and submitting landscape and irrigation improvement plans.

11.2 Additional Landscape and Irrigation Improvement Plan Requirements.

The following requirements apply to Landscape and Irrigation Improvement Plan submittal to Pinal County.

11.2.1 General Landscape Requirements and Notes

The following are required for all landscape construction. In addition, these requirements must be set forth as general notes on all landscape plans:

- A.** Contractor shall obtain a Pinal County Right-of-Way Use Permit prior to any work being performed within the county right-of-way. Contact Pinal County Public Works Inspection Section at least fourteen (14) calendar days prior to work.
- B.** All plant material placed in public rights-of-way shall be on an Active Management Area low water use plant list and approved by the Arizona Department of Water Resources.
- C.** All plant material shall meet the minimum standards and specifications of the Arizona Nurserymen's Association or University of Arizona Pinal County Extension.
- D.** All trees placed in public rights-of-way shall be pruned up and maintained at a seven (7) foot minimum canopy height measured from sidewalk and minimum of ten (10) feet measured from edge of pavement. The minimum distance from the back of curb to the center of a tree is 3' and from the edge of sidewalk to the center of a tree is 2'. Along an arterial, trees are to be located at the back of the sidewalk.
- E.** All plant material placed in the sight visibility triangle easements shall have a maximum growth height of 24 inches. All intersections, including driveways shall comply with the AASHTO Intersection Sight Triangle Requirements. The required Sight Triangle are indicated on the plan.
- F.** All landscaping and irrigation including drainage ways and rights-of-way shall be maintained by the Home Owners Association or owner.

- G. No plant material shall be placed within three (3') feet or trees within seven (7) feet of a fire hydrant, light pole, electrical or communications box.
- H. Eucalyptus trees and Saguaro cactus shall not be placed in public rights-of-way.
- I. Turf grasses shall not be placed in public rights-of-way, but may be allowed as follows:
 - For erosion control within drainage ways.
 - When reclaimed water can be used for the irrigation system.
- J. Trees placed within seven (7') feet of a concrete structure, including sidewalks and curbs, shall have a root barrier installed adjacent to the structure.
- K. Canopy height shall be maintained to a minimum of 10 feet high above sidewalks. If trees are planted in medians or if the canopy extends beyond the edge of pavement the canopy shall be maintained to a minimum of at least 14 feet above the pavement surface.

11.2.2 General Irrigation Requirements and Notes

The following are required for all irrigation construction. In addition, these requirements must be set forth as general notes on all irrigation plans.

- A. All mainline pipe to be a minimum of schedule 40.
- B. Sleeves shall be a minimum of two times the diameter of the line size.
- C. All mainlines and irrigation equipment shall be placed in the landscaped areas outside of the public right of way and public utility easement (PUE).
- D. Controller wires that are direct buried shall be NO. 14 or better, bundled and tied or wrapped every twelve (12') feet. During installation wires shall have a 24" loop tied at all direction changes greater than 30 degrees and be untied prior to trench fill in. Wires shall be buried a minimum of six (6) inches below surface, and if crossing a sidewalk should be sleeved.
- E. Flush caps shall be placed in a valve box at the end of all laterals.
- F. All valves, pressure regulators and other devices shall be placed in an appropriately sized valve box with a minimum of two (2") inches of pea gravel.
- G. Any and all reclaimed water used for irrigation shall conform to ADEQ Arizona Administrative Code R18-11, Article 3, Reclaimed Water Quality Standards. All reclaimed water lines shall be installed per MAG Specification Section 616.

11.2.3 General Backflow Prevention Device (BPD) Requirements and Notes

The following are required for all BPD construction. In addition, these requirements must be set forth as general notes on all irrigation plans:

- A.** Prior to placing any irrigation system in service, an Arizona Certified Backflow Device tester shall test the backflow prevention device and give a copy of the passed test results to the Pinal County inspector or mail it to the Pinal County Department of Public Works Inspection Section.
- B.** After initial testing, all backflow devices shall be tested and passed annually in accordance with the locale utility company's requirements.
- C.** Backflow prevention devices shall be placed a minimum of two (2') feet from the water meter and be the same size as the meter service line.
- D.** All BPD devices shall have a minimum 24" X 36" X 4" class B concrete slab with pipe sleeves. If a security cage is installed concrete shall be six (6") inches larger on all sides than the security cage.

11.2.4 General Landscape Lighting Requirement and Note

The following is required for all landscape construction. In addition, this requirement must be set forth as a general notes on all landscape plans:

- A.** All landscape lighting shall comply with the Pinal County Development Services Code, and be fully shielded.
- B.** Wires shall be buried a minimum of six (6) inches below surface, and if crossing a sidewalk should be sleeved.

11.2.5 General Wall and Fence Requirement and Note

The following is required for all landscape construction. In addition, this requirement must be set forth as a general note on all landscape plans:

- A.** Contractor shall obtain a building permit from Pinal County Community Development, Building Safety Division for all retaining walls. Permit applications shall be submitted online at least fourteen (14) calendar days prior to the start of work.
- B.** Walls and fences shall be placed outside rights-of-way and public utility easements.

11.2.6 Cover Sheet

- A.** Blue Stake notification.

- B.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with Final/Tentative Plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Landscape Architect's name, address, and telephone number.
- H.** Landscape Architect's stamp – signed and dated.
- I.** Legend identifying all grades, symbols, lines, etc.
- J.** Quantities.
- K.** Sheet numbering format - "1 of XX" where XX is total amount of sheets.
- L.** Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
 PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
 APPROVAL EXPIRES:*

DATE

DATE

Δ *RE-APPROVED BY:

*PINAL COUNTY ENGINEER
 PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
 APPROVAL EXPIRES:*

DATE

DATE

11.2.7 Plan Sheets

- A.** Drawing Scale (minimum): 1" = 30' horizontal. Depending on complexity of design, a larger drawing scale may be required.

- B.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as “UNSUBDIVIDED” if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C.** Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend a minimum 100’ beyond property boundary.
- D.** Show the 21’x 21’ (local to local) or 33’x 33’ (for all others) sight visibility triangle easement (SVTE) all intersections. Show the AASHTO sight distance triangles at all intersections, including driveways.
- E.** Brick pavers are not allowed within Pinal County Right of Way. Decorative stamped concrete may be used as an alternative.
- F.** Project Heading, title block (located in the lower right hand corner or right hand side of plan sheets), drawing scale, North arrow, and Landscape Architect’s seal with signature.
- G.** Plans shall show all locations, dimensions, and purposes of any existing and proposed easements. Show right-of-way, existing and proposed pavement, curbs, and sidewalk with width dimensioned.
- H.** Sheet reference shall be shown at all match lines.
- I.** All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- J.** If a portion of the street improvements for this development is within State, City, or Town jurisdiction, plans are subject to review and approval by that public agency.

CHAPTER 12 TRAFFIC SIGNAL REQUIREMENTS

12.1 General Information.

This chapter presents the minimum design criteria, standards and requirements to be referenced when preparing traffic signal improvement plans for submittal to the County. Traffic Signal needs study and warrants are to be per the current Pinal County Traffic Impact Assessment Guidelines & Procedures manual.

Pinal County operates and maintains the traffic signal system throughout the unincorporated limits of the County. The traffic signals are installed through capital improvement projects, subdivision or private development infrastructure improvements.

12.2 Traffic Signal Improvement Plan Requirements.

12.2.1 Cover Sheet

- A. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans.
- B. Developer's name, address, and telephone number.
- C. Engineer's name, address, and telephone number.
- D. Engineer's stamp - signed and dated.
- E. Vicinity map with North arrow and section data.
- F. Index of plan sheets if more than one plan sheet.
- G. County case number at the lower right hand corner.
- H. Quantities List of improvements
- I. Blue Stake notification
- J. Sheet numbering format - "1 of XX" where XX is total amount of sheets.

K. Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

Δ *RE-APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

L. Provide a Record Drawing Certification Statement for “as-builts” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

12.2.2 General Requirements and Notes

The following are required for all traffic signal construction. In addition, these requirements must be set forth as general notes on all traffic signal plans.

- A.** Contractor shall obtain a Pinal County Infrastructure Permit prior to any work being performed within the county right-of-way. Contact Pinal County Public Works Department at least 7 working days prior to work.
- B.** During the installation of traffic signals or traffic signal interconnect; the Contractor will be responsible for making contact with the Pinal County Public Works Department to arrange for inspections. At no time shall conduit be backfilled in the County’s right-of-way without an inspection. Any questions concerning traffic signals, traffic signal interconnect or to arrange for an inspection, contact the Pinal

County Public Works Department. Inspections must be scheduled a minimum of 48-hours (or 2 business days) in advance.

- C. Any conduit that is placed without wiring for a new signal or traffic signal interconnect, a tracer wire (twin green) shall be placed in each conduit.
- D. When required, the Contractor shall install 3-4" conduits to box an intersection for future traffic signal installation. If medians are present or are to be constructed with this project, the Contractor shall stub the conduit runs into a #5 pull box in each median.
- E. Pull boxes are to be spaced every 1000 feet on a conduit run, and are to be placed on each side of an intersecting roadway.
- F. Traffic signal conduit, pull boxes and Video Detection shall be installed.
- G. The traffic signal at the intersection of "name of intersection" will be owned and maintained by the Pinal County Public Works Department. Pinal County practices, standards, and details will govern the design and maintenance of this intersection.
- H. The location of utilities as shown on the plans are approximate. All utilities involved may not be shown. The contractor shall contact "Blue Stake" prior to starting any work and is responsible for Blue Stake marking as construction is in progress.
- I. All cabinet, service pedestal, and pole foundation locations, as shown on the plans are approximate. The contractor shall field verify all new foundations location with the Pinal County Public Works Department.
- J. The contractor should verify all new foundation locations so as to not conflict with any utilities prior to construction activities.
- K. The contractor should field verify all existing signal equipment and materials, if applicable.
- L. Contractor will ensure that a Level II (I.M.S.A.) Technician is on site at all times while work is in progress.
- M. Prior to beginning construction, the contractor shall submit an equipment materials list. This must be approved by Pinal County before purchase of any material.
- N. The controller cabinet should be wired and labeled with the same phase number designations, for initial and future phases. As shown in the phase movement diagram. Each connector shall have all pins within the connector brought to cabinet tie points.
- O. Pedestrian push buttons and associated access shall conform to ADA requirements including audible and vibro-tactile indications. ADA audible pedestrian signals shall be installed per Pinal County

requirements. The sidewalk layout shall be based on the final pole locations and shall be approved by Pinal County.

- P.** Trench backfilling should not be started until conduit has been inspected and approved by Pinal County. Trench excavation, back filling and compaction shall be per MAG Standard Specifications Section 601.
- Q.** All pull boxes shall be ADOT approved brands and models of polymer boxes, lids, extensions and locks. Traffic signal pull box lids shall say "PINAL COUNTY TRAFFIC SIGNAL" unless otherwise noted on the plans.
- R.** The contractor shall maintain a minimum clearance of 21' from the crown of the road to the bottom of the mast arm. Documentation shall be provided to the Pinal County Inspector on site.
- S.** The contractor will supply and install 36"x36" "TRAFFIC CONTROL CHANGE" sign, with light and two orange flags per sign, on each approach, as directed by the Pinal County Traffic Signal Inspector. The location of each sign shall conform to the Manual on Uniform Traffic Control Devices requirements, and must be approved by Pinal County. The mounting height shall be minimum 7'-0". Signs shall be in place at the time of activation of the signal and remain in place for 30 consecutive days.
- T.** Contractor to provide and install internally illuminated street name signs as specified on the plans and the special provisions. Sign message/text will be determined by Pinal County as part of the equipment submittal process.
- U.** Prior to construction, the contractor will pothole for utilities. Prior to installation of conduit, the contractor will pothole for utilities where conduit installation will cross existing facilities.
- V.** Tops of pole foundations shall be at same elevation as that of adjacent sidewalk or flush with the sidewalk. Concrete pole aprons shall be installed around pole bases if no sidewalk is present, the elevations shall match top of adjacent curb.
- W.** The contractor shall provide and install the conduit runs from the utility company's power source pod to the meter pedestal. The utility company will install the service wire from the utility's power supply (POD) to the meter pedestal.
- X.** The signal cabinet shall be installed such that maintenance personnel facing the door of the cabinet shall be able to view the intersection.
- Y.** The Contractor shall replace all landscaping and irrigation facilities that may be disturbed or damaged during traffic signal construction at his own expense.
- Z.** All Materials and installation of traffic signals, cabinet etc. shall conform to Pinal County's standards and details of the Arizona Department of Transportation (ADOT) Traffic Signal and Lighting standard

drawings latest approved edition, the Manual on Uniform Traffic Control Devices (MUTCD) latest approved edition, the current MAG specifications and details, the special provisions and these plans.

- AA.** All luminaires shall be compliant with the Pinal County Light Pollution Code, A.R.S. Section 11-25; and shall be fully shielded.
- BB.** Traffic Control and barricading shall be according to the Manual on Uniform Traffic Control Devices and Pinal County requirements.
- CC.** Any work on arterial or collector roads will require an off-duty Pinal County Sheriff's Officer with vehicle for traffic control. Contact should be made through the PCSO representative.
- DD.** The contractor will work from the County approved plan set. An approved set of plans will be on the job site at all times while work is in progress. Any deviations from approved plans shall not be allowed without an approved plan revision.
- EE.** Any work performed without the approval of the Pinal County Engineer and not in accordance with plans and specifications, is subject to removal and replacement by the contractor at no expense to Pinal County.

12.2.3 Plan Sheets

The Traffic Signal plan shall show the proposed intersection geometry and the traffic signal installation. All existing signal equipment is to be shown on the plan. Traffic signal plans shall be submitted on separate sheets apart from any other part of the construction documents with a scale no less than 1"=20'. Plan sheets must include the following:

- A.** Include the exact location of all major items of equipment such as poles, foundation, luminaries, conduit, signal heads and faces, ground boxes, detectors, controllers, etc. shown in detail.
- B.** Identify all ingress/egress points to include street intersections and residential/commercial driveways within 500' of the installation point of the traffic signal.
- C.** Show all new and existing utilities within the right-of-way and label them accordingly.
- D.** Show all new and existing traffic control (signing, striping, traffic signals, lighting, stop lines etc.
- E.** Show all existing town, city, county and state boundary limits and the existing and proposed right-of-way and dimension them accordingly.
- F.** Project Heading, title block (located in the lower right hand corner, or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.

- G.** Identify the traffic signals electric “service address”.
- H.** Show all new and existing signs within the right-of-way and identify them. Label existing signs “EXISTING” and show them grayed out.
- I.** Right-of-way lines, city and county limits are to be clearly identified.
- J.** All islands on Arterial roadways shall be signed per the MUTCD guidelines. The beginning of each median where none exists prior are to be signed. Median breaks in a continuous median will not require signing.
- K.** Stop signs are to be shown at all Local Streets that intersect with Collector Streets within a subdivision. Local to Local Street intersections may not be stop controlled unless directed by the County Engineer. Stop signs will be shown at all Collector Street intersections.
- L.** County case number at the lower right hand corner (on all sheets).
- M.** Existing field conditions should extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend a minimum 100’ beyond property boundary.
- N.** Show proposed lane widths. Minimum proposed lane width to be 12’.
- O.** Show right-of-way, existing and proposed pavement with width dimensioned.
- P.** Show centerline survey data.
- Q.** Sheet references with station numbers shall be shown at all match lines.
- R.** 6.5’ bike lanes should be provided on both sides on all arterials and major collectors (measured from back of curb to center of striping).
- S.** All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- T.** If a portion of the street improvements for this development is within State, City, or Town jurisdiction, plans are subject to review and approval by that public agency.

CHAPTER 13 TRAFFIC SIGNING AND PAVEMENT MARKINGS REQUIREMENTS

13.1 General Information.

This chapter provides the minimum design criteria, standards, and requirements to be referenced when designing traffic signs and pavement marking improvements within the County.

13.2 Traffic Signing and Pavement Marking Plan Requirements.

13.2.1 Cover Sheet

- A.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with Final/Tentative Plat.
- B.** County case number at the lower right hand corner.
- C.** Vicinity map with North arrow and section data.
- D.** Index of plan sheets if more than one plan sheet.
- E.** Developer's name, address, and telephone number.
- F.** Engineer's name, address, and telephone number.
- G.** Engineer's stamp - signed and dated.
- H.** Legend identifying all grades, symbols, lines, etc.
- I.** Quantities.
- J.** Blue Stake notification.
- K.** Basis of Bearings.
- L.** Sheet numbering format - "1 of XX" where XX is total amount of sheets.

M. Pinal County Engineer Approval Block:

APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

Δ *RE-APPROVED BY:

*PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:*

DATE

DATE

N. Provide a Record Drawing Certification Statement for “as-builts” on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE “RECORD DRAWING” MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

13.2.2 General Requirements and Notes

The following are required for all traffic signing and pavement marking design and construction. In addition, these requirements must be set forth as general notes on all traffic signing and pavement marking plans

- A.** Contractor shall obtain a Pinal County Infrastructure Permit prior to any work being performed within the county right-of-way. Contact Pinal County Public Works Department at least fourteen (14) calendar days prior to work.
- B.** Contractor is responsible for Blue Stake marking prior to installation of any sign posts.

- C. All signing installed within the County's right-of-way shall be installed by an individual that has current certification from the International Municipal Signal Association (IMSA) or the American Traffic Safety Services Association (ATSSA), or equivalent. Equivalency shall be submitted for review prior to being accepted by the County.
- D. A pre-installation meeting with Public Works Department staff will be required prior to installing any signs or posts or pavement markings within County right-of-way. Permits may be issued prior to this meeting but will not be valid until after the pre-installation meeting is held. To schedule a pre-installation meeting contact the Public Works Department two (2) business days prior.
- E. All signing and pavement markings shall conform to the adopted Manual on Uniform Traffic Control Devices and as supplemented by the Arizona Department of Transportation with regard to size, color, shape, and placement.
- F. All Signs must be manufactured of "ASTM D-4956-01a- Proposed Type XI Sheeting" (3M 4000 DG3 series or equivalent) which will be attached to the standard signage aluminum plates. Sign imaging shall be in compliance with the reflective sheeting manufactures matched component system. Sign imaging shall consist of an acrylic based electronic cuttable film (3M 1170 Series or equivalent) or silk screened (depending on the quantity of signage) with standard highway colors. In addition, if called out on plans, to create a graffiti-protective coating, a premium protective overlay film (3M 1160 or equivalent) shall be used which is designated to comply with the underlying reflective sheeting match component system. All signs must have a quarter inch (1/4") white border.
- G. The bottom of each sign shall be at least 7 feet above the nearest edge of pavement and at least 7 feet above the ground under the sign.
- H. The contractor shall install the signs so the nearest edge or corner of each sign is offset 2 feet behind the back of the sidewalk or back of curb, or if no curb exists, it shall be placed a minimum of 6 feet from the edge of pavement.
- I. Street Name Sign installation – street name signs shall be installed at each intersection. For street name sign blades that are 23" and under a 12" bracket shall be used. For blades that are 24" to 35", an 18" bracket shall be used. For blades that are 36" and above, a 24" bracket shall be used.
- J. All sign sheeting shall conform to Section 1007 Retro reflective Sheeting of the ADOT Standard Specifications for Road and Bridge Construction Manual.
- K. All signs will be installed using ADOT Signing and Marking Standards (Detail S-3).
- L. The Contractor shall allow the concrete in the postholes to cure for at least 24-hours prior to standing the poles.

- M.** Any sign that is to be relocated shall be reinstalled as directed by the Public Works Department. Signs that need to be removed or relocated during construction shall be done so by the Contractor at their expense.
- N.** The Contractor shall ensure that at no time a traffic sign is installed in such a way as to be blocked by trees or vegetation. In these cases the Contractor shall contact the Public Works Department to provide an alternate location for the installation of signing in question.
- O.** Signing quantities and installation locations are subject to change at the time of installation based upon current accepted practice.
- P.** All pavement markings shall conform to the Arizona Department of Transportation Specifications and the Manual of Uniform Traffic Control Devices.
- Q.** The Contractor shall spot mark the entire project before applying any paint. When the spotting is complete the Contractor shall contact the Pinal County Public Works Department, to make arrangements for inspection prior to applying any paint (5 working days advance notice is required).
- R.** The Contractor shall apply a primer-sealer prior to the installation of all thermoplastic pavement markings in accordance with the thermoplastic manufactures' recommendations.
- S.** Any pavement markings applied prior to field inspection by the Pinal County Public Works Department shall be removed and re-stripped at the expense of the Contractor.
- T.** It is the contractor's responsibility to ensure that the final surface course is placed so that the striping is offset 1 foot clear of the construction joint, unless otherwise directed by the County Engineer.
- U.** The dimensions shown to pavement striping are to the center of the striping or, in the case of double striping, to the center of the double striping.
- V.** The final striping shall be 60 mil (0.060 inch) thick hot-sprayed thermoplastic reflectorized striping. Line widths shall be in accordance with ADOT Standard Drawings.
- W.** The pavement arrow, symbols and legend shall be white 90 mil (0.090 inch) thick alkyd extruded thermoplastic reflectorized markings. Turn lane arrows shall be located in accordance with ADOT Standard Drawing M-11.
- X.** The contractor shall clean the roadway surface to the satisfaction of the County Engineer, by sweeping and air-jet blowing, immediately prior to the placement of all pavement markings. The roadway surface shall be dry and the air and pavement temperatures shall not be less than 50 degrees F for the placement of thermoplastic markings.
- Y.** Any obliterated pavement markings shall be thoroughly cleaned and sealed with an asphalt slurry coating within 24 hours of removal.

- Z.** All retro-reflective raised pavement markers shall have an abrasion resistant coating on the face of the prismatic reflectors and shall conform to the details ADOT Standard Drawing M-19. They shall be installed with a bituminous adhesive which is on the ADOT approved products list.
- AA.** Where retro-reflective raised pavement markers are placed along solid striping, the nearest edge of each marker shall be offset 2 inches from the nearest edge of the striping.
- BB.** All signs shall be in compliance with the Manual on Uniform Traffic Control Devices (MUTCD), the ADOT Signing and Marking Standard Drawings, and the Traffic Engineering Manual of Approved Signs. All signs shall be fabricated of flat sheet aluminum with direct applied copy or silk-screened legend. Retro reflective sheeting shall be in accordance with ADOT Section 1007.
- CC.** Raised median and curbs shall be marked in accordance with ADOT Standard Drawing M-1 and MUTCD Section 2B.32 and 2C.64.
- DD.** All signing and pavement markings shall be installed within five (5) working days of completion of the final lift pavement surface or as required by the County Engineer.
- EE.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices or Pinal County requirements.
- FF.** Any work on Arterial or Collector Roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- GG.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to commencement of work, the plans must be resubmitted to Pinal County for update review and approval.

13.2.3 Plan Sheet Requirements

- A.** Drawing Scale (minimum): 1" = 40' horizontal. Depending on complexity of design, a larger drawing scale may be required.
- B.** Project Heading, title block (located in the lower right hand corner or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- C.** An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- D.** Traffic signing and pavement markings design should be in the same plan view on the same plan sheet, if practical.

- E. Entire length of project is to be shown in plan view. Typical sections representative of traffic signing and pavement markings will not be accepted.
- F. Show the existing roadway, signing and marking and proposed signing and markings for approximately 500 feet beyond the project limits on each approach to the project.
- G. Identify all ingress/egress points to include street intersections and residential/commercial driveways within 500' of the project limits on both approaches and on both sides of the street.
- H. Show all new and existing signs within the right-of-way and identify them. Label existing signs "EXISTING" and show them grayed out.
- I. Right-of-way lines, city and county limits are to be clearly identified.
- J. All islands on Arterial roadways shall be signed per the MUTCD guidelines. The beginning of each median where none exists prior are to be signed. Median breaks in a continuous median will not require signing.
- K. Stop signs are to be shown at all Local Streets that intersect with Collector Streets within a subdivision. Local to Local Street intersections may not be stop controlled unless directed by the County Engineer. Stop signs will be shown at all Collector Street intersections.
- L. County case number at the lower right hand corner (on all sheets).
- M. Existing field conditions should extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend a minimum 100' beyond property boundary.
- N. Show proposed lane widths. Minimum proposed lane width to be 12'.
- O. Show right-of-way, existing and proposed pavement with width dimensioned.
- P. Show centerline survey data.
- Q. Sheet references with station numbers shall be shown at all match lines.
- R. 6.5' bike lanes should be provided on both sides on all arterials and major collectors (measured from back of curb to center of striping).
- S. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.

- T. If a portion of the street improvements for this development is within State, City, or Town jurisdiction, plans are subject to review and approval by that public agency.

DRAFT

14.1 General Information.

This chapter provides guidance and minimum design criteria for the modification and construction of dry utilities and other improvement plans that may be required that are not specified in this manual. It is intended for use in planning, design and plan preparation processes. Dry utilities and other improvement plans include but are not limited to: electrical, telecommunications and natural gas systems. These systems bring power, communication and fuel into a building, distribute it throughout. Examples of dry utility systems include electrical power, natural gas, telephone and cable. From time to time due to unique development conditions, the County Engineer may require plan submittals for dry utility installation or special improvement plan that does not fit into other improvement plans specified in the Manual. The County Engineer may require additional notes or utilize other specifications to ensure compliance with this Manual, other applicable Codes and Ordinances, and plan preparation and infrastructure design practices.

14.1.1 Plans shall be prepared in accordance with the Improvement Plan Requirements shown in Chapter 5 of this Subdivision & Infrastructure Design Manual.

14.2 Additional Dry Utilities and other Improvement Plans Requirements.

The following requirements apply to Dry Utilities and unspecified Improvement Plan Submittal to Pinal County:

14.2.1 Cover Sheet

- A.** Blue Stake notification.
- B.** Project Heading Block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- C.** County Case number at the lower right hand corner.
- D.** Vicinity map with North arrow and section data.
- E.** Index of plan sheets if more than one plan sheet.
- F.** Developer's name, address, and telephone number.
- G.** Engineer's name, address, and telephone number.
- H.** Engineer's stamp - signed and dated.

- I. Legend identifying grades, symbols, lines, etc.
- J. Quantities.
- K. Basis of bearings and benchmark (NAVD 88 datum).
- L. Sheet numbering format - "1 of XX", where XX is the total amount of sheets.
- M. Pinal County Engineer Approval Block:

APPROVED BY:

PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:

DATE

DATE

Δ *RE-APPROVED BY:

PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS
APPROVAL EXPIRES:

DATE

DATE

- N. Utility Company or provider and ADEQ approval block (if applicable). Both approvals are required prior to County approval.
- O. Provide a Record Drawing Certification Statement for "as-builts" on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

14.2.2 General Requirements and Notes

The following are required for all dry utility construction and other unspecified improvement plans. In addition, these requirements must be set forth as general notes on all plans.

- A.** Contractor shall obtain a Pinal County Right of Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Inspection Section at least 14 working days prior to work. The proposed traffic control plan may be submitted along with the Permit.
- B.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- C.** All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of construction. (If located outside pavement section, prefer level with finished grade but allow 6" max above finished grade.)
- D.** Contractor is responsible for Blue Stake marking as construction is in progress.
- E.** All residents to be notified in person a minimum of 24 hours prior to driveway crossing.
- F.** Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices and Pinal County requirements. Contractor to supply lighted barricades with open trench signage.
- G.** Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least fourteen (14) working days prior to work for review and approval.
- H.** Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- I.** No trench to be left open/uncovered after working hours unless properly signed and barricaded per the approved Traffic Control Plan.
- J.** All trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.
- K.** Plan approval is valid for twelve (12) months from the date of County approval. If approval expires, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

14.2.3 Plan Sheets

- A. Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required.
- B. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- C. Blue Stake Notification.
- D. Sheet references shall be shown at all match lines.
- E. Project Heading, title block (located in the lower right hand corner or right side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- F. Utility lines shall be placed within the pavement section.
- G. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- H. If a portion of the street improvements for this development is within State, City or Town jurisdiction, plans are subject to review and approval by that public agency.

14.2.4 Details

- A. Plans shall include a typical detail for the trench. Trench typical detail per MAG Standard Specifications. Pea gravel material will not be allowed within rights-of-way or public utility easements. Detail shall include the following note:

"Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6."
- B. Plans shall include a typical service location detail.

CHAPTER 15 AS-BUILT PLANS REQUIREMENTS

15.1 General Information.

This chapter provides guidance and minimum requirements for the preparation of As-Built Plans. It is intended for use during construction and documentation of infrastructure projects.

In accordance with the Pinal County Subdivision Regulations acceptable As-Built Plans are required prior to the release of a Certificate of Completion. Additionally, any type of construction will not be accepted until certified As-Built Plans have been submitted to and accepted by the County.

15.1.1 Submittals

- A. "As-Built" Plans shall be 24" x 36", one bond copy and one electronic copy in PDF format.
- B. "As-Built" Plans shall be signed and sealed by a Professional Engineer or Land Surveyor registered in the State of Arizona with a completed and sealed "RECORD DRAWING CERTIFICATION" approval block.

15.2 Minimum As-Built Requirements.

These are the minimum technical requirements for As-Built Plans. The As-Built Plans must also include all noted changes to the improvement plans.

15.2.1 Paving Plans

- A. Station for all grade breaks.
- B. Back of curb offset dimension at all changes in alignment.
- C. Top of curb, gutter and pavement centerline elevations at all grade breaks, curb return, valley gutters, plus any other location necessary to adequately show drainage.
- D. Survey monuments – installation and accuracy certifications.

15.2.2 Irrigation and Storm Drain Plans

- A. Street centerline station and offset dimension to the main at all changes in alignment and/or changes in grade.
- B. Street centerline station and offset dimension to all structures and changes in alignment.

- C. Top and invert elevations for all structures.

15.2.3 Grading Plans

- A. Elevations at all drainage control points (i.e. retention overflow point, tops and bottoms of retention basins, drain rims, valley gutters, and curbs).
- B. Dimensions of all retention areas.
- C. Retention calculations revised to as-built condition.
- D. Finished pad and finished floor elevations.

15.2.4 Water System Plans

- A. Street centerline station and offset dimensions to:
- B. All fire hydrants and fittings (i.e. valves, blow-offs, etc.).
- C. Main at all changes in alignment.
- D. All horizontal control points (i.e. centerline intersects, P.C., P.T.).
- E. Station and elevations given at all vertical alignment changes.
- F. Centerline station and offset to each service tap; size of tap and dimension to nearest side property line.
- G. Note centerline station, offset and elevations to all changes in vertical alignment (i.e. dips, bends, etc., required to avoid conflicts with other utilities).

15.2.5 Sewer System Plans

- A. Street centerline station and offset dimension from street centerline to main at manholes and all changes in alignment.
- B. Sewer line station at centerline of each manhole.
- C. Rim and invert elevation for each manhole.
- D. Calculated slope between manholes.

- E. Sewer line stationing at centerline of each service tap at 90 degrees to main; if not installed 90 degrees to main, station and offset to end of each service tap.

15.2.6 Landscape and Irrigation Plans

- A. All plant material placed in the sight visibility triangle easements shall have a maximum growth height of 24 inches. All intersections, including driveways shall comply with the AASHTO Intersection Sight Triangle Requirements.
- B. All landscaping and irrigation including drainage ways and rights-of-way.
- C. Trees placed within seven (7') feet of a concrete structure, including sidewalks and curbs, shall have a root barrier installed adjacent to the structure.
- D. All mainlines and irrigation equipment placed in the landscaped areas outside of the public right of way and public utility easement (PUE).
- E. All valves, pressure regulators and other devices placed.
- F. Any and all reclaimed water used for irrigation shall conform to ADEQ Arizona Administrative Code R18-11, Article 3, Reclaimed Water Quality Standards. All reclaimed water lines shall be installed per MAG Specification Section 616.
- G. Backflow prevention devices placed.
- H. All BPD devices shall have a minimum 24" X 36" X 4" class B concrete slab with pipe sleeves. If a security cage is installed concrete shall be six (6") inches larger on all sides than the security cage.

CHAPTER 16 PERMITTING, INSPECTION & CONSTRUCTION

16.1 General Information.

This chapter outlines the requirements for permitting, inspection and overall standards for construction in Pinal County

16.2 Permit Requirements.

All infrastructure improvements within right-of-way shall be constructed under an approved permit from the Pinal County Public Works Quality Assurance Inspection Section. The permit application must be submitted at least fourteen (14) calendar days before work is scheduled to begin. Until all improvement plans, studies, reports, investigations and required assurances have been submitted and approved, the permit application for work within the subdivision and rights-of-way will not be accepted.

16.3 Notification of Construction.

The County Engineer or his designee shall be notified at least fourteen (14) calendar days prior to the start of construction.

16.4 Specifications.

16.4.1 All work and material shall conform to the current Uniform Standard Specifications for Public Works Construction (MAG).

16.4.2 It is not the intention of the Pinal County Public Works Department to prohibit use of other materials, methods or designs for infrastructure improvements. Other County specifications may be substituted as satisfactory alternates with prior submission of structural designs, tests and other supporting data and upon written approval of the County Engineer prior to approval of plans or performance of work.

16.5 Materials.

16.5.1 Aggregate Base Material - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction. The total thickness shall be determined by laboratory tests of the subgrade materials with a minimum of six-inch Class II Aggregate Base.

- 16.5.2** Asphaltic Concrete - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction. Asphalt and polymer modified asphalt containing air blown/oxidized asphalt, polyphosphoric acid (PPA), or re-refined/recycled engine oil bottoms (REOB) will not be accepted. Local residential streets, use Marshall Mix design; Collector and Arterial streets Gyratory Mix designs.
- 16.5.3** Concrete for all curb, gutter, sidewalks, driveway entrances, wash crossings and street related concrete construction shall meet MAG Uniform Standard Specification and Details for Public Works Construction.
- 16.5.4** Reinforced Concrete Pipe - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction.
- 16.5.5** Corrugated Metal Pipe - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction.
- 16.5.6** Polypropylene Pipe – Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction Section 740 and AASHTO M330.
- 16.5.7** Miscellaneous - All construction shall meet MAG Uniform Standard Specifications and Details for Public Works.

16.6 Pavement.

- 16.6.1** All pavement and curbs and gutters shall be constructed to the grades set by the Engineer of the project per the approved plans. Asphalt and polymer modified asphalt containing air blown/oxidized asphalt, polyphosphoric acid (PPA), or re-refined/recycled engine oil bottoms (REOB) will not be accepted
- 16.6.2** The subgrade of the street shall be scarified to a depth of at least 6" and thoroughly compacted by wetting and rolling per MAG specifications.
- A.** On every project samples of the subgrade material shall be taken per each soil type on the project or as determined by the County Engineer. Samples shall be tested by an approved laboratory. Laboratory reports shall be submitted to the County Engineer with street paving plans. The report shall show plastic index and gradation. The depth of the base material required shall be established after analysis of the subgrade soil and shall be in accordance with the plasticity index/grading chart set forth in these regulations.

The base material shall conform to MAG Specifications 310.2. Each layer shall be bladed to a smooth surface conforming to the cross sections shown on the plans and shall be watered and thoroughly rolled in a manner satisfactory to the County Engineer. Laboratory reports showing gradation and the plasticity index, shall be submitted to the office of the County Engineer.

- B. Asphaltic concrete shall conform to MAG Specification Sections 321 and 710. Asphalt and polymer modified asphalt containing air blown/oxidized asphalt, polyphosphoric acid (PPA), or re-refined/recycled engine oil bottoms (REOB) will not be accepted
- C. The cost of all sampling and testing shall be borne by the subdivider or contractor.
- D. Seal Coat. A construction fog seal shall be applied at the 1 year warranty walkthrough, at such a time all pavement marking shall also be refreshed according to approved as-built plans.

The Fog Seal Concentrate shall be composed of a petroleum resin-oil base uniformly emulsified with water and shall conform to the following physical and chemical requirements:

Designation	Test Method	Requirements
Viscosity, S.F. at 77°F, sec	ASTM D244-60	May-40
Residue, % (1)	ASTM D244-60 (Mod)	58-62
Cement Mixing Test, %	ASTM D244-60	Zero
Sieve Test, % Max. (2)	ASTM D244-60 (Mod)	0.1
Particle Charge Test	ASTM D244-60	Positive
Test on Residue from	ASTM D244-60	(Mod):
Viscosity, sc., 140°F	ASTM D445	100-200
Asphaltness, % Max	ASTM D2006-62T	0.75

- E. ASTM 244 Modified Evaporation Test for percent of residue is made by heating 50 gram sample to 300°F. until foaming ceases, then cool immediately and calculate results.
- F. Test Procedure identical with ASTM D244 except that distilled water shall be used in place of 2% sodium oleate solution.

16.7 Compaction.

- 16.7.1 Subgrade: Top six inches of pavement and curb and sidewalk subgrade shall be compacted to a minimum of ninety-five percent (95%) of the maximum density of the material. Sidewalk subgrade and shoulder shall be compacted to a minimum of ninety-five percent (95%) of the maximum density of the material.
- 16.7.2 Aggregate Base Material: The base course shall not be placed on subgrade until compaction tests of the subgrade have been completed by the Engineer of Record and found to meet the specifications contained herein and the grade has been string line checked by the Inspection Section. Base material shall be compacted, full depth, to a minimum of one hundred percent (100%) of the maximum density of the material being used.

16.8 Contraction and Expansion Joints.

Contraction and Expansion joints shall be placed per MAG Standard Specifications section 340.

16.9 Utilities.

It shall be the subdivider's responsibility to arrange for all necessary installation, relocation or removal of all conflicting utilities at no expense to the county. Before placement of base course or pouring of concrete the subdivider shall furnish to Pinal County Public Works Inspection Section utility clearance certificate from each utility having facilities in the area. Test reports as required by Chapter 16 herein, Special Provisions for Installation of Underground Utilities, must also be received by Pinal County Public Works prior to issuance of approval for paving or curb operations. The County Engineer will give approval for utility installation, grading and subgrade compaction.

16.10 Traffic Control Devices.

The existence of any traffic control device within the limits of the construction area shall be shown on the plans and detailed as to legend or purpose. Under no circumstances shall the owner, their agent, or contractor be allowed to disturb any device so shown on the plans except with the approval of the County Engineer. The owner or their agent shall make known to the Pinal County Public Works Inspection Section in writing his desire for removal or relocation of any such device and it shall be so noted on the plans.

16.11 Street Signs and Street Survey Monuments.

No approval or acceptance of a project will be given until street names signs and survey monuments are completely in place.

16.12 Dust Control.

Existing regulations of the Pinal County Aquifer Protection Division, Pinal County Air Quality Department, and other applicable federal, state and county ordinances and regulations shall be rigidly observed and enforced. Water or other approved dust palliative in sufficient quantities shall be applied during all phases of construction involving open earth work to prevent the unnecessary discharge of dust and dirt into the air. An air quality permit shall be required. The Subdivider shall contact Pinal County Air Quality Division.

16.13 Individual Mail Boxes.

Individual mail boxes are permitted to be placed only in such locations that will not interfere with traffic, either vehicular or pedestrian, or create a hazard of any nature. If a sidewalk is constructed adjacent to the curb, the box

shall be located behind the sidewalk and clear of the vertical projection of the back edge of the sidewalk by a minimum one-foot. If no sidewalk is constructed, the box must clear the vertical projection of the back edge of the curb by a minimum of one foot. If no curb is constructed the box must clear the vertical projection of the edge of the pavement by a minimum of three feet. Installation of individual mail boxes in the County right-of-way shall be done under permit from the Pinal County Public Works Inspection Section.

16.14 Inspection.

All work within rights-of-way shall be inspected by the Pinal County Public Works Department Inspector. The inspector has the authority to reject work or material that is not in compliance with the approved improvement plans and County requirements.

16.15 Testing.

16.15.1 The samples and tests of material shall be made in accordance with the Uniform Standard Specifications and Details for Public Works Construction as furnished by the Maricopa Association of Governments (MAG) and as follows and additionally specified in **Exhibit 7.0** of this Manual:

- A.** Pavement Subgrade - one compaction test per 500' each lane with a minimum of one test per street; 95% minimum compaction required.
- B.** Curb Subgrade - one compaction test per 500' with a minimum of one test per street, per side; 95% minimum compaction required.
- C.** Sidewalk Subgrade - one compaction test per 500' with a minimum of one test per street, per side; 95% minimum compaction required (both attached and detached sidewalk)
- D.** Base Material - one compaction test per 500' per lift, per lane with a minimum one test per street; 100% minimum compaction required. One sample required per 1000 tons with a minimum one sample per day and one per source.
- E.** Trench Backfill - one compaction test per 500' of mainline trench per lift, with a minimum of one test per street. One third of all service trenches shall be tested; 95% minimum compaction required on all trenches full depth including trenches in the PUE.
- F.** Structure Backfill - one compaction test per 100 cubic yards of backfill; 95% minimum compaction required. One sample shall be taken for every 500 cubic yards placed.
- G.** Fill Construction (Borrow/Embankment) - one compaction test per 750 cubic yards placed, per lift; 95% minimum compaction required. One sample shall be taken per soil type/source or as directed.

- H. Portland Cement Concrete - See Section 725 of the MAG Uniform Standard Specifications for required concrete tests.
- I. Asphaltic Concrete - See Section 321 of the MAG Uniform Standard Specifications for required asphaltic concrete tests.

16.16 Approval.

The street improvements will not be considered ready for final inspection until all drainage items, grading, and backfill are complete and pavement, curbs, and sidewalks swept clean of all dirt and debris. Curbs and the area behind curbs shall be totally backfilled and neatly dressed to a maximum 4:1 slope. The contractor shall furnish a water truck at the time of final inspection for the purpose of testing street drainage. Any ponding in excess of one-quarter inch in depth shall require corrective action by the contractor. The corrected "As-Built" plans as described in Chapter 15 herein must be submitted before final project approval.

CHAPTER 17 UTILITY CONSTRUCTION IN COUNTY RIGHT-OF-WAY

17.1 General Information.

This chapter presents the special provisions and requirements for design, permitting, and testing requirements for construction of utilities in dedicated County right-of-way.

Prior to the issuance of a permit to allow the excavation and installation of underground utilities, i.e., (electric power, cable, fiber optic, telephone, and water) in any County right of-way, the subdivider, contractor or person installing underground utilities shall conform to the requirements of this Manual.

17.2 General Requirements.

All work and materials shall conform to the current Uniform Standard Specifications and Details for Public Works Construction as furnished by the Maricopa Association of Governments (MAG) apply to trench backfill material, backfill compaction and roadway surface restoration, except as noted in this chapter. In case of conflict between the MAG Standard Specifications and these Special Provisions, the Special Provisions shall govern.

Other agency specifications for construction material which are equal to or greater than Pinal County Specifications, listed herein, may be substituted as satisfactory alternates with prior written approval of the County Engineer.

Other construction methods, which are determined from engineering studies and laboratory tests, may be substituted as satisfactory alternates with prior written approval of the County Engineer.

17.3 Utility Separation.

All underground electric power lines installed in the streets, alleys, roads, highways or right-of-ways belonging to the County, shall be installed at least twelve (12) inches below any underground water pipelines at the point where underground electric power lines cross or intercept any underground water pipelines. In addition, underground electric power lines shall be encased in conduit for a distance of at least five (5) feet on each side of the point of intersection with underground water pipelines. All installation costs of underground electric power lines and conduit shall be borne by those installing the underground electric power lines.

17.4 Additional Utility Plan Requirements.

17.4.1 All preparation of plans, specifications, construction and inspection within County right-of-way shall be performed under the supervision of a Civil Engineer registered in the State of Arizona. Plans may be submitted electronically.

17.4.2 Plans shall be submitted on a maximum sheet size of 24" x 36" and must be neat, clear, legible, and completed in all respects. Profiles will be required on projects involving installation of sewer and underground irrigation lines in dedicated right-of-way. Power facilities must also be submitted in profile where the trade size of a single conduit exceeds six inches (6") in diameter or where multiple conduits including the concrete encasements are sixty (60) square inches or greater in cross-sectional area. In addition, profiles may be required by the County Engineer in cases of possible alignment or grade conflicts, cover problems, or crossing conflicts. Plans shall be submitted to the Pinal County Public Works Department for review and approval. The application for the construction permit will not be accepted until all improvement plans have been approved. Upon approval of all plans, the right-of-way permit application shall be submitted at least seven (7) working days prior to beginning of work.

17.4.3 Upon completion of Construction, a set of As-Built Plans shall be submitted to the Public Works Quality Assurance Inspection Section.

17.5 Backfill and Compaction.

17.5.1 Backfill: Material shall conform to the latest edition of the MAG Uniform Standard Specifications and Details for Public Works Construction Section 601.

17.5.2 Compaction:

A. All trenches shall be thoroughly compacted to a uniform density of not less than 95%

B. Asphalt concrete or chip seal roadway trench repairs shall be constructed in accordance with Type A, B, or T-Top trench repair of MAG Std. Detail 200-1 and section 336 (G) with the exception of backfill. All backfill material shall be ABC per MAG section 702 & 601 or CLSM (Controlled Low Strength Material) per MAG section 604 & 728. All joints of new asphalt patches shall be crack sealed after patching.

17.5.3 Where an excavation meets the criteria of Section 16.5.2b above, the excavation shall be filled with A.B.C. or granular select material, placed at optimum moisture in lifts sufficiently thin to ensure required compaction for the full depth of the lift, and in no case greater than thirty inches (30") compacted depth, unless previously approved in writing by the County Engineer. Granular select material shall not exceed three inches (3") in diameter and shall be graded in such a manner as to ensure the exclusion of any and all voids in the backfill. The upper two feet (2') is to be mechanically compacted to not less than ninety-five percent (95%) of maximum density. Sufficient water may be added to raise the moisture content to optimum only. Below these two feet (2'), the material shall be compacted to not less than eighty-five percent (85%) of the maximum density for the backfill material as determined by AASHTO Test T-99. Field determination of density shall be made in accordance with AASHTO Test T-147 or other test procedure previously approved in writing by the County Engineer.

- 17.5.4** The minimum cover for utility lines shall be thirty-six inches (36") other than direct burial cable which shall be twenty-four inches (24"). Cover is defined as the difference in elevation between the top of the line or pipe and the ultimate gutter grade of the roadway.

For facilities outside the area defined in Section 16.5.2b above, cover is defined as the difference in elevation between the top of the line or pipe and the natural or regarded ground surface, whichever is lesser.

17.6 Compaction Test Reports.

- 17.6.1** The cost of making compaction tests shall be paid by the owner or the contractor. The tests shall be made at the locations and depths specified by the County Engineer or his or her representative. A minimum of one set of tests shall be required for each one foot (1') of trench depth for trenches within the area defined in 16.5.2b above. The minimum number or passing tests per set anticipated to prove specification compliance may be estimated at the following rates:

- A.** Pavement Cut Crossings – one (1) test per crossing.
- B.** Pavement Cuts or Trenches within two feet (2') of pavement edge one (1) test per five hundred lineal feet (500').
- C.** At all other locations – one (1) test per five hundred lineal feet (500').
- D.** Test may be taken at four-foot (4') vertical increments in the same vertical plane at the option of the Engineer of Record.
- E.** Copies of all test reports shall be sent directly to the Engineer of Record from the testing laboratory, and to the Pinal County Public Works Inspection Section within five (5) days after tests are conducted.

17.6.2 Pavement Cutting and Restoration:

- A.** Within one year of construction of new streets, renovation or reconstruction of a street, no street cuts will be permitted. Consideration will be given on a case-by-case basis for those cuts that are emergency in nature but are still subject to restoration as stated in the Pinal County Development Services Code, Title 7, Chapter 7.05, Section 7.05.060.
- B.** In order to limit the potential for pavement cuts to occur early in the life of a new or reconstructed pavement section, the developer shall coordinate their improvements plans with all utility companies providing service in the area.
- C.** All cuts in asphalt or concrete pavement shall have saw cut or neat and straight edges. Excavated pavement material shall be removed from the site.

D. Pavement Cut Replacement: The asphaltic material used for replacement of pavement cuts shall conform to MAG Uniform Standard Specifications and Details for Public Works Construction, MAG Standard Detail 200-1.

- 1.** The thickness of the pavement and aggregate base replaced shall be consistent with the thickness of the existing asphalt pavement and base but shall not be less than three inches (3") of asphaltic pavement over nine inches (9"), compacted depth, of aggregate base compacted to one hundred percent (100%) of maximum density for the material.
- 2.** For Portland cement concrete paving cut replacement this same specification shall apply. The existing pavement shall be trimmed to a neat edge and the edge shall be treated with a proper emulsion to ensure a bond between the existing pavement and the patch.

E. It is required that all roadway crossing of lines four inches (4") in diameter or less to be installed under pavement which is less than three (3) years old, be bored under the pavement.

17.6.3 Surface Restoration of Graveled or Earth Surfaced Roads: The surface replacement of gravel surfaced roads shall be consistent with the existing surface material in place, and consist of select material or A.B.C. as directed by the County Engineer.

Fill placed on existing gravel surfaced roads or earth surfaced roads to obtain minimum allowable cover over the pipe of utility lines shall be placed to proper grade for the full width of the existing roadway and shall be compacted and graded to the satisfaction of the County Engineer.

17.6.4 The Contractor shall secure a County Right-of-Way Use Permit prior to start of any construction operations within County right-of-way. The permit application must be submitted at least seven (7) working days before work is scheduled to begin.

- A.** The permittee shall notify the property owner or resident of adjoining occupied property at least two (2) working days prior to disruption of access to the property, and at no time deny access to the property longer than one (1) normal working day, and shall provide plank for crossings, if necessary.
- B.** The permittee shall maintain all existing traffic control signs within the construction area, and shall reset all signs in their original locations as soon as construction operations will permit. The permittee shall place and maintain traffic warning signs during the course of work, as required by the County Engineer.
- C.** Only rubber-tired equipment shall be used on pavement except that crawler equipment using street pads may be used.

- D.** Existing regulations of the Pinal County Aquifer Protection Division and Air Quality Division as applicable shall be rigidly observed and enforced. Water or approved dust palliative in sufficient quantities shall be applied during all phases of construction involving open earth work to prevent the unnecessary discharge of dust and dirt into the air.
- E.** During the course of work, the permittee shall maintain the work area in a clean and orderly condition. Excess excavation, debris, etc., shall not be permitted to accumulate on the road surface or shoulders. Work shall progress in such a manner that no condition such as soft trenches, drop-offs from the edge of pavement, etc., shall exist. Upon completion of installation, the permittee shall clean the pavement surface, pull and dress shoulders, and otherwise put in order the entire work area to the satisfaction of the County Engineer. If said work is not completed in a manner acceptable to the County Engineer, the utility doing the work shall be held responsible and further permits shall not be issued pending the completion of the work.
- F.** All work in County right-of-way shall be performed by a licensed contractor in the State of Arizona. The contractor shall show proof of liability insurance. Documents shall be submitted to Pinal County Public Works Inspection Section simultaneously with the permit application.

CHAPTER 18 STREET LIGHTING

All Street Lights located in public or private Right-of-Way shall have LED lighting fixtures installed to the satisfaction of the County Engineer subject to the follow criteria:

18.1 Specifications.

Street Light plans and details shall be included with the improvement plans and shall be submitted for review by the County. Street Light design and construction plans shall be prepared and sealed by a licensed professional engineer registered in the State of Arizona.

18.1.1 All new Street Light poles installed on arterial and collector streets shall be on a concrete foundation. New streetlight poles on local streets shall be direct bury type.

18.1.2 Traffic signs shall not be installed on a streetlight pole without approval from the County Engineer.

18.1.3 Street Lights, if installed as approved By County Engineer, shall have LED luminaries that are fully shielded and a color temperature of no more than 3000 Kelvin.

18.2 Location.

The Street Light system shall be installed within the right-of-way where possible. Where right-of-way is not available and where a utility easement allows for streetlight equipment, the engineer may design equipment for installation within the utility easement with approval from the County Engineer. If located on private property the installation shall follow the currently adopted requirements of Title 2 of the Pinal County Development Services Code.

18.3 Horizontal Clearances.

Street Light poles shall be subject to the following horizontal clearances:

18.3.1 Street Light poles shall be located a minimum of one (1) foot behind the back of sidewalk where the sidewalk abuts the curb.

18.3.2 Where no sidewalk exists, the Street Light pole shall be located a minimum of five (5) feet behind the back of curb.

18.3.3 Where no sidewalk and no curb exists, Street Light poles shall be installed a minimum of ten (10) feet from the edge of pavement.

18.3.4 Street Light poles should maintain a minimum of seven (7) feet of horizontal clearance between fire hydrants, and water services facilities.

18.3.5 Street Light poles should maintain a minimum of three (3) feet of horizontal clearance from service taps (water/sewer) and two (2) feet of clearance from storm drains and sewer facilities.

18.3.6 Street Light poles should also be located a minimum distance of six (6) feet from driveways. If the driveway has a wing, streetlight poles must be located a minimum distance of six (6) feet from the wing.

18.4 Additional Requirements.

All other Street Light requirements not mentioned herein shall conform to the design standards and specifications of the local electrical utility. Where no standards exists, the designer shall refer to Arizona Public Service (APS) standards and specifications.

EXHIBITS

EXHIBIT 3.1:

36" 24" 5"

PINAL COUNTY COVERT SHEET FORMAT FOR TENTATIVE/FINAL PLATS

TENTATIVE/FINAL PLAT OF
(PROJECT TITLE)

A PORTION OF **GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA** **RANGE**

NOTES
1.
2.
3.

OWNER
(COMPANY'S NAME)
ADDRESS
CITY, STATE ZIP

DEVELOPER
(COMPANY'S NAME)
ADDRESS
CITY, STATE ZIP

ENGINEER
(COMPANY'S NAME)
ADDRESS
CITY, STATE ZIP

STATE OF ARIZONA
COUNTY OF PINAL
REGISTERED AND
EXEMPT SURVEY
COUNTY SEAL

SECTION **TOWNSHIP** **RANGE**

PROJECT LOCATION

LOCATION MAP

VICINITY MAP

BASE ZONING

BENCHMARK
(COVER SHEET ONLY)

BASIS OF BEARINGS
(COVER SHEET ONLY)

LAND USE TABLE
GROSS ACREAGE
NET ACREAGE
TOTAL NUMBER OF LOTS
TOTAL NUMBER OF ACRES
AVERAGE AREA PER LOT

TRACT TABLE
TRACT NAME
AREA
ACRES
TOTAL

GENERAL TRACT USES
ACRES
ACRES

LEGEND
(COVER SHEET ONLY)

TYPICAL LOT LAYOUT & BUILDING SETBACKS

SERVICE PROVIDERS

LIEN HOLDER'S RATIFICATION
(IF ADDITIONAL SPACE IS NEEDED, CAN BE CONTAINED HERE. IF NOT, CONTAINMENT NOTE ABOVE COMPANY'S BLACK ON LOWER RIGHT CORNER OF SHEET.)

ACKNOWLEDGMENT

LAND SURVEYOR'S CERTIFICATION
(COVER SHEET ONLY)

APPROVALS
(COVER SHEET ONLY)

ACKNOWLEDGMENT

DECLARATION, TITLE WARRANTY, AND DEDICATION
(COVER SHEET ONLY)

NOTARY PUBLIC
MY COMMISSION EXPIRES

ENGINEER COMPANY'S NAME

PROJECT TITLE

DATE PREPARED: -/-/-

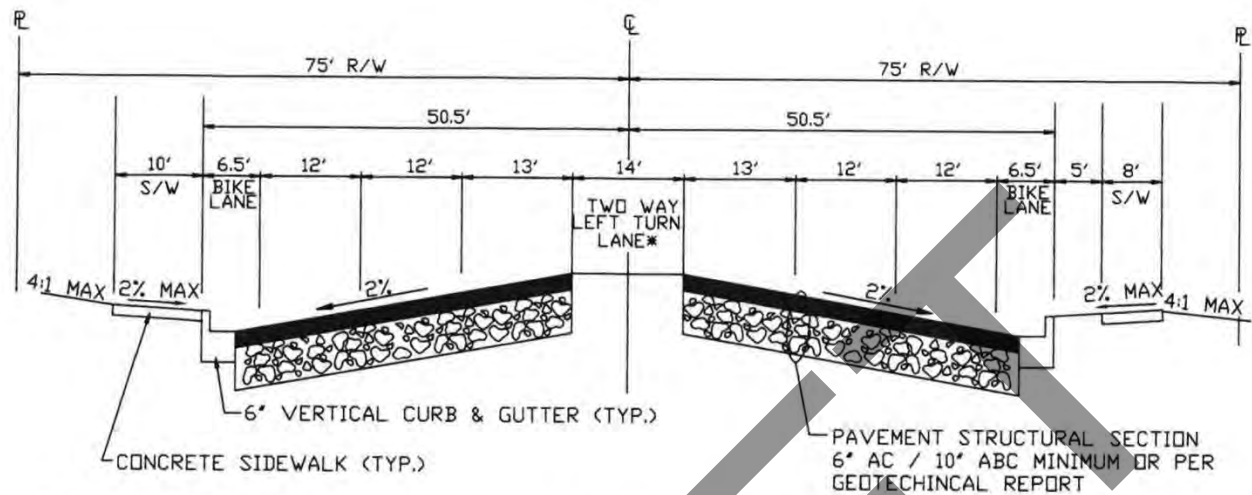
00-000-S

JOB #
1
SHEET
OF

EXHIBIT 6.1:

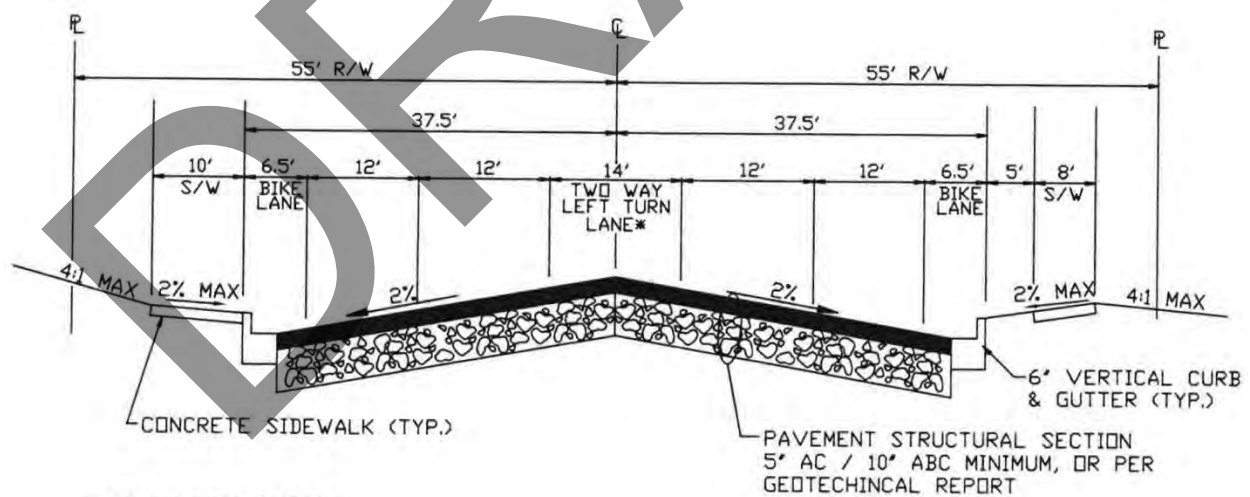


EXHIBIT 6.2:



* OR 10' WIDE MEDIAN

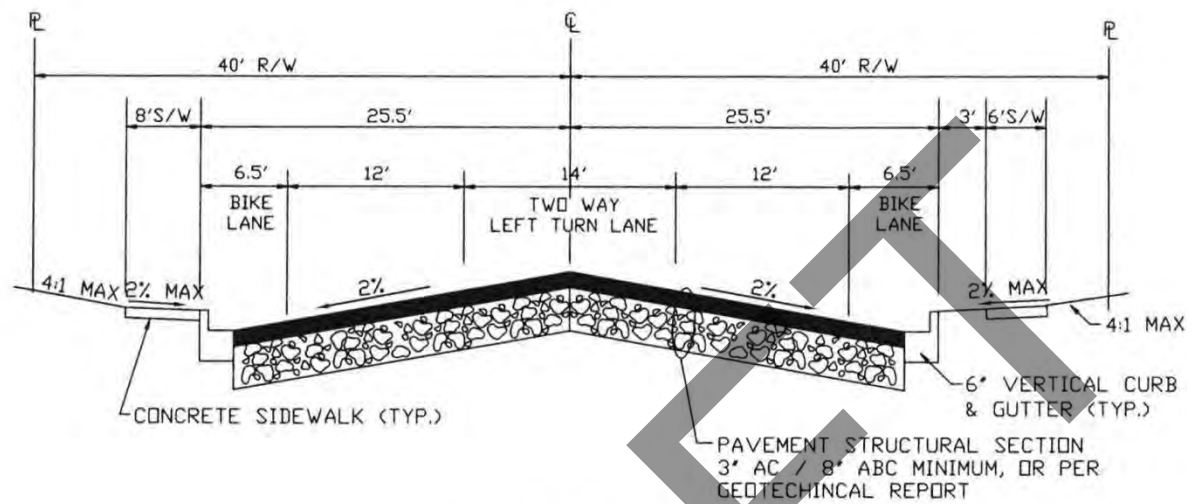
PRINCIPAL ARTERIAL



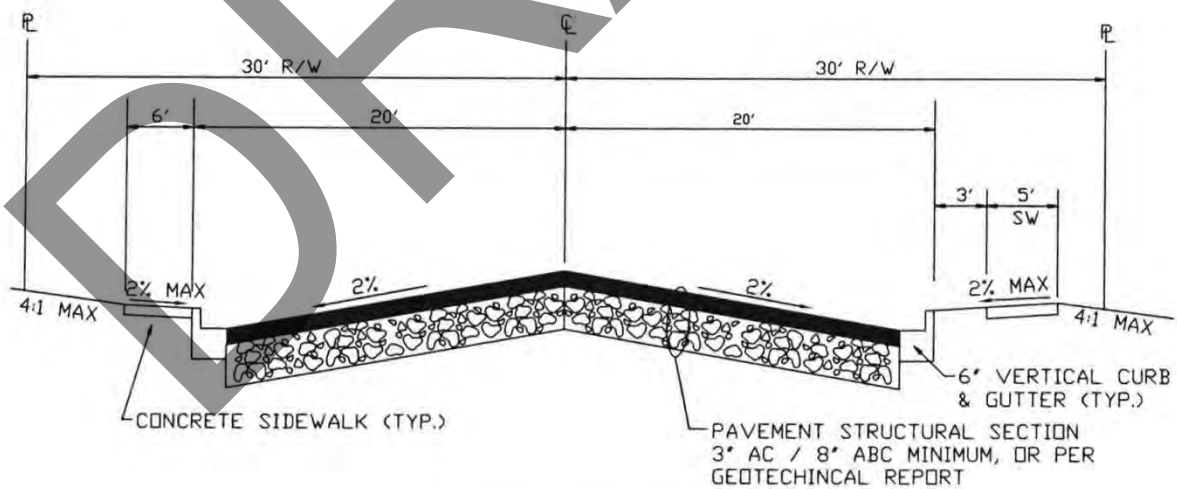
* OR 10' WIDE MEDIAN

MINOR ARTERIAL

EXHIBIT 6.2 (cont'd)

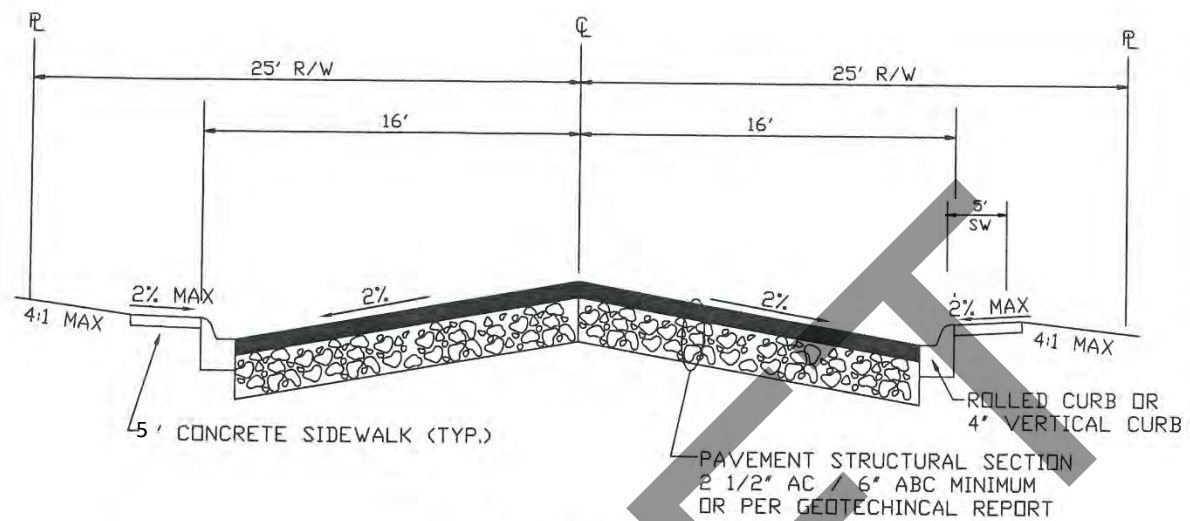


MAJOR COLLECTOR

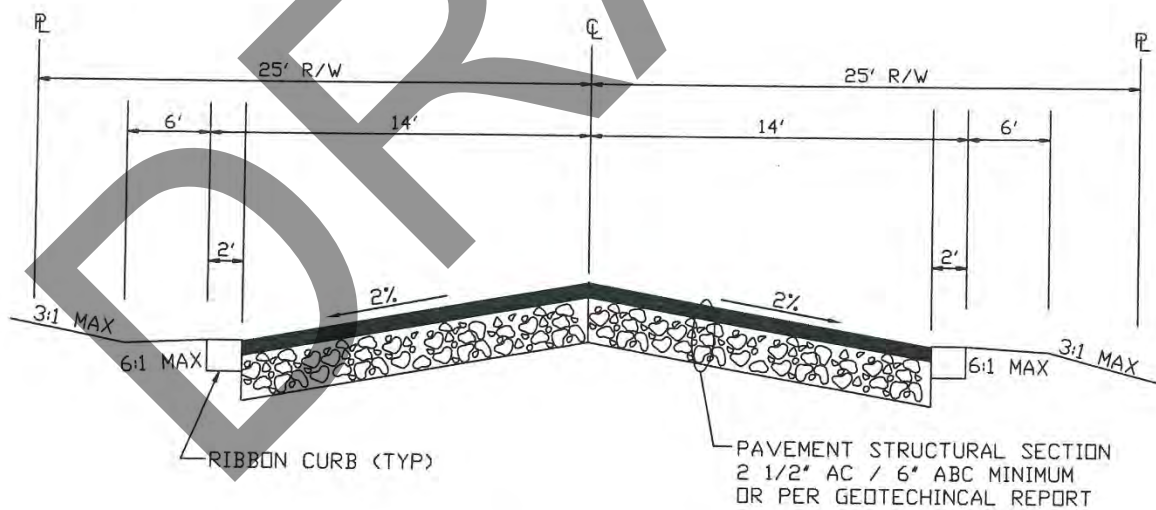


MINOR COLLECTOR

EXHIBIT 6.2 (cont'd)



LOCAL RESIDENTIAL ROAD



LOW DENSITY LOCAL ROAD

LOTS 1 ACRE TO 3.33 ACRE AREA
WITH ON-LOT RETENTION

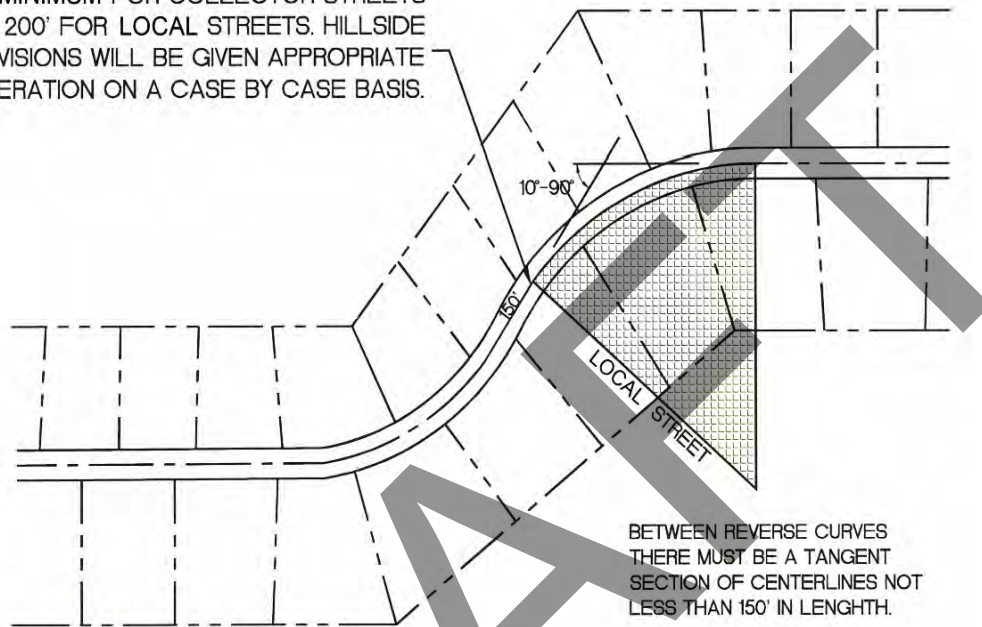
EXHIBIT 6.2 (cont'd)

DRAFT

*FINAL DESIGN SUBJECT TO COUNTY ENGINEER APPROVAL

EXHIBIT 6.3

WHEN TANGENT CENTERLINES DEFLECT MORE THAN 10° AND LESS THAN 90° THEY SHALL BE CONNECTED BY A CURVE WITH MINIMUM RADIUS EQUAL TO 300' MINIMUM FOR COLLECTOR STREETS AND 200' FOR LOCAL STREETS. HILLSIDE SUBDIVISIONS WILL BE GIVEN APPROPRIATE CONSIDERATION ON A CASE BY CASE BASIS.



NOTE: HORIZONTAL ALIGNMENTS ON ARTERIAL ROUTES SHALL BE DETERMINED BY THE COUNTY ENGINEER.

CENTERLINE DEFLECTION AND REVERSE CURVES FOR COLLECTOR AND LOCAL STREETS

EXHIBIT 6.4

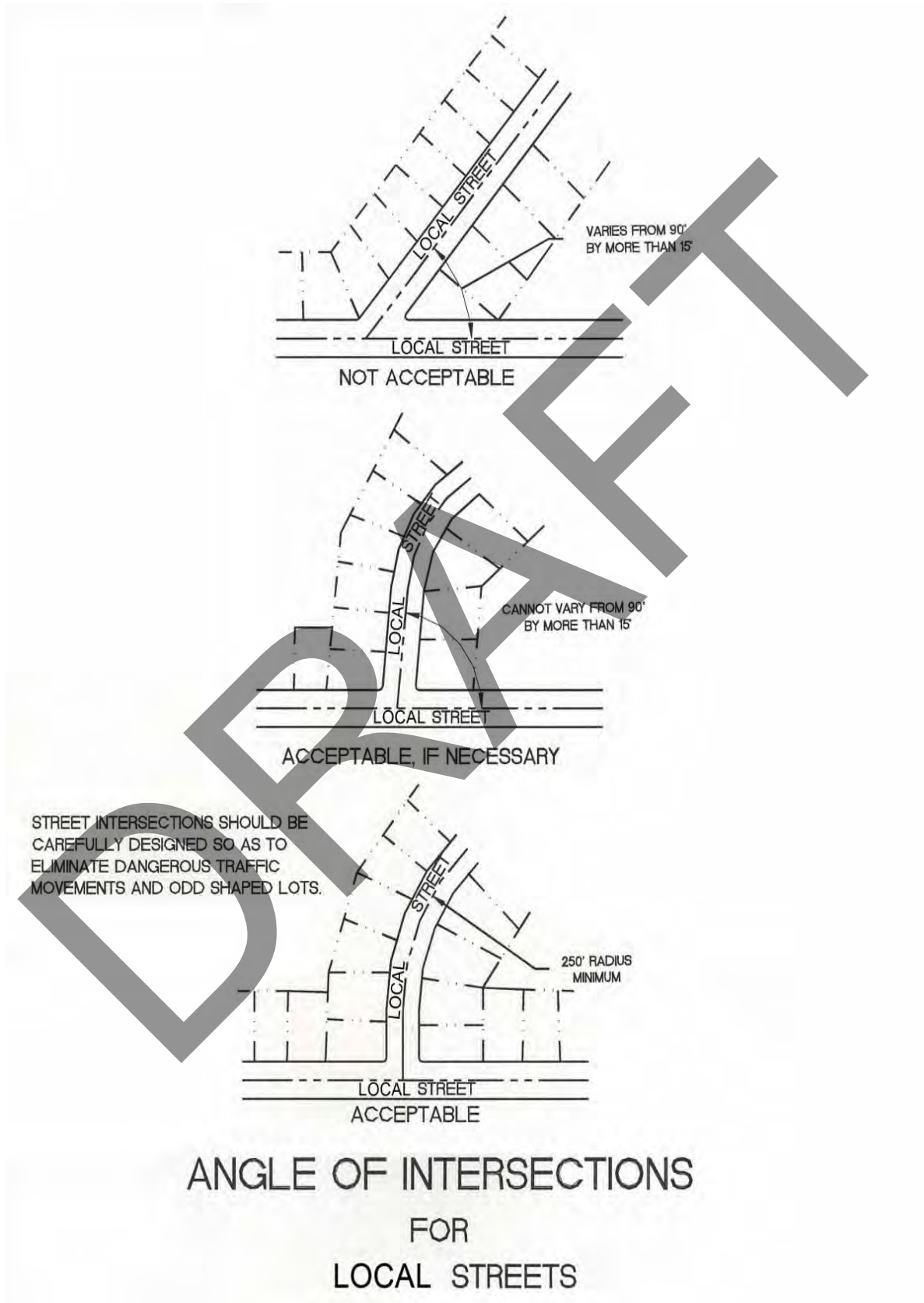
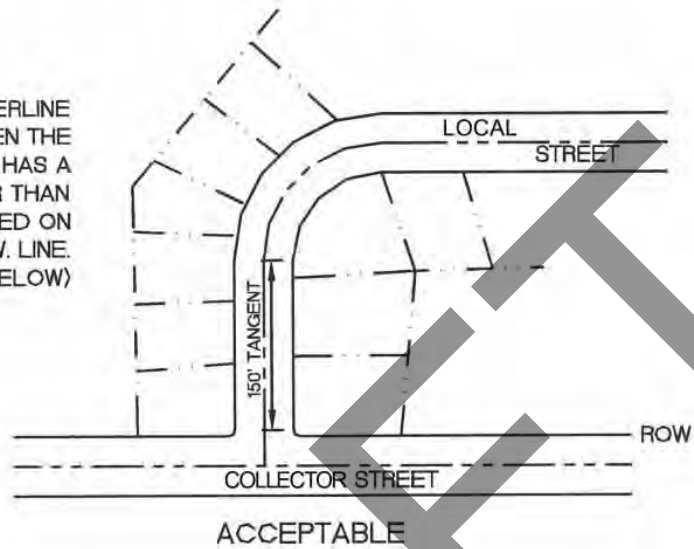


EXHIBIT 6.5

150' TANGENT SECTION OF CENTERLINE IS REQUIRED EXCEPT WHEN THE LOCAL STREET CURVE HAS A CENTERLINE RADIUS GREATER THAN 400' WITH THE CENTER LOCATED ON THE ARTERIAL STREET R.O.W. LINE. (SEE BELOW)

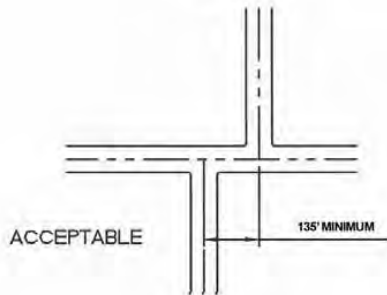
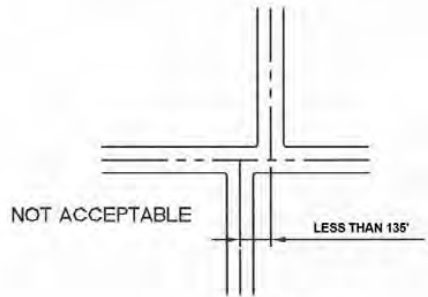


ALL INTERSECTION OF ARTERIAL STREETS AND COLLECTOR STREETS SHOULD BE AT RIGHT ANGLES.

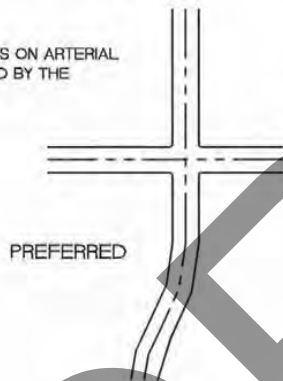


ANGLE OF INTERSECTIONS FOR COLLECTOR STREETS

EXHIBIT 6.6 & 6.7

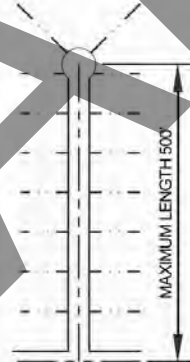
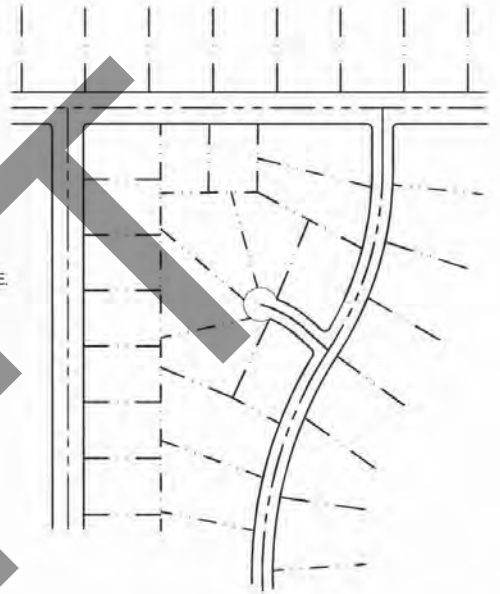


NOTE: HORIZONTAL ALIGNMENTS ON ARTERIAL ROUTES SHALL BE DETERMINED BY THE COUNTY ENGINEER.



STREET JOGS
FOR
LOCAL AND COLLECTOR
STREETS

CUL-DE-SACS SHALL BE USED TO SERVE IRREGULAR AREAS OF A TRACT THAT WOULD OTHERWISE BE INACCESSIBLE. CUL-DE-SACS SHALL NOT BE USED EXCESSIVELY NOR AS A PRIMARY DESIGN FEATURE.



CUL-DE-SACS MAY NOT BE LONGER THAN 500 FEET AND SHALL TERMINATE IN A TURN-AROUND AT THE CLOSED END.

CUL-DE-SACS
FOR
LOCAL STREETS

EXHIBIT 6.8

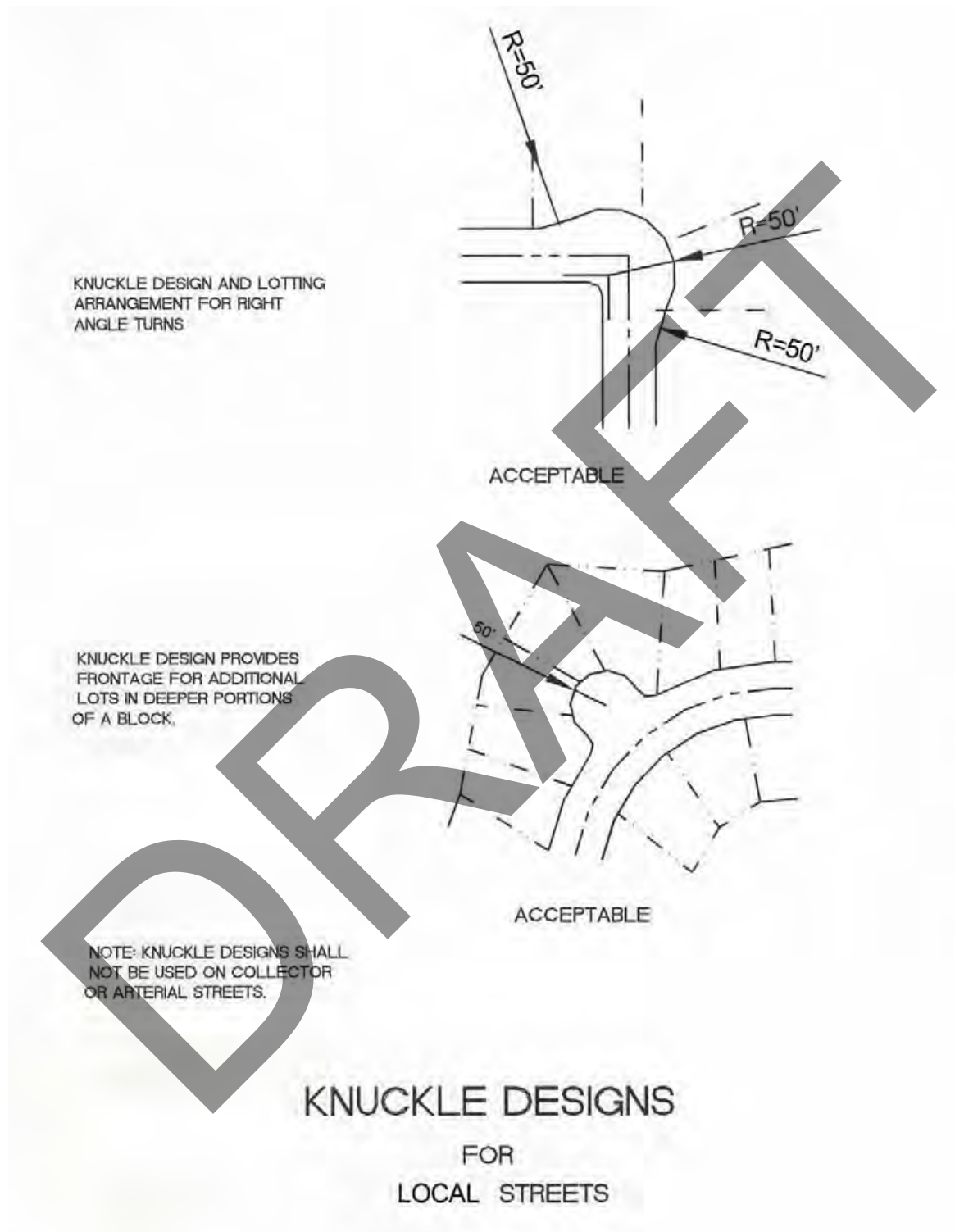
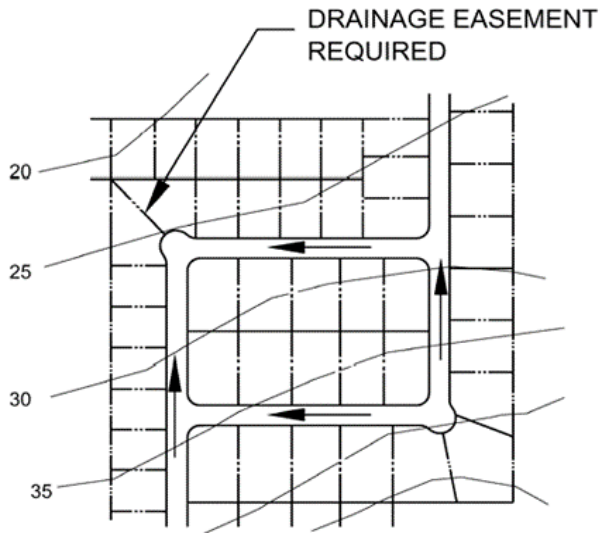
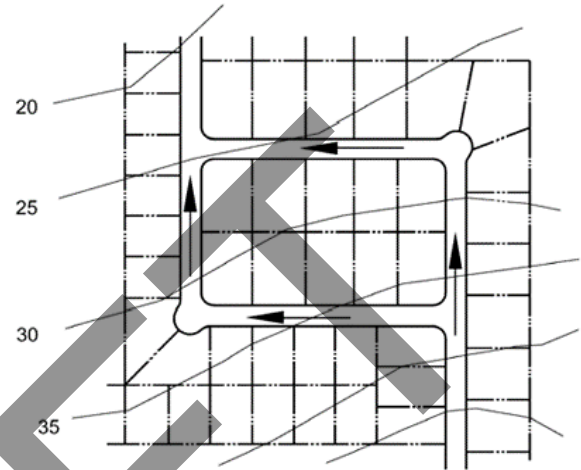


EXHIBIT 6.9



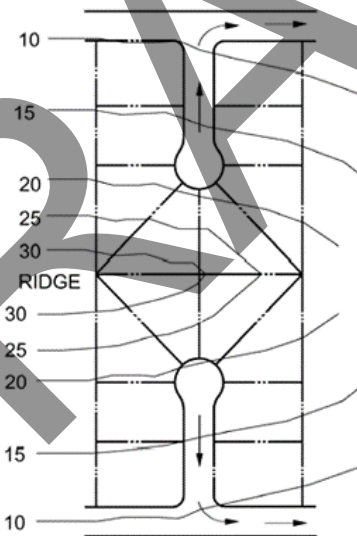
NOT ACCEPTABLE



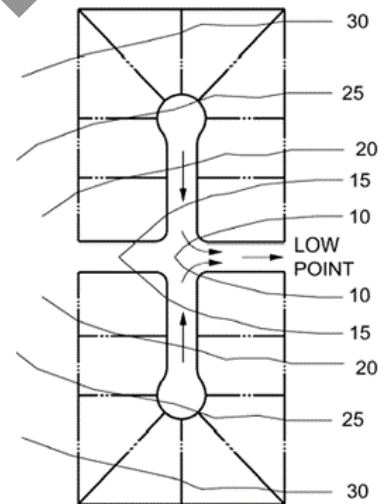
ACCEPTABLE

STREETS SHOULD BE SO DESIGNED AND ARRANGED IN RELATION TO EXISTING TOPOGRAPHY AS TO FACILITATE DRAINAGE. PROPER DESIGN WILL ELIMINATE EXCESSIVE CUTS AND FILLS AND UNNECESSARY DRAINAGEWAYS BETWEEN LOTS.

STREETS SHOULD NOT BE USED AS PRIMARY DRAINAGE, UNLESS CURB AND GUTTER IS INSTALLED.



ACCEPTABLE



STREET DRAINAGE FOR LOCAL STREETS

EXHIBIT 7.0

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Borrow / Fill			
Gradation	AASHTO T 27	Stockpile	1 per 1000 CY per Source
X Value	MAG 210.2		
PI	AASHTO T 89 AASHTO T 90		
Proctor Density	ASTM D 698	Stockpile	1 per Source and as needed
Field Density	ASTM D 6938	In-place	1 per 500 CY, minimum 1 per lift
Subgrade & Existing Ground			
Gradation	AASHTO T 27	Roadway	1 per Soil Type
PI	AASHTO T 89		
Proctor Density	ASTM D 698		
Swell	ASTM D 4546	Roadway	As needed
Field Density	ASTM D 6938	In-place	1 per 5000 SY/per lift
Aggregate Base Class			
Fractured Coarse Aggregate Particles	ASTM D 5821	Crusher Belt or Stockpile	1 per 1,200 CY
Gradation	AASHTO T 27	Crusher Belt or Stockpile	1 per 1,000 CY
PI	AASHTO T 89 AASHTO T 90		
Proctor Density	ASTM D 698		
Field Density	ASTM D 6938	Roadway	1 per 1,000 CY (100 % Min Density)
LA Abrasion & Loss	AASHTO T 56	Crusher Belt or Stockpile	1 per Source

EXHIBIT 7.0 (cont'd)

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Concrete			
Temperature	ASTM C 1064	Point of Discharge	1 per 100 CY per Class, per Day
Slump	ASTM C 143		
Compressive Strength	ASM C 31 & ASTM C 39		

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Asphaltic Concrete Pavement			
Gradation	AASHTO T-308	Roadway	1 per subplot
Binder Content	AASHTO T-308		
Bulk Density	AASHTO T-245 or AASHTO T-312		
Maximum Theoretical Density	AASHTO T-209		
Laboratory Air Voids	AASHTO T-269		1 per lot
Compaction	ASTM D-2950		Periodic during paving
Thickness	ASTM D-3549		1 per sub-lot
In-Place Voids	AASHTO T-269		

EXHIBIT 7.0 (cont'd)

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Asphalt Rubber Asphalt Concrete (ARAC) Pavement			
Gradation	AASHTO T-308	Roadway	1 per subplot
Binder Content	AASHTO T-308		
Bulk Density	AASHTO T-245 or AASHTO T-312		
Maximum Theoretical Density	AASHTO T-209		
Laboratory Air Voids	AASHTO T-269		1 per subplot
Compaction	ASTM D-2950		Continuous during paving
Thickness	ASTM D-3549		At the Engineer's Discretion

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Trench Backfill			
Gradation	AASHTO T 27	Stockpile	1 per 1000 CY per Source
PI	AASHTO T 89 AASHTO T 90		
Proctor Density	ASTM D 698	Stockpile	1 per Source and as needed
Field Density	ASTM D 6938	In-place	1 per 300 LF, per lift

EXHIBIT 7.0 (cont'd)

QUALITY ASSURANCE TESTING FREQUENCY			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
RIP RAP MAG 220			
Specific Gravity	ASTM C 127	Stockpile	1 Per Source
LA Abrasion	ASTM C 535		
Gradation	AASHTO T 27	Stockpile	1 per 1000 Tons Per Source
Flat Elongated Particles	ASTM D 4791	Stockpile	1 per 100 Tons, Per Source

APPENDIX A:

RESOLUTION NUMBER	SECTIONS AFFECTED	DESCRIPTION	DATE
	Multiple	Adoption	

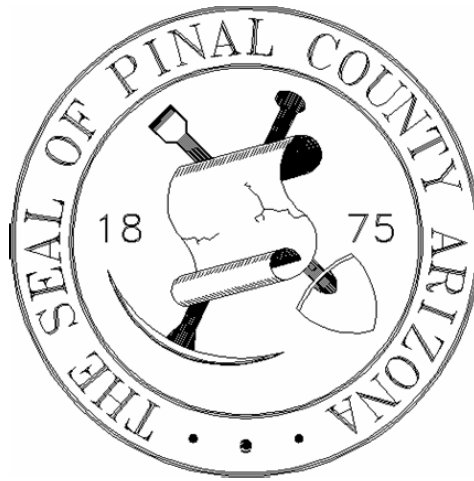
DRAFT

2023 SIDM Legislative Version

Pinal County

Subdivision & Infrastructure

Design Manual



LEGISLATIVE VERSION

*deletions are in strikethrough additions are underlined

PINAL COUNTY SUBDIVISION & INFRASTRUCTURE DESIGN MANUAL

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PREFACE

Pinal County

The Pinal County Subdivision & Infrastructure Design Manual introduces the processes associated with land development in the unincorporated areas of Pinal County. The Pinal County Subdivision Regulations and the Pinal County Subdivision & Infrastructure Design Manual have been adopted by the Pinal County Board of Supervisors.

~~and replace the SUBDIVISION REGULATIONS & REQUIREMENTS AND MINIMUM STANDARDS FOR SUBDIVISIONS STREET PAVING FOR PINAL COUNTY,~~

~~ARIZONA.~~ The Pinal County Subdivision & Infrastructure Design Manual is intended to provide guidance and direction to the development community in the preparation of subdivision plats and infrastructure improvement plans.

The Pinal County Subdivision & Infrastructure Design Manual sets forth Pinal County standards and policies for infrastructure design, and assists in the preparation of the technical plans and reports for submittal to and approval by Pinal County.

The Pinal County Subdivision & Infrastructure Design Manual clarifies and supplements requirements in the Pinal County Codes including the ~~subdivision—Subdivision regulations~~Regulations, ~~zoning—Zoning ordinance~~Ordinance, ~~drainage—Drainage ordinance~~Ordinance, ~~stormwater Storm water~~ and ~~floodplain—Floodplain regulations~~Regulations, and other regulations for land development within the unincorporated areas of Pinal County.

CHAPTER 1 ADMINISTRATION, DEFINITIONS AND REFERENCES

1.1 Administration

1.1.1 Applicability: All applications for subdivision approval that have been accepted as complete, including ~~tentative~~ Tentative or ~~final~~ Final plats Plats, and are under County review on the effective date of this Manual shall be reviewed under County regulations existing at the time of acceptance. ~~T, except that~~ this Manual will apply if, during plat review, any approvals lapse or processing deadlines expire. This manual shall also apply to any residential, commercial, or industrial Site Plans having improvements within, adjacent, or connecting to the public right of way

1.1.2 Conflict: This Manual is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulations, statute, or other provision of law except as provided in this Manual. Where any provision of this Manual imposes restrictions different from those imposed by any other provision of law, the provision that is more restrictive or imposes higher standards upon the development and use of land shall control.

1.1.3 Severability: If any section, sub-section, sentence, clause, phrase, term, part or provision of this Manual is held to be invalid or unconstitutional by the decision of any court of competent ^[TW2] jurisdiction, such decision shall be confined in its operation to the section, sub-section, sentence, clause, phrase, term, part or provision or application directly involved in the controversy or validity of the remaining portions of this Manual or the application thereof to other persons or circumstances.

~~1.1.3~~ **1.1.4 Flexibility Provisions:** The County Engineer may approve alternate specifications for public improvements for special circumstances as provided in Title 3. The County Engineer or their designee may prescribe an application process for an alternate standards request.

1.2 General Information & Rules

For the purpose of this manual, and when not inconsistent with the context:

1.2.1 Words used in the present tense shall include the future.

1.2.2 Words used in the singular number shall include the plural.

1.2.3 Words in the plural shall include the singular.

1.2.4 Words in the masculine gender shall include the feminine gender, corporate or other form.

- 1.2.5 The word "shall" is mandatory and not discretionary.
- 1.2.6 The word "may" is permissive.
- 1.2.7 The particular controls the general.
- 1.2.8 Enumeration is not limited. The word "herein" means "in this manual" and the word "regulations" means "the Pinal County Subdivision Regulations".
- ~~1.2.8~~_____

~~1.2.9~~ The word "herein" means "in this manual" and the word "regulations" means "the Pinal County Subdivision Regulations".

~~1.2.10~~ **1.2.9** The word "person" includes a corporation, a partnership, and an unincorporated association of persons such as a club.

~~1.2.11~~ **1.2.10** The words "used" or "occupied" as applied to any land or building shall be construed to include the words "intended, arranged, or designed to be used or occupied".

1.3 Definitions

For the purpose of this manual, certain words, phrases, terms, and abbreviations shall have special meaning as defined herein, unless the context requires otherwise:

1.3.1 ADEQ: The Arizona Department of Environmental Quality.

1.3.2 ADOT: The Arizona Department of Transportation [BB3]

1.3.3 ADWR: The Arizona Department of Water Resources

1.3.4 All Weather Access: Road Roadway designed to convey discharge from a specific design storm beneath the roadway, with the 100-year storm conveyed in combination of culvert and overland flow at specific depths as specified in the Pinal County Drainage Ordinance.

~~1.3.11~~ **1.3.5** A.L.T.A. / A.C.S.M.: American Land Title Association / American Congress on Surveying and Mapping

1.3.6 ASLD: The Arizona State Land Department

~~1.3.21~~ **1.3.7** Board: The Board of Supervisors of Pinal County.

1.3.8 Buffer: A strip of land established to protect one type of land use from another land use or to provide screening. Normally, a buffer yard is landscaped and developed in open space areas.

~~1.3.31~~ **1.3.9** CAG: Central Arizona Governments

1.3.10 CD: Compact Disk used to submit electronic versions of documents [TW4]

1.3.11 Clerk of the Board: The Clerk of the Pinal County Board of Supervisors.

~~1.3.41~~ **1.3.12** CLOMR: A Conditional Letter of Map Revision issued by FEMA. A CLOMR is a letter from FEMA commenting on whether a proposed project, if built as proposed, or proposed hydrology changes would meet minimum National Flood Insurance Program standards.

1.3.13 Commission: The Pinal County Planning and Zoning Commission [TW5].

1.3.5

1.3.14 Community Development: The Community Development Department of Pinal County

1.3.15 Community Development, Director: The Director of the Community Development Department of Pinal County or his/her designee

~~1.3.61~~1.3.16 County: Pinal County, a political subdivision of the State of Arizona.

1.3.17 County Engineer: The Pinal County Engineer or designee.

1.3.18 Cul-de-sac: A non through road or street, typically with only one access point and with a large radius at it's terminus for vehicle turn around. Such roads may be augmented with landscape islands, parking, or similar features intended to minimize the effects of an otherwise large paved surface.

1.3.7

1.3.19 Division: Individual unit of the Community Development Department

1.3.20 FEMA: The Federal Emergency Management Agency

1.3.21 Grade^[TW6]: The slope of a road, street, or way specified in percentage terms.

1.3.22 G&SRB&M^[TW7], Pinal County, Arizona: Gila and Salt River Base and Meridian.

1.3.23 LOMR: Letter of Map Revision issued by FEMA. A LOMR A LOMR is a letter from FEMA officially revising the current NFIP map to show changes to floodplains, regulatory floodways, or flood elevations. Reference Code of Federal Regulations Title 44 Parts 60, 65, and 72. A community or individual can request a LOMR to update the following:

- Flood Hazard Boundary Map
- Flood Insurance Rate Map
- Flood Boundary and Floodway Map
- Flood Insurance Study Report

1.3.8

1.3.24 MAG: The Maricopa Association of Governments^{[BB8][TW9]}.

1.3.25 Non Potable Water, means water that does not meet federal Environmental Protection Agency drinking water standards for human consumption.

1.3.26 PAD: means, a Planned Area Development meeting the requirements of Title 2 of the PCDSC.

1.3.27 Panhandle Lot: also known as a flag lot, is a lot with street frontage that is less than 40% of its required width.

~~1.3.91~~1.3.28 Potable Water, means water that meets Federal Environmental Protection Agency drinking water standards for human consumption

~~1.3.101.3.29~~ Public Works Department: The Pinal County Department of Public^[BB10] Works.

~~1.3.111.3.30~~ Public Works Director: The Pinal County Public Works Director or designee^[BB11].

~~1.3.121.3.31~~ Regulations: The Pinal County Subdivision Regulations^[BB12] and as applicable the Pinal County Development Services Code

1.3.32 Right-of-Way: An area of land which by deed, conveyance, agreement, dedication, or process of law is dedicated to Pinal County for public purposes including, but not limited to, streets, highway, public utility, pedestrian facility, bikeway or drainage.

~~1.3.131.3.33~~ SCMPO: Sun Corridor Metropolitan Planning Organization

~~1.3.141.3.34~~ State: State of Arizona.

~~Street, Enhanced Parkway: Designed for relatively uninterrupted, high-volume mobility with limited access to adjacent areas and may include a mixture of intersections and interchanges.~~

1.3.35 Street, Parkway: Designed for relatively uninterrupted, high-volume mobility with fewer grade separated traffic interchanges ~~than enhanced parkways.~~

~~1.3.151.3.36~~ Street, Arterial: A general term including section line, major streets, state or county highways providing a system for through traffic movement.

~~1.3.161.3.37~~ Street, Collector: Provides the traffic movement within neighborhoods, between major streets and local streets, and for direct access to abutting property.

~~1.3.171.3.38~~ Street, Local: Provides for direct access to residential, commercial, industrial or other abutting land; primarily for local traffic movements with connections to collector streets.

~~1.3.181.3.39~~ Structures: Anything constructed or erected which requires location on or in the ground or is attached to something having a location on the ground. Structures do not include ditches and their appurtenances, poles, lines, cables, or transmission or distribution facilities of public utilities, freestanding mailboxes, on-grade slabs, walks, driveways, landscaping materials or fences.

1.4 References

~~The list of references included below presents the most current versions of the references (at the time the manual was developed).~~ The user should always refer to the latest version of ~~such all~~ publications.

- American Association of State Highway and Transportation Officials (AASHTO), Policy on Geometric Design of Highways and Streets, ~~2004~~
- Arizona Administrative Code Title 18, Chapter 9, Articles 2 & 3, ~~2005~~
- Arizona Nurserymen's Association, ~~2005~~
- Arizona Supplement to the ~~2003~~ current Adopted Manual on Uniform Traffic Control Devices (ADOT), ~~2003~~
- Guide to Standardized Highway Lighting Pole Hardware; (AASHTO)
~~, 1980.~~
- International Fire Code ^[BB13]
- All ICC codes as applicable per the discretion of the Community Development Director
- MAG Uniform Standard Details for Public Works Construction ^[TW14], ~~2006~~
- Manual of Approved Signs; (ADOT), ~~1999~~
- ~~Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD), 2003.~~
- Roadway Lighting Design Guide; (AASHTO ^[BB15]), ~~2005.~~
- Pinal County Drainage Manual
- Regionally Significant Routes for Safety and Mobility Final Report and Access Management Manual.
- Signs and Marking – Standard Drawings; (ADOT), ~~2002~~
- Standard Specifications for Road and Bridge Construction Manual, (ADOT), ~~2000.~~
- Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals; (AASHTO), ~~2003~~
- ~~Traffic Control Design Guidelines, (ADOT), 2003.~~
- Traffic Control Manual for Highway Construction and Maintenance; (ADOT), ~~1996.~~
- Traffic Controller Assemblies with NTCIP Requirements TS2-1998, National, Electrical Manufacturers Association, ~~2003~~

- Traffic Guidelines ~~Traffic Engineering Policies, Guidelines and Procedures~~ Processes; (ADOT), ~~2002~~.

Traffic Signals and Lighting and Signing and Marking – Standard Drawings; (ADOT)

▪ ~~, 2004.~~

- Electrical Manufacturer's Association

- Uniform Standard Specifications and Details for Public Works Construction As Published by Maricopa Association of Governments_ (MAG), ~~2006~~

CHAPTER 2 DEVELOPMENT CLASSIFICATION

2.1 General Information

The design guidelines that apply to each development may vary depending on the intended land use. This chapter notes the criteria used to classify each development as a residential, commercial or industrial subdivision.

2.2 Residential Subdivisions

Residential subdivisions are those where property is used for single family or multi- family dwellings regardless of the zoning classification. Residential condominiums shall be platted per A.R.S. § 33-1219[TW16].

2.3 Commercial or Industrial Subdivisions

In general, any subdivision whose intended use is not for residential dwellings shall be considered a commercial or industrial subdivision for the purpose of this Manual.

2.4 (Reserved for “Specific Site Plan Review[BB17]”)

3.1 General Information

The ~~tentative-Tentative plat-Plat~~ stage for land subdivision involves detailed subdivision planning, including the submittal, review and approval of the ~~tentative-Tentative platPlat~~. This chapter covers various requirements for preparation of the ~~tentative-Tentative platPlat~~. In addition to the requirements of Title 3, Article 4 in the Pinal County Subdivision Regulations, the following requirements apply. Also, any proposed subdivision intending to alter any existing floodplain, as shown on the current FIRM panels, shall be required to provide a hydrologic and hydraulic analysis to be done in accordance with standard engineering practice in Pinal County as well as FEMA as part of a Conditional Letter of Map Revision (CLOMR). CLOMR must be submitted to Pinal County at time of Final Plat submittal. FEMA approval of the CLOMR shall be supplied to the Flood Control District prior to the approval of the subdivision's Final Plat. After construction of the proposed improvements is complete, a Letter of Map Revision (LOMR) shall be prepared and submitted to Pinal County as well as FEMA. FEMA approval of the LOMR must be supplied to the Flood Control District prior to the issuance of any building permits for structures within the subdivision.

3.2 Tentative Plat Format^[TW19]

The Tentative Plat shall be in the following format and may be submitted digitally-(See **Exhibit 3.1** for cover sheet layout for Tentative & Final Plats)

- 3.2.1 Tentative ~~plat-Plats~~ shall be submitted on ~~one-two~~ or more sheets^[TW20] of 24"x36". Clearly and legibly drawn to show all required details at a scale not greater than 100 feet to an inch. No architect or uncommon scale will be accepted.
- 3.2.2 When two or more sheets are used, the number of sheets must be noted on the bottom right corner (i.e. sheet ____ of ____ sheets).
- 3.2.3 Plats must be drawn with the north direction toward the top, or the right of the sheet. A graphical scale will be located directly below the North arrow. All text shall be oriented to be readable from the bottom or the right of the sheet.
- 3.2.4 Provide a location map (small scale vicinity map) which includes, but not limited to:
 - a. The subject property, centered and identified, within a minimum one square mile area;
 - b. Adjacent conditions, subdivisions, unsubdivided land, and schools, etc.;
 - c. Major streets, rivers, reservations, national forests, railroads and school sites;

- d. Section, township and range of the subject plat;
- e. Label sections;
- f. A North arrow, oriented with the north toward the top or the right of the sheet;
- g. The city, town or other jurisdictional limits, where applicable;
- h. A reference key or legend, if the plat has more than one sheet. Indicate the area covered by each sheet; and
- i. Access to the subject property.

3.2.5 Provide a Title Block, located at the top of each sheet including:

- a. The name of the subdivision.
- b. Lot numbers, i.e. lot numbers ____ (units or blocks) through ____ and common areas.
- c. On cover sheet only, a brief legal description, including the ~~section~~Section, ~~township~~Township and ~~range~~Range reference (G&SRB&M^[TW21], Pinal County, Arizona). If the proposed subdivision is a replat of an existing plat of record, include full information on the original plat, including which lots are being replatted.
- d. Labeled as "Tentative Plat".

3.2.6 A replat cannot bear exactly the same name as its precedent subdivision. If a subdivision is recorded and subsequently re-recorded, the second plat must bear a slightly different name from the original (i.e. "replat of" in front of the subdivision name). Subdivisions platted separately but representing phases of a project can bear the same name, so long as the lot numbers are sequential, or the name is followed by "unit" and a unit number only.

3.2.7 The subdivision boundary line, boundary lines of lots and common areas shall be drawn with a solid line. All easements lines and existing lot lines (if a replat) shall be shown with a dashed line. The subdivision boundary line width should be bolder (wider) than any other line on the plat.

3.2.8 Name, registration number, seal and signature of the land surveyor or other professional licensed and registered in the State of Arizona who is eligible to be responsible for conducting the land survey and preparing the ~~tentative~~Tentative platPlat.

3.3 General Requirements

3.3.1 Planning ~~Department~~Division^[TW22]

- a. Name, address, zip code, and phone number of persons involved in the tentative plat application (e.g. owner, subdivider, engineer, land surveyor, preparing the plat, including the registration number).
- b. Date of preparation including dates of any subsequent revisions.
- c. Site data, including gross area of proposed subdivision, number of lots proposed, approximate area of the open space, and other proposed non-residential uses.
- d. Proposed lot lines, typical and minimum lot sizes, for each type of proposed lot and density (lots per gross acre).
- e. Typical lot layout, including minimum building setback lines related to all right-of-way; dimensions of all corner lots and lots on curvilinear sections of street; each lot numbered individually and total number of lots shown.
- f. Show and label existing uses of land and zoning district classifications and uses on and immediately adjacent to the subdivision site. All lots must be consistent with zoning requirements. If more than one zone is involved, provide the number of acres within each zone, and identify the lots within each zone. If rezoning has been filed, provide designation of proposed zoning district and rezoning case number.
- g. Reference by dimension and bearing to section corners and quarter- section corners.
- h. Provide benchmark location, description, and elevation. Elevations shall be based on North America Vertical Datum 1988 (NAVD 88^[BB23]). [Upon adoption of a newer national standard the County Engineer may at his/her discretion require conversion to the new standard or by policy adopt the new standard.](#)
- i. The subdivision boundary lines will be labeled with distances and bearings.
- j. Record name, record date, and book and page or cabinet and slide [or fee number](#) of adjacent subdivisions or the names of record owners of adjoining parcels of unsubdivided land with Assessor Parcel Number (APN).
- k. List and label area, to be shown as tracts, if any, to be

reserved or dedicated for parks, open spaces, playgrounds, schools, fire stations or other public uses.

- l. If a plat includes land for which multi-family, commercial or industrial use is proposed, such areas shall be clearly designated on the plat.
- m. Designate existing use of property and area and number of tracts, if any, to be excluded or abandoned from the proposed subdivision.
- n. All lots shall utilize a lot numbering system to be numbered consecutively throughout the plat. Exceptions such as tracts and private parks shall be so designated, lettered or named, and clearly dimensioned. Ownership and maintenance responsibilities for tracts and private parks shall be indicated on the plat.
- o. Label, city limits, well sites and vacant areas (state land, federal land, etc.).
- p. Lots backing or siding on streets may require tracts to allow for [Public Utility Easements \(PUE's\)](#) [TW24] and landscaping.
- q. Show location of all proposed monument signs.
- r. All existing or proposed streets shall be identified by street names.
- r.s. [Include zoning information such as building height, minimum lot area, minimum lot width, minimum front yard setback, minimum side yard setback, minimum rear yard setback, and percentage of open space.](#)

3.3.2 ~~Public Works Department~~ [Engineering Division](#) [TW25]

A ~~tentative~~ [Tentative plat](#) shall contain the following information, and be accompanied by [an A.L.T.A./A.C.S.M](#) [TW26].
~~title~~ [Title survey](#):

- a. Location and widths of all existing or proposed right-of-way, streets, intersections, and other ways, drainage ways, if any, and other rights-of- ways and easements, whether public or private and their purposes, within and adjacent to the tract, including all connections to adjoining platted or un-platted tracts, railroad rights-of-way and other important features such as section lines, political subdivision or corporate lines.
- b. Show all centerline data (delta, length, and radii), roadway dimensions and property line data (delta, length, and radii [and/or radial bearing if not tangent](#)).

- c. Designation of all land to be dedicated, provided, or reserved for public uses (including all easements, with the use(s) indicated).
- d. Identification of all utility services in and for the subdivision, both existing and proposed; source of utilities service provider table; and whether such utilities will be underground or above ground.
- e. Any relocating, modification, etc., of the existing utilities and/or improvements required by this subdivision development will be paid by the subdivider.
- f. Information sufficient to locate accurately the property shown on the plat, with reference to survey markers or monuments, and bearings and distances.
- g. When lots are greater than one acre, existing and proposed contours at an interval and accuracy acceptable to the County Engineer shall be provided. When any of the lots are one acre or less, the following contour intervals shall be required and be sufficient to indicate drainage for all lots and streets. Contours taken from U.S. Geological Survey maps are not acceptable.

Gradual slopes	0 to 2%	2-foot intervals
Medium slopes	2 to 15%	5-foot intervals
Steep slopes above	15%	10-foot intervals

- h. Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend approximately 100' beyond property boundary.
- i. At intersections with streets, show cross corner sight visibility triangle easement with appropriate dimensions and clearly indicate building setbacks in these locations.
- j. All existing and proposed easements (with their dimensions, purposes, whether they are private, public or specific and recording information for existing easements) will be shown on the plat. Easements which are no longer used and obsolete should be cleared from the title prior to ~~final~~-Final plat-Plat recordation.
- k. Identify drainage flows across or along proposed or existing streets and adequate access during flow times must be shown.
- l. All existing drainage patterns affecting the land included in the ~~tentative~~-Tentative plat-Plat must be shown. A preliminary

location of the proposed storm drain system shall be shown.

1. If any part of the storm water flow is to be handled by an ~~under-ground~~underground storm drain system, the tentative location of the inlets, must be shown.
 2. Development must be in accordance with the current Pinal County Drainage Ordinance.
- m. Paved all weather roads shall be provided to all lots within this subdivision.
- n. Vicinity map showing proposed subdivision and surrounding subdivisions and major streets located within a ½ mile radius.
- o. Legend identifying symbols.
- p. Basis of Bearings.
- q. An overall key map to be provided to include proposed street names and neighboring properties to be noted as “UNSUBDIVIDED” if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- r. Property line minimum radii shall be 25’ or 3350’ (for all arterial intersections).
- s. Sight Visibility Triangle Easements (SVTE) shall be 21’ x 21’ (local to local) and 33’ x 33’ (for all ~~others~~[BB27]).
- t. Minimum right-of-way (ROW) width dimensions shall be: major arterials - 150’ ROW; minor arterials (section lines) - 110’ ROW; major collectors (mid-section lines) - 80’ ROW; minor collectors - 60’ ROW; and local streets - 50’ ~~ROW~~[BB28].
[\(Refer to exhibits in this manual for cross sections\)](#)
- u. Intersection spacing along an ~~arterial~~Arterial shall be approximately every 1,320’ (1/4 ~~mile~~[BB29]) [or as specified in the most recent Regionally Significant Routes for Safety and Mobility Manual.](#)
- v. Avoid street jogs with centerline offsets of less than 135’. Collector or another arterial street intersecting with an arterial street should align if possible or meet the minimum requirement for spacing along an arterial.
- w. Local ~~streets~~Streets are not permitted to intersect with an ~~arterial~~Arterial streetStreet.
- x. Residential lots shall front only local streets.

- y. Intersections shall intersect at right angles if possible, but no less than 75 degrees.
- z. Maximum length of a ~~cul~~Cul-de-sac-Sac is 500 ft. Minimum right-of-way radius for Cul-de-sac-Sac and its returns is 50'. See **Exhibit 6.7**.
- aa. Show all location and description of primary control points of reference. At least two corners of the subdivision shall be tied by bearing and distance to a section corner, a quarter section corner, or established city or county survey monument.
- bb. Show location and description of street centerline monuments and other survey points in place.
- cc. Show surrounding land around subdivision to include, but not limited to, existing right-of-ways, existing easements, existing plats and other properties.
- dd. Public Utility Easements (PUE) shall be a minimum 8' wide. PUE's are to be located outside the rear and side of all ~~lots~~lots[BB30].
- ee. 1' vehicular non-access easement (VNAE) shall be dedicated on all lots adjacent to or backing up to any tract, drainage feature, ~~collector~~Collector street-Street and ~~arterial~~Arterial streetStreet.
- ff. Survey monuments are required on monument lines at intersections, PC's, PT's, and PI's. Also required at knuckles or ~~cul~~Cul-de-sSacs.

3.3.3 Pinal County Flood Control District

A ~~tentative~~Tentative plat-Plat shall contain the approximate boundaries of all areas subject to flooding as designated by FEMA Special Flood Hazard areas and the location and extent of all water courses and the nature of the water flow whether continuous, intermittent or sporadic.

3.3.4 Building Safety ~~Department and Environmental Health~~

~~Department~~Division and Aquifer Protection Division

A ~~tentative~~Tentative plat-Plat shall contain the following information:

- a. It shall be the responsibility of the subdivider to furnish the County ~~Environmental Health Department~~Aquifer Protection

~~Division~~ and Arizona Department of Environmental Quality, (ADEQ) such evidence as those departments may require for their satisfaction as to the design and operation of sanitary sewage facilities proposed. A statement as to the type of sewage disposal facilities proposed shall appear on the ~~tentative—Tentative plat~~ Plat. In subdivisions which are proposed to be served by individual lot septic tanks, percolation tests and test boring logs in accordance with the requirements of the County ~~Environmental—Health Department~~ Aquifer Protection Division and ADEQ shall be ~~taken provided~~ taken within the proposed subdivision.

- b. It shall be the responsibility of the subdivider to furnish the County Building Safety ~~Department~~ Division such evidence as that department may require for its satisfaction as to the design and construction of connections to sewage facilities.
- c. If a portion of the subdivision is to be used for a water supply facility, it shall be so indicated on the ~~plat~~ [BB31].

~~3.3.5~~ Fire District in which the Subdivision is located or the Supplier of the existing or proposed fire protection [BB32] [TW33].

3.3.5

a. ~~The tentative—Tentative plat~~ Plat shall contain the identification of method and source of fire protection as needed to meet applicable Fire District requirements.

b. The service provider shall provide a letter indicating if the provider is an official provider approved by the State of Arizona

3.4 General Notes

3.4.1 Planning ~~Department~~ Division

- a. The gross area of the subdivision is ____ acres.
- b. Zoning Information:

Zoning is _____. (If more than one zone is involved provide the number of acres within each zone, and identify the lots within each zone.)
- c. The number of lots is _____.
- d. The approximate ~~area~~ [TW34] in acres and percentage of total plat area of parks, recreation areas, drainage ways, open space and all other proposed non-residential uses.

3.4.2 ~~Public Works Department~~ Engineering Division

- a. Street name [to be inserted] is the nearest paved access maintained by the County which serves this subdivision. It is miles/feet away from or adjacent to, this subdivision.
- b. Any relocating, modification, undergrounding, etc., of the existing utilities and/or improvements required by this subdivision development will be paid by the subdivider.
- c. Note any proposed abandonment of public rights-of-way. ~~Abandonment of any public rights-of-way must follow Title 7 Chapter 7.10, Roadway Disposition, of the Pinal County Code.~~

~~G.~~

3.4.3 Building Safety ~~Department and Environmental Health- Department~~Division and Aquifer Protection Division

- a. If Public Sewers
 - 1. Prior to the issuance of building permits, all connections to public sanitary sewer facilities will be constructed in accordance with plans approved by the County Building Safety ~~Department~~Division.
 - 2. Prior to the issuance of any Certificate of Occupancy building permits, all public sanitary sewer facilities shall have received an Approval of Construction from the County ~~Environmental Health Department~~Aquifer Protection Division, and Certificate of Approval of Sanitary Facilities from ADEQ.
- b. If Private Sewers
 - 1. Onsite sanitary sewers will be constructed, operated and maintained on a private basis, except public sewers within public sewer easements or rights-of-way. The location and method of connection to an existing public sanitary sewer is subject to review and approval by the County Building & Safety ~~Department~~Division at the time of submittal of plumbing or building plans. The size, location and construction of septic tanks are subject to review and approval of the County ~~Environmental Health Department~~Aquifer Protection Division, CAG and ADEQ at the time of Building Permit Application^[BB35].
 - 2. A Third party homeowners' Association shall ~~Homeowners' association shall~~ may be utilized ~~formed~~ to accept responsibility and liability for construction, maintenance, operation, and control of all private sewers located in private sewer easements or private rights of way. The

third party must be the sole owner and/or responsible party for the sewer system.

OR

3. If no homeowners' Homeowners' association Association is being formed, maintenance and operation of the private sanitary sewer to its point of connection to the public sanitary sewer is the responsibility of each and every property owner within the subdivision. [BB36]

4.3. Statement regarding the location, collection, method of sewage disposal and the distance to the nearest solid waste disposal area by road. Identify the party or agency having operating jurisdiction.

5.4. A statement as to the type of domestic water supply facilities, both existing and proposed, and the name of the provider shall be placed on the plat.

3.5 Special Notes

3.5.1 Planning ~~Department~~Division

- a. If any variance, waiver or special use permit approval is received, add a note stating who approved it, what was approved, and when it was approved and the case number. Provide a copy of the minutes on each official action with the ~~tentative-Tentative plat~~Plat.
- b. Indicate ~~FEMA f~~Flood zoneZone(s) designation.
- c. Minimum lot size _____ square feet.
- d. The following lots are subject to Hillside Development Design: [list lots]

3.5.2 ~~Environmental Health and Building Safety Departments~~Building Safety Division and Aquifer Protection Division

- a. Public Sewers
 1. The required off-site public sanitary sewer line will be designed and constructed to ADEQ criteria.
 2. The required off-site public sanitary sewer augmentation will be designed and constructed to ADEQ criteria.
 3. All sanitary sewers will be designed to provide gravity flow. (This note to appear if invert and rim elevations are not shown on preliminary sewer plans).

4. The relocation, if any, of public sewers will be constructed, inspected, completed, and approved by ADEQ^[TW37] prior to issuance of County building permits.
5. The relocation of the existing public sewer is being done for the convenience of the subdivider.

b. Private Sewers

1. The required offsite sanitary sewer line will be constructed, operated and maintained on a private basis. The location and method of connection to an existing public sanitary sewer is subject to review by the County Building Safety ~~Department~~ Division at the time of submittal of plumbing or building plans.
2. Sewerage disposal for lots _____ thru _____ will be by private individual disposal systems.

c. Drywells

1. The following statement shall appear on all plats for developments which uses drywells:
All drywells shown on this plat shall be regularly maintained by the owner and are to be replaced by the HOA/Owner when they cease to drain the stored surface water in a ~~36-hour~~ 36-hour period. Annual inspection and maintenance of the dry well silting chamber is required.

3.5.3 Flood Control District

a. Floodplains

Floodplains shall be delineated on the plat (if applicable). Where delineated floodplains are shown, the following statement shall appear on the plat: "The Flood Insurance Rate Map (FIRM) information provided herein is based upon the maps published by the Federal Emergency Management Agency (FEMA) in effect at the time this plat was recorded. Note that newer versions of the FIRMs may have been published after the recordation of this plat."

b. Flood Zone

Indicate Flood Zone designation(s), FIRM panel number(s), community number, panel effective date(s) and index map date.

3.6 Other Information

During the course of staff review of the tentative plat additional information or notes may be required to carry out the purpose and intent of the Pinal County Subdivision Regulations.

CHAPTER 4 SPECIFICATIONS FOR FINAL PLAT

4.1 General Information

The final plat stage includes the final design of the subdivision, engineering plans for the public improvements and submittal of the subdivision improvement plans to the Pinal County Development Services Department. In addition to the requirements of [Title 3Article 4 in the current](#) Pinal County Subdivision Regulations, the following requirements apply.

4.2 Final Plat Format

4.2.1 The original of the ~~final~~ [Final plat](#) ~~Plat~~ shall be drawn in black suitable^[TW38] ink on polyester or mylar, and shall include all affidavits, certificates, endorsements, and acknowledgments. All signatures shall be signed in black suitable ink, with the ink surface coated with a suitable substance when used on polyester based film to assure permanent legibility. Copies of the record plat shall be reproduced in the form of blueline or blackline prints on a white background. [Copies submitted for review may be submitted digitally.](#)

~~**4.2.2** After approval by the Board and before recording of the final plat, subdivider shall submit the approved final plat on a floppy disk in an AutoCAD format.~~

~~The final plat shall contain the following items:~~

- ~~a. lot numbers,~~
- ~~b. lot lines,~~
- ~~c. street centerlines,~~
- ~~d. street names,~~
- ~~e. rights of way,~~
- ~~f. easements,~~
- ~~g. subdivision boundary,~~
- ~~h. bearings and distances.~~

~~**4.2.3**~~ **4.2.2** Where necessary the plat may be on several sheets. The size of each sheet shall be 24"x36" in size with a left margin of one and one-half (1½) inches and be drawn to an accurate scale not to exceed 100 feet to an inch.

~~**4.2.4**~~ **4.2.3** The subdivision boundary line, boundary lines of lots and common areas shall be drawn with a solid line. All easement lines and existing lot lines (if a replat) shall be shown with a dashed line. The subdivision boundary line width should be bolder (wider) than any other line on the plat.

~~**4.2.5**~~ **4.2.4** The number of sheets must be so noted at the bottom, right corner of each sheet comprising the final plat, i.e., "sheet _____ of sheet(s)".

~~4.2.6~~4.2.5 North arrow and scale (both written and graphic). Each sheet comprising the final plat should be oriented with north toward the top of the page, or the right and include a nNorth arrow on each sheet. The scale should be shown beneath the nNorth arrow. All text should be readable from the bottom and the right side of the sheet.

4.2.74.2.6 Cover Sheet

Every ~~final-Final plat-Flat~~ shall have a cover sheet either as a separate page or as part of the ~~final-Final platPlat~~. (See **Exhibit 3.1** for cover sheet format for Tentative & Final Plats) Said cover sheet shall contain the following:

- a. The name or title under which the subdivision is to be recorded. The name or title of the subdivision shall not duplicate the name of any existing subdivision. A replat cannot bear exactly the same name as its precedent subdivision. If a subdivision is recorded and subsequently re-recorded, the second plat must bear a slightly different name from the original (i.e. "replat of" in front of the subdivision name). Subdivisions platted separately but representing phases of a project can bear the same name, so long as the lot numbers are sequential, or the name is following by "unit" and a unit number only.
- b. Below the title shall be a sub-title consisting of a general description of all the property being subdivided, by reference to subdivisions or to sectional surveys.
- c. References to subdivisions shall be worded identically with original records, with references to the record name, record date and book and page, or cabinet and slide of the adjoining subdivision(s).
- d. Affidavits, certificates, acknowledgments, and endorsements, acceptances of dedication and ~~notaries~~Notaries' seals required by law and by this Manual.
- e. A vicinity map showing the proposed subdivision and surrounding subdivisions and streets located within a one-half mile radius of the boundaries of the proposed subdivision.
- f. A legend which describes s all symbols used.
- g. Planning ~~Department~~Division case numberss.
- h. Basis of bearings.
- i. Pinal County Recorder's Block required on the upper right corner for each page of the final plat. (See **Exhibit 3.1**)
- j. General Notes
- k. Benchmark
- l. Base Zoning & Zoning Case Number
- m. Location Map
- n. Approvals

- o. Declaration, Title Warrant and Dedication
- i.p. Developer, Owner and Engineer contract information

4.2.84.2.7 A title block shall appear on each of the remaining sheets comprising the ~~final~~ Final plat ~~Plat~~, if any, consisting of:

- a. The name of the subdivision.
- b. The number of lots, units, blocks or common areas (whichever is applicable).
- c. A brief legal description, including the ~~section~~ Section, ~~township~~ Township and ~~range~~ Range reference (G&SRB&M, Pinal County, Arizona). If the proposed subdivision is a replat of an existing subdivision, include full information on the replat, including which lots are being resubdivided. ~~Whenever possible, avoid using "a portion of..."~~

4.3 General Requirements

4.3.1 Planning ~~Department~~ Division

- a. Name, registration number, surveyor seal, and signature of the ~~land surveyor~~ or engineer ^[BB39] licensed and registered in the State of Arizona who is responsible for conducting the land survey and preparing the ~~F~~ final ~~P~~ plat. This shall be provided on each sheet.
- b. Name and registration number of the land surveyor licensed and registered in the State of Arizona who is responsible for the ~~engineering surveying~~ that is necessary in preparation of the proposed subdivision.
- c. Date of plat preparation⁷.
- d. Primary control points or descriptions and ties to such control point, to which all dimensions, angles, bearings, and similar data on the plat shall be referred, and where a coordinate system shall have been established by the County Engineer, primary control points shall have been referenced thereto; at least two corners of a subdivision shall be tied by bearing and distance to a section corner, a quarter section corner, or established city or county survey monument, and the final plat must include a description of the corner marker, and indicate how the bearings were determined.
- e. Any excepted lots or parcel(s) within the plat boundary shall be accurately described by bearings and distances. Proper street and alley dedications adjacent to any proposed tracts or excepted parcels shall be provided by the subdivider by inclusion within the plat or by separate dedication noted on the

plat.

- f. Location and dimensions of all lots shall be shown. Lot dimensions shall be indicated for at least one side lot line and either the front or rear lot line when lots are rectangular or square. If lots are not rectangular or square all lot line dimensions shall be indicated. Typical minimum setback lines shall also be located and dimensioned. Such lot dimensions, areas or building setback lines shall not be less than required by the County Zoning Ordinance or building line regulations applying to the property. Minimum finished floor elevations shall be indicated on all lots subject to inundation of a 100-year storm.
- g. All required "~~sight~~ Sight ~~visibility~~ Visibility ~~triangle~~ Triangle ~~easements~~ Easements" (SVTE) shall be indicated at street corners.
- h. Where a subdivision is part of a Planned Area Development (PAD), those standards approved by the Board shall be shown on the ~~final~~ Final ~~plat~~ Plat.
- i. All lots shall utilize a block and lot numbering system or be numbered consecutively throughout the plat. Exceptions such as tracts and private parks shall be so designated, lettered or named, and clearly dimensioned. Ownership and maintenance responsibilities for tracts and private parks shall be indicated on the plat.
- j. The accurate outline of all property which is offered for dedication for public use with the purpose indicated thereon and all property that may be served by deed covenant for the common use of the property owners in the subdivision.
- k. Identify all the uses and types of development proposed.
- l. Name, Book and Page Number or Cabinet and Slide Number, ~~or~~ or Fee # ~~Number~~ of adjacent recorded subdivisions with location of existing adjacent lot, easements and rights-of-way show, or notation "unsubdivided" where appropriate.
- m. Lienholders' ratification.
- n. Identify and label all required tracts by letter designation.
- o. Provide the area of each lot, tract and common area. The area of the common area may be shown in the general notes.
- p. For final approval, submit ~~three~~ one bond sets and one set of mylars and one electronic copy (multi-page PDF) when requested in writing by the Planning ~~Department~~ Division.

- q. Certification of survey with surveyor seal, signature, printed name, address and registration number of a land surveyor licensed and registered in the State of Arizona:

LAND SURVEYOR'S CERTIFICATION

I hereby certify that the survey and subdivision of the premises described and platted herein were made under my direction during the month of _____, _____, and this plat represents the survey made. I further certify all exterior boundary monuments shown hereon actually exist and their location, size and material are accurately shown and are sufficient to enable the survey to be retraced.

[Type in name, address & phone number] Date

Arizona Registered Land Surveyor, # _____ **[apply seal, also sign & date seal]**

- r. Agreement by owners of record that all lots will be staked and a certification of said staking filed with the Planning ~~Department~~Division prior to issuance of any building permit.

It is agreed that prior to the sale of any lot or the issuance of any building permits, whichever occurs first, all lots will be accurately staked and marked, as designated on this plat, and a certification filed with Pinal County by an Arizona registered land surveyor certifying such lots are accurately staked and marked, as designated on this plat, and describing the type of markers used.

- s. Dedication Requirements.

1. The following dedications are required, if applicable, for all subdivision plats.
2. All signatures shall be original and appear in black ink.
3. Dedications should be in substantially the standard language indicated below. Alternative language may be needed for exceptional circumstances.
4. Declaration statement.

DECLARATION, TITLE WARRANTY, AND

DEDICATION KNOW ALL MEN BY THESE

PRESENTS:

5. Statement of subdivision, including name of subdivision and legal description of property being subdivided.

[name of fee title owner], a **[Type of company and state of incorporation]**, as owner has subdivided under the name of **[name of subdivision]** located in **[legal description of subdivided property]** as shown platted hereon and hereby declares this plat sets forth the location and gives the dimensions of the lots, tracts, streets, and easements constituting same and that said lots, tracts and streets shall be known by the number, letter or name given each respectively.

6. Warranty of title for public streets and easements.

[name of fee title owner], a **[Type of company and state of incorporation]**, is the owner of fee title in: (A) the property being dedicated on this plat to the public for roadway purposes and all incidentals thereto; and (B) the property upon or across which easements are being dedicated on this plat to the public. **[name of owner]** hereby warrants to Pinal County, a political subdivision of the

State of Arizona, the title to such property against all persons, subject to all matters of record.

7. Warranty of title for easements only [when streets are private streets only].

[name of fee title owner], a **[Type of company and state of incorporation]**, is the owner of fee title in the property upon or across which easements are being dedicated on this plat to the public. **[name of fee title owner]** hereby warrants to Pinal County, a political subdivision of the State of Arizona, the title to such property against all persons, subject to all matters of record.^[BB40]

8. Dedication of public streets.

Streets shown on this plat are dedicated to the public for roadway purposes including, but not limited to, access, drainage, telecommunications and public utilities.

9. Dedication of right-of-way.

A total of _____ feet from the center line of **[insert name of road]** along the **[insert one: east, west,**

south, north] property line, as designated on this plat, is hereby dedicated as right-of-way (fee) to the public for roadway purposes including, but not limited to, access, drainage, telecommunications and public utilities.

10. Dedication of sight visibility triangle easement for public streets.

Right-of-way sight visibility triangle easements **as [CG41]** designated on this plat are hereby dedicated to the public at all intersections with a public street, 21' x 21' at local to local intersections and 33' x 33' at arterial or collector intersections with a public street.

11. Dedication of right of ingress and egress for emergency vehicles.

[name of fee title owner] hereby dedicates, grants and conveys rights of ingress and egress for all emergency vehicles and/or government vehicles over and across all private streets as designated on this plat.

12. Dedication of vehicular non-access easement when adjacent to public tracts, public drainage easements, tracts or facilities or adjacent to public arterial or collector streets.

As designated on this plat, one foot wide negative easements prohibiting vehicular ingress and egress are hereby dedicated to the public upon all lots adjacent to **public** drainage easements, tracts, or facilities and/or adjacent to **public** arterial or collector streets.

13. Drainage easement dedication to the public.

Non-exclusive drainage easements are hereby dedicated to the public upon, over, across and through **[tracts _____ and/or those areas designated as such hereon]**. No use shall be permitted within the drainage easements which would prohibit or interfere with the drainage use. Maintenance of the drainage easements shall be the responsibility of the **[insert name of homeowner's association]**. Should the association not adequately maintain the drainage easements, the governing entity having jurisdiction over the area in which the drainage easements are located, at its discretion, may enter upon and maintain the drainage easements, and charge the homeowners association the cost of the maintenance. All other easements are subordinate to the drainage easements.

14. Public utility easement dedication [BB42].

Public utility easements are hereby dedicated to the public upon, over, under, across and through those areas designated as such hereon for the installation, maintenance, repair, and removal of underground utilities, including, but not limited to, water, sewer, gas, electric, and telecommunications. Maintenance of the areas subject to such public utility easements shall be the responsibility of the lot or tract owner.

15. Water and/or sewer easements dedication [if not part of public utility easements]:

[select and insert: Water and/or sewer] easements are hereby dedicated to the public upon, over, under, across and through those areas designated as such hereon for the installation, maintenance, repair and removal of **[water/sewer]** lines. Maintenance of the areas subject to such easements shall be the responsibility of the lot or tract owner.

16. Signature block for owner(s).

IN WITNESS WHEREOF:

[owner's name], a **[Type of company and state of incorporation]**, as owner, has hereunto caused its name to be affixed and has executed this subdivision plat by the signature of the undersigned, duly authorized, this day of

_____, _____.

[INSERT NAME OF OWNER and type of company and state of incorporation]

By:
Title:

17. Acknowledgment block for owner(s).

ACKNOWLEDG

MENT STATE

OF)
) ss.
COUNTY OF)

On this __ day of _____, _____,
before me, the undersigned, personally appeared

_____ who
acknowledged himself/herself to be **[insert title of office held]** of, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed this plat for the purposes therein contained.

Notary Public

My Commission Expires

[Note: If a second and different company, corporation or partnership is the Manager for the owner, then the following acknowledgment will apply.]

STATE OF _____)
) ss.
COUNTY OF _____)

On this __ day of _____, _____,
before me, the undersigned, personally appeared

_____ who
acknowledged himself/herself to be **[insert title of office held]** of, a **[insert type of company and state of incorporation]**, and being authorized to do so on behalf of said entity, executed this plat for the purposes therein contained.

Notary Public

My Commission Expires

18. Ratification language (if applicable)

a) LIENHOLDER'S RATIFICATION

The undersigned is the holder of the beneficiary's interest under Deed of Trust dated _ and recorded on

_____, as instrument No. _____, in the official records of the County Recorder of Pinal County, Arizona, and does hereby ratify this plat this ____ day of _____, ____.

[Insert beneficiary's name], [insert type of company and state of incorporation]

By:
Title:

STATE OF)
) ss.
COUNTY OF)

On this ____ day of _____, _____,
before me, the undersigned, personally appeared ____
_____ who
acknowledged himself/herself to be **[insert title of
office held]** of **[insert beneficiary's name]**, a
**[insert type of company and state of
incorporation]**,¹ and being authorized to do so on
behalf of said entity, executed the foregoing
Ratification.

Notary Public
Expires

My Commission

**[Note: If a second and different company,
corporation or partnership is the Manager for the
beneficiary, then the following acknowledgment
will apply.]**

STATE OF)
) ss.
COUNTY OF)

On this ____ day of _____, _____,
before me, the undersigned, personally appeared ____
_____ who acknowledged himself/herself to be
[Title of office held] of **[name of second entity]**,
a **[insert type of company and state of
incorporation]**, as **[Manager]** for
[beneficiary's name], a **[insert type of
company and state of incorporation]**, and being
authorized to do so on behalf of said entities,
executed the foregoing Ratification.

Notary Public
Expires

My Commission

b) LIEN HOLDER'S RATIFICATION

_____, a **[insert type of
company and state of incorporation]**, holds a lien
on the real property identified in this plat by **[identify**

lien instrument] and does hereby ratify this plat this _____ day of _____, .

name and type of company and state of incorporation],

By:
Title:

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, _____,
before me, the undersigned, personally appeared _____
_____ who acknowledged himself/herself to be
[insert title of office held] of **[INSERT name of lien
holder NOT the landowner]** , a **[insert type of
company and state of incorporation]**, and being
authorized to do so on behalf of said entity, executed
the foregoing Ratification.

Notary Public
Expires

My Commission

c) RATIFICATION BY HOLDER OF OPTION TO PURCHASE

_____, a **[insert type of
company and state of incorporation]**, holds an
option to purchase certain real property identified in
this plat and does hereby ratify this plat this _____ day
of __, _____.

[name]

By:
Title:

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, _____,
before me, the undersigned, personally appeared
_____ who
acknowledged himself/herself to be **[insert title of
office held]** of
_____, a **[insert type of company and state
of incorporation]**, and being authorized to do so

on behalf of said entity, executed the foregoing

Ratification.

Notary Public
Expires

My Commission

d) [Ratification by holder of an equitable interest]

RATIFICATION

_____, a
[insert type of company and state of
incorporation], holder of an equitable interest in the
real property identified in this plat by [Superior Court
Case No. _ and Lis Pendens thereon], does hereby
ratify this plat this ____ day of _____.

[insert company name of lien holder and
insert type of company and state of incorporation]

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:

STATE OF _____)
COUNTY OF _____) ss.

On this __ day of _____,
before me, the undersigned, personally appeared

_____, who
acknowledged himself/herself to be [insert title of
office held] of, a [insert type of company and state
of incorporation], and being authorized to do so on
behalf of said entity, executed the foregoing
Ratification.

Notary Public

My Commission Expires

Notary Public
Expires

My Commission

19. Requirements and Notes.

The following are required, if applicable, for all subdivision plats. In addition these requirements must be set forth as notes on all plats. Notes should be in substantially the standard form below. Alternative language may be needed for exceptional circumstances.

- a) Assured Water Supply Certificate in accordance with A.R.S. § 45- 576.

[insert Owner's name] has received a Certificate of Assured Water Supply for this subdivision pursuant to A.R.S. § 45-576, and submits said Certificate with this plat.

[OR]

This subdivision is within the service area of **[name of water supplier]** which has been designated as having an assured water supply pursuant to A.R.S. § 45-576. A commitment to supply water service to this platted subdivision has been received from said company as evidenced by, a copy of which is submitted with this plat.

- b) Private Streets Dedication.

Streets shown as Tract(s) ____ are private and shall be granted and conveyed to the **[name of homeowner's association]** for roadway purposes including, but not limited to, access, drainage, telecommunications and public utilities.

- c) Private Streets/Sight Visibility Triangle Easement.

Right-of-way sight-visibility triangle easements, as designated on this plat, shall be granted and conveyed to the **[insert name of homeowner's association]** where private streets intersect into private streets, 21' x 21' at private local to local intersections and 33' x 33' at private arterial or collector intersections.

- d) Vehicular non-access easement. As designated on this plat, one foot wide negative easements prohibiting vehicular ingress and egress shall be granted and conveyed to the **[name of homeowners' association]** upon all lots adjacent to private drainage easements or facilities and/or adjacent to private arterial streets or collector streets.

- e) Trees, objects, structures, and landscaping within the right-of-way sight-visibility triangle easement.

No trees are permitted within the right-of-way sight-visibility triangle easements and no temporary or permanent object, structure or landscaping shall exceed twenty-four inches in height within the right-of-way sight-visibility triangle easements.

f) Common Areas.

Tracts _____ are common areas which shall be granted and conveyed to and maintained by the **[name of homeowner's association]**, an Arizona non-profit corporation.

g) Structures in drainage easements.

No structure shall be constructed in nor shall other improvements or alterations be made to the storm water retention areas or to drainage easements without prior approval by Pinal County.

h) Storm Water Retention.

The storm water retention volumes required by the Pinal County Drainage Ordinance have been met and the overall gross retention volumes will not be changed without prior approval by Pinal County. Maintenance of the areas subject to storm water retention shall be the responsibility of the lot or tract owner.

i) Underground utilities.

All new or relocated utilities shall be placed underground.

j) Street Lighting/Landscaping.

Maintenance of all street lighting and landscaping within the common area(s) and the street rights-of-way shall be the responsibility of the **[name of homeowner's association]**.

k) Subdivision streets permits/inspections.

All subdivision streets, whether public or private, and work within the subdivision streets and within public rights-of-way require permits from and inspections by Pinal County.

20. Utilities trench work.

All trench work within public utility easements require permits from and inspections by Pinal County.

21. Building Setbacks.

On all lots the owner and/or developer shall ensure that residential dwellings can fit within the building setbacks including bay windows, fireplaces, porches, covered patios, etc.

22. Fire Code ~~(if applicable)~~

This subdivision is subject to the requirements of the International Fire Code, as adopted by Pinal County and administered by the Pinal County Building Safety ~~Department~~Division.

23. Agricultural Spray Easement (if applicable)

This subdivision is subject to an agricultural spray easement recorded by fee No. ., in the official records of the County Recorder of Pinal County, Florence, Arizona.

24. School/Day Care (if applicable)

No school or day care centers shall be located within 1/4 mile of land in agricultural production requiring aerial spraying.

25. Model Homes (if applicable)

There will be a model complex, as an accessory use, on lots ____ through ____ inclusive. Lot _____ will be a sales center. Lot ____ will be a parking area, and lot _____ will be overflow parking. Lots shall be landscaped in conjunction with the parking. Upon completion of the site's use as a model complex, all lots will revert to residential units (upon build-out).

26. On-lot retention (if applicable on an acre size lot, or larger).

All lots in this subdivision require on-lot retention pursuant to the volume table on the plat.

27. Flight/noise (if applicable)

This subdivision is in the vicinity of the flight pattern/noise corridors of the [insert name of airport] and in the future may continue to be within the flight pattern/noise

corridor of the said airport.

28. State land/Indian land (if applicable)

This subdivision is adjacent to **[Arizona state land/Indian Community land]**, which may be developed for any possible land use in the future.

29. CC&Rs

Covenants, conditions and restrictions were recorded on **[insert recording date]** ~~in docket~~ at ~~page(s)~~ by ~~fee~~ number _____ in the official records of the County Recorder of Pinal County, Arizona.

30. APPROVALS

This plat has been approved as to form by:

Pinal County Planning ~~& Development Services~~ Division Date

Pinal County ~~Environmental Health~~ Aquifer Protection Division
Date

Pinal County Engineer Date

Assurances in the form of _____
have been submitted to Pinal County with this plat to
guarantee installation of all required major infrastructure
for this project.

This plat has been approved as to form in accordance with
A.R.S. § 11-~~806-01822~~, this __ day of _____, _____.
Approval or recordation of this plat shall not be deemed to
constitute or effect an acceptance by Pinal County for
designation of any street, highway, bicycle facility or other
way or open space shown upon this plat into the County
maintenance system.

PINAL COUNTY BOARD OF SUPERVISORS

By: _____

ATTEST: _____

Chairman

Clerk

31. Full Approval and Acceptance: The Board of Supervisors of Pinal County, Arizona, hereby approves this plat as to form in accordance with applicable Arizona statutes and

Chairman of the Board _____ Date _____

Clerk of the Board Date

- ## RECORDING

I hereby certify that this instrument is filed at the
request of _____ on this ____
day of __
, 20____, ~~in Book ____ of Maps and Plats at Page~~by fee number
_____ thereof at
[name]
County Recorder

Deputy

- a.** Tract boundary lines, right-of-way lines of streets, easements and other rights-of-way, and property lines of all lots, common areas and other sites; with accurate dimensions, bearings or deflection angles and radii, arcs, semi-tangents and central angles of all curves.
- b.** Names, centerlines, right-of-way lines, bearings, lengths and widths of all streets (public or private) and utility easements, radii, points of tangency and central angles of all curvilinear streets, and radii of all rounded street line intersections and identify as public or private.

- c. All drainage ways shall be shown on the plat and identified as public or private and designate as onsite or offsite drainage.
- d. Location and description of all permanent monuments, lot corners and other survey points in place.
- e. Show and label all drainage easements and drainage ways with appropriate dimensions and bearings, width, purpose and recording information, and identify as public or private. Major drainage ways may be dedicated to the public upon recommendation of the County Engineer and with Board approval.
- f. All tracts, easements, and drainage ways designated as private shall be maintained by the ~~home~~ Home owners' Owners' association Association.
- g. Signatures shall be in permanent black ink.
- h. Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend approximately 100' beyond property boundary.
- i. Vicinity map showing proposed subdivision and surrounding subdivisions and streets located within a ½ mile radius.
- j. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- k. ~~Property line minimum radii shall be: 25' or 5033' (for all~~ Property line minimum radii shall be: 25' or 5033' (for all ~~arterial intersections~~ with arterials). [CG43]
- ~~k. —~~
- l. The minimum right-of-way widths shall be: ~~enhanced parkways — 300' ROW; p~~ enhanced parkways — 300' ROW; p ~~major arterials - 150' ROW; minor arterials (section lines) - 110' ROW; major collectors (mid-section lines) - 80' ROW; minor collectors - 60' ROW; and local streets - 50' ROW~~ major arterials - 150' ROW; minor arterials (section lines) - 110' ROW; major collectors (mid-section lines) - 80' ROW; minor collectors - 60' ROW; and local streets - 50' ROW [BB44]. (See Exhibits contained in this manual for illustrations)
- m. Intersection spacing along an arterial shall be approximately every 1,320' (1/4 ~~mile~~ mile [BB45]), or as specified in the most recent RSRSM Document.

- n. Avoid street jogs with centerline offsets of less than 135'. Collector or another arterial street intersecting with an arterial street should align if possible or meet the minimum requirement for spacing along an arterial.
- o. Local streets are not permitted to intersect with an arterial street.
- p. Residential lots shall front only local streets.
- q. Intersections shall intersect at right angles if possible, but no less than 75 degrees.
- r. Maximum length of a cul-de-sac is 500 ft. (measured from the centerline of the intersecting street to the radius point of the turnaround). Minimum right-of-way radius for a cul-de-sac and its returns shall be 50'.
- s. Plat shall show all locations, dimensions, and purposes of any existing and proposed easements and right-of-ways.
- t. Show surrounding land around subdivision to include, but not limited to, existing right-of-ways, existing easements, existing plats and other properties.
- u. Show Public Utility Easements (PUE) - minimum 8' wide. PUES^[BB46] are to be located in tracts outside the rear and side of all lots.
- v. Survey monuments are required at all street intersections and at the PCs and PTs of all curves.

4.3.3 Flood Control District

a. Floodplain

Floodplains shall be delineated on the plat (if applicable). Where delineated floodplains are shown, the following statement shall appear on the plat: "The Flood Insurance Rate Map (FIRM) information provided herein is based upon the maps published by the Federal Emergency Management Agency (FEMA) in effect at the time this plat was recorded. Note that newer versions of the FIRMs may have been published after the recordation of this plat."

b. Flood Zone

Indicate Flood Zone designations(s), FIRM panel number(s), community number, panel effective date(s) and index map date.

4.4 Legal Survey

The ~~F~~final ~~P~~plat shall be based on an A.L.T.A./A.C.S.M. ~~title~~Title ~~survey~~Survey of the subdivision and shall conform to the conditionally approved ~~tentative~~Tentative ~~plat~~Plat by the Commission, and the requirements and

specifications of this manual, other applicable county ordinances and regulations, and applicable state and federal regulations.

(Pinal County does not have published benchmarks. If you are unable to find reliable National Geodetic Survey (NGS) benchmarks in the area you are working, Pinal County Survey suggests following the instructions for establishing ellipsoid heights found in NGS document NOS NGS-58 and establishing orthometric heights found in NGS document NOS NGS-59.)

4.4.1 Section Corners

Two (2) corners of the ~~final-Final subdivision~~ Subdivision ~~plat-Plat~~ [BB47] shall be tied by bearing and distances to a separate section corner, quarter section corner or established city or county survey monument, as designated by the County Engineer. Additional data required as follows:

- a. The survey ties shall be shown on the ~~Final-Subdivision~~ [BB48] Plat and be ground measured bearings and distances. Pinal County will provide descriptions and coordinates of the control monuments for the section in which the subdivision is contained. Contact Pinal County Public Works GIS Section [TW49]. Refer to the Pinal County Control Network on the Pinal County Public Works Website [TW50].
- b. If monumentation of any existing Section Corner or Quarter Section Corner is other than a G.L.O. Brass Cap or Pinal County Cap, it may be replaced, at the expense of the Subdivider, under the supervision of a Land Surveyor, registered in the State of Arizona, with an Aluminum Cap or Brass Cap provided by Pinal County. Provide detail on Plat of all monumentation stamped per Arizona Boundary Survey minimum standards.
- c. All surveys shall be conducted as per the Arizona Board of Technical Registration Minimum Standards for Boundary Surveys.
- d. Any Section Corner or Quarter Section Corner monumentation disturbed or destroyed during construction of the subdivision or off-site improvements shall, at expense to the Subdivider, be replaced under the supervision of a Land Surveyor registered in the State of Arizona, with a monument provided by Pinal County. Provide detail on Plat of all monumentation stamped per Arizona Boundary Survey minimum standards.
- e. All Section Corner and Quarter Section Corner monuments set shall be marked with appropriate Corner information, ~~with Registered Land Surveyor's license number per Arizona~~

Boundary Survey minimum standards.

- f. The subdivider shall, at his or her own expense, provide to Pinal County NAVD 88^[TW51], State Plane, Arizona Central coordinate values ~~to Pinal County~~ in the form of a ~~spreadsheet~~ recorded Arizona Land Survey Corner Record, sealed by a Land Surveyor registered in the State of Arizona for any Section Corner or Quarter Section Corner set utilizing the following fields and precision:
- Latitude/Longitude to 5 decimal places,
 - Northing/Easting to 3 decimal places,
 - Elevation to 2 decimal places,
 - A point description.
- g. All Final Subdivision^[BB52] Plats shall be submitted in NAVD 88, State Plane, and Arizona Central data in the form of a recorded Arizona Land Survey Corner Record.
- Northing/Easting to 3 decimal places,
 - Elevation to 2 decimal places,
 - A point description.

4.5—General Notes

4.5.1—Planning Department

- ~~a. The gross area of the subdivision is _____ acres.~~
- ~~b. Zoning Information:~~
- ~~Zoning is _____. (If more than one zone is involved, provide the number of acres within each zone, and identify the lots within each zone.)~~
- ~~c. Provide a tract/parcel table stating the number of square feet (or acres) of parks, recreation areas, drainage ways, open space and all other proposed non-residential uses.~~
- ~~d. The number of lots is _____.~~
- ~~e. Minimum lot size is _____.S.F.~~

CHAPTER 5 GENERAL REQUIREMENTS FOR IMPROVEMENT PLANS

5.1 General Information

Proposed development projects that involve construction of any infrastructure improvements (streets, grading and drainage facilities, utilities, etc.) are required to submit improvement plans and supporting reports to [Pinal Countythe Public Works Department](#)^[BB53] for review, approval and permitting. This chapter describes the general requirements for all plans prepared for subdivision and infrastructure improvements in Pinal County. Other improvement plan requirements that are specific to the type of improvements proposed are identified in other chapters of this manual.

5.1.1 Improvement Plan Submittals

— [A.](#) The improvement plans submitted to Pinal County for County Approval shall adhere to professional standards for submittal of complete improvement plans for construction. Improvement plans shall include all details, technical and drainage reports etc.

— [I](#) Improvement plans that do not meet the professional standards or are incomplete will be returned by the County Staff without review comments and be classified as the subdivision's first submittal.

[B. Improvement plans may be submitted digitally.](#)

5.2 General Requirements^[TW54]

5.2.1 Civil Engineering Standards: Pinal County uses the [adopted](#) Uniform [Standard](#)^[TW55] Specifications and Details for Public Works Construction as published by Maricopa Association of Governments (MAG) engineering standards for construction of public infrastructure, [the US Department of Transportation, Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways, the Standard Specifications for Road and Bridge Construction, Arizona Department of Transportation and the State of Arizona Department of Transportation Signing and Marking Standard Drawings.](#)

5.2.2 Document Size: Improvement plans shall be on 24" x 36" sheets with blue or black line types with a minimum of a 1 ½" left border and a ½" border on other sides.

Reports: All supporting or supplement reports shall be letter sized (8.5" x 11"). Any larger maps included within the reports are to be folded to letter size and bound or provided in a folder.

5.2.3 Final Approval Submittal: Improvement plans submitted for final approval shall be original 4 mil grade Mylar drawings. Plan submittals shall consist of one (1) Mylar cover sheet ~~and three (3) bond copies, one (1) bond copy and an electronic copy (multipage PDF).~~ [The County Engineer may authorize "protected" PDF submittal in lieu of mylars.](#)

5.2.4 Sheet Orientation: Plans shall be oriented with north towards the

top or right of each sheet. A North arrow and scale (both written and graphic) shall be provided. All text should be readable from the bottom and the right of the sheet.

*Subdivision & Infrastructure Design
Manual*

~~5-1~~

- 5.2.5** Text Designation: Minimum lettering and numbering size shall be 3/16" for manually drafted or ~~12-point~~12-point font for mechanically/electronic produced letters, numbers and symbols. Lettering, numbering and line work must be uniform and with clear definition to be retrievable after microfilming.
- 5.2.6** Improvement Plan Designation: Separate improvement plans shall be provided for the following:
- a. Paving and Storm Drain Improvements shall be on the same sheet.
 - b. Water system improvements
 - c. Sanitary sewer improvements
 - d. Grading and Drainage improvements
 - e. Traffic Signalization
 - f. Traffic Signing and Pavement Marking improvements
 - g. Open space, Recreational Amenities, Landscape and Irrigation improvements^[TW56]
 - h. Streetlight and Electrical improvements
 - i. Reclaimed Water
 - j. Force Mains^[BB57], Lift Stations, Pump stations and other water/waste water infrastructure
- 5.2.7** Drawing Scales: The following are standard minimum drawing scales to be used for improvement plans submitted to Pinal County. Note: The Engineer shall take into account when selecting drawing scales, line weights and lettering size that the improvement plans may be photocopied, microfilmed or digitally scanned. Depending on the complexity of the design, a larger scale maybe required.
- a. Grading: 1" = 40' Horizontal.
 - b. Water and Sewer: 1" = 40' Horizontal
1" = 4' Vertical
 - c. Paving and Storm Drain: 1" =

40'
Horizontal 1"
= ~~2'~~4'
Vertical

- d. Traffic Signalization: 1" = 20' Horizontal
- e. Traffic Signing and Pavement Marking: 1" = 40' Horizontal
- f. Landscape and Irrigation: 1" = 30' Horizontal

- 5.2.8** All existing topography shall be screened. This will typically include existing contours with adequate spot elevations to show drainage, existing aerial and underground utilities, existing irrigation facilities, adjacent land uses, city limits, county limits where applicable, ~~100-year~~Year floodplain~~Floodplain~~, flood elevations and floodway limits where applicable.
- 5.2.9** Plans shall show existing and proposed right of way, easements and property lines. Dimensions of these shall be clearly indicated.
- 5.2.10** New construction line work and construction notes shall be sufficiently heavier than existing topography so as to allow it to be quickly and clearly identified.
- 5.2.11** Grade breaks shall be clearly shown with the applicable symbol on the plan and/or profile sheets.
- 5.2.12** “Blue Stake^[BB58]” [\(Arizona 811\) underground utility](#) notification shall be provided on each sheet.
- 5.2.13** An individual cover sheet with the following information is required for each type of improvement plan.
- a. Project heading block indicating name of project, type of plans. (Title to be consistent with the Final Plat)
 - b. Below the heading include the words “Pinal County, Arizona”.
 - c. Title Blocks: All plan sheets shall note the project’s title or address in a title block on the sheets lower right hand corner. Project addresses may be located either along the bottom of the sheet, or the right hand side of the sheet.
 - d. Developer’s name, address, telephone number and contact person.
 - e. Engineer’s name, address, telephone number and contact person.
 - f. Engineer’s seal with signature and date. (Provided on each sheet).
 - g. Vicinity Map indicating the general location of the project with major arterial streets labeled and geographic orientation.
 - h. Provide the Section, Township and Range data.
 - i. Basis of bearings and benchmark (NAVD 88 datum).
 - j. Sheet Index.
 - k. County Case number (S-000-00) at the lower right hand corner.

I. Estimate of Quantities for all improvements.

- m. Legend for symbols, abbreviations, grades and lines, etc.
- n. Fire Department and Utility Company approval with and signature block for Water, Sewer and Natural Gas. (Proof of Approval required prior to County approval)
- o. Arizona Department Environmental Quality (ADEQ) approval block on Water and Sewer Improvement plans. Approval required prior to County approval.
- p. Provide Pinal County Engineer

Approval Block APPROVED BY:

 PINAL COUNTY ENGINEER
 COUNTY, DEPARTMENT OF PUBLIC
 WORKS

 DATE PINAL

APPROVAL EXPIRES:

 DATE

Δ *RE-APPROVED BY:

 PINAL COUNTY ENGINEER
 PINAL COUNTY, DEPARTMENT OF PUBLIC
 WORKS

 DATE

APPROVAL EXPIRES:

 DATE

- q. Provide an-As-Built Record Drawing Certification Statement on the plans as follows:

AS-BUILT RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

 REGISTERED ENGINEER/LAND SURVEYOR

 DATE

~~5.2.14 Checklists: Application forms and checklists are available at Public Works Development Review Section for current or up-to-date plan/plat checklist.~~

5.3 Registrants Seal and Signature

The County requires that all improvement plans, specifications and reports submitted for review shall be sealed in accordance with the requirements of the Arizona State Board of Technical Registration.

5.4 Plan Sheets

Improvement plans for ~~Public Works~~proposed construction shall consist of standard plan only sheets or standard plan and profile sheets. Plan sheets shall provide the following:

- 5.4.1** Professional Seal: Each sheet shall be sealed, signed and dated in accordance with the Arizona Board of Technical Registration requirements.
- 5.4.2** Title Blocks: All plan sheets shall note the project's title or address in a title block on the sheets lower right hand corner.
- 5.4.3** Dimensioning: Pinal County requires that all existing and proposed improvements shall be dimensioned in accordance with the following:
 - a.** All plan sheets showing street improvements or dedicated rights-of-way shall be dimensioned per MAG Standard Detail 112.
 - b.** All plan sheets showing the construction of utilities or existing utilities shall also dimension the utilities using the format of MAG Standard Detail 112.
 - c.** All plan sheets showing the construction of utilities within an easement shall dimension the overall width of the easement, the offset of the proposed or existing utilities from the centerline or edge of the easement.
- 5.4.4** Horizontal Control
 - a.** The origination point of all position systems shall be based on an established survey point or monument and identified on the plans.

- b. Position systems shall be designed to proceed from South to North, West to East, left to right.
 - c. All plan sheets shall be stationed in 100-foot intervals minimum.
- 5.4.5 Symbols: Symbols noted on the plan sheets shall be per MAG Standard Detail 110. Special symbols not represented on MAG Standard Detail 110 may be used provided the symbol representation is identified.
- 5.4.6 Construction Notes: Construction notes for all new construction shall be noted on each plan sheet.
- 5.4.7 Required Information to be Shown on Plans:
 - a. Existing and proposed rights-of-way shall be shown and dimensioned.
 - b. Projects that are adjacent to corporate limits of municipalities shall delineate the location of the corporate limits and identify the jurisdictions on all applicable sheets.
 - c. Plans shall differentiate between the existing and proposed improvements and show all the existing conditions.
 - d. Plans shall show all existing utilities complete with line sizes, types (water, sewer, gas, etc) and locations.

5.5 Plan and Profile Sheets

- 5.5.1 Plan and profile sheets are required for the following:
 - a. All parkway, arterial, collectors, local streets and access road paving and storm drain improvement plans. Provide separate profiles for left curb or left edge of pavement, right curb or right edge of pavement and the centerline.
 - b. Waterline improvement plans for construction with size twelve (12) inches in diameter or greater.
 - c. All sanitary sewer improvement plans.
 - d. All storm drain improvement plans.
 - e. All reclaimed water line improvement plans [CG59].
 - e.f. If required by the Planning Division, any other utility plan.
- 5.5.2 The profile shall indicate elevations and the stationing grid clearly.
- 5.5.3 The profile of the existing surface shall be shown with the proposed

construction line work and construction notes (i.e. elevations, slopes, grade breaks).

- 5.5.4** The existing and proposed utility crossings shall be shown in the profile view. Utility conflicts and design resolutions shall be noted in all the appropriate profiles.

5.6 Detail Sheets

Supplement sheets that depict special construction details required to clarify some aspect of the proposed improvements.

- 5.6.1** Professional Seal: Each sheet shall be sealed, signed and dated in accordance with the Arizona Board of Technical Registration requirements.
- 5.6.2** Standard Details: MAG Standard Details are not to be included on the detail sheets unless the Detail is being modified. The modifications shall be clearly identified and the detail shall be titled "Modified MAG Detail."

5.7 Technical Reports

The following reports shall be submitted with each subdivision project.

5.7.1 Traffic Impact Analysis (TIA)

Developers shall be required, at the time of final plat submittal, to ^[CG60] submit a final-Final Traffic Impact Analysis for review and approval. Analysis shall be prepared in accordance with the Pinal County TIA Guidelines & Procedures, the Pinal County Regionally Significant Routes for Safety and Mobility and the Pinal County Access Management Manual. Recommendations provided in the approved Traffic Impact Analysis must be reflected in the improvement plans. Any previously approved agreements for installation of improvements recommendations shall be submitted with the TIA.

5.7.2 Geotechnical Report

Developers shall be responsible to submit a geotechnical report with street construction plans indicating "R" value, sieve analysis, plastic index of the subgrade and street structural cross section design. The design engineer is responsible for investigating and evaluating the existing pavement structure. -Equivalent Single Axle Load (ESALS)^[TW61] factors shall be obtained from ADOT's "Materials Preliminary Engineering and Design Manual" - Appendix A: Traffic Data Procedures and Analysis. The existence or absence of fissures on or adjacent to the proposed development shall be noted within the report. Existing fissures shall

be addressed with all mitigating measures noted. Recommendations provided in the approved Geotechnical Report must be reflected in the improvement plans.

5.7.3 Drainage Report

Developers shall be required, at the time of final plat submittal, to submit a final Drainage Report for review and approval. The report shall be prepared in accordance with the current Pinal County Drainage Ordinance, [Drainage Manual](#) and Pinal County Floodplain Management Ordinance^[BB62].

5.7.4 [Phase 1 Environmental Report](#)^[BB63] [\(or equivalent as approved by the Community Development Director\)](#)^[TW64]

Developers shall be responsible to submit for review an Environmental Report that addresses the following:

- a. Provisions for a supply of adequate and safe drinking water for all lots and land tracts.
- b. Provisions for adequate sewage disposal for all lots must be assured. The use of individual sewage disposal systems are discouraged.
- c. Provisions for the collection and disposal of solid waste generated by the development.
- d. [Information regarding Air Quality and if located in a non-attainment area.](#)
- e. [Information regarding Cultural Resources](#)
- f. [A report utilizing the Environmental Review Tool from the Arizona Game and Fish Department](#)
- e.g. [A statement if a Phase 2 study is recommended based on findings](#)

5.8 Plan Review Comments

All plan review comments (**Redlines**) shall be corrected or clarified. If there is a discrepancy ~~with a review concerning a redline~~ comment, contact the County plan review staff. The redline set of plans shall be returned with the next improvement plan submittal. Include a separate redline correction response letter addressing each comment and correction measure provided. The letter shall address each comment with plan sheet location noted, along with the applicable resolution of the comment.

Failure to identify all of the changes shall result in the return of the plans with an additional review required and shall require additional fees based on the approved Public Works Department ^[TW65] ~~fee~~ Fee schedule Schedule.

5.9 Approval of Plans ^[TW66]

5.9.1 When the improvement plans meet the requirements for approval in accordance with Article 8 of the Pinal County Subdivision Regulations, the original mylar cover sheet will be requested. With the submittal of the original mylar cover sheet include ~~three-one~~ (31) full size bond sets of plans, an electronic copy (multipage PDF) and an Engineer's Opinion of Probable Cost. Prior to County Engineer signature all applicable reviewing agencies shall have signed the cover sheet. If an agency does not sign the cover, a letter of their approval shall accompany the cover sheet and the letter date and signing party noted on the cover sheet. Plan approval is valid for one year from date of signature. If construction has not begun prior to the plan approval expiration date the plans become void. A re- approval of the construction plans are required and applicable plan review fees will apply.

5.9.2 The ~~Public Works Department~~ County will review all such plans and specifications and may require revisions therein to comply with standards and specifications of these regulations and other applicable laws and ordinances. After the completion of revisions, the County Engineer may require that the Engineer's Cost Estimate be revised to reflect such revisions. The County Engineer shall only approve said plans and drawings if the improvements indicated are found to be in conformance with the standards and specifications of these regulations and other applicable laws and ordinances. Said approval shall be in writing.

5.10 As-Built Plans (Record Drawings)

As-Built Plans shall be prepared in accordance with Chapter 14 of this Manual ^[TW67].

CHAPTER 6 STREET DESIGN REQUIREMENTS

6.1 General Information

6.1.1 This chapter describes the geometric requirements for any public and private street classification: arterial, collector, local and all-weather access roads. The minimum requirements described herein are primarily based on safety considerations; therefore, standards that provide a greater degree of safety may be used.

6.1.2 Civil Engineering Standards: the most current Uniform Standard Specifications and [TW68] Details for Public Works Construction as published by Maricopa Association of Governments (MAG) engineering standards for construction of public infrastructure, the US Department of Transportation, Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways, the Standard Specifications for Road and Bridge Construction, Arizona Department of Transportation and the State of Arizona Department of Transportation Signing and Marking Standard Drawings. Chapter 10 of the Maricopa County Department of Transportation (MCDOT) Roadway Design Manual.

~~**6.1.2** The American Association of State Highway and Transportation Officials (AASHTO) policies on highway design and the Manual on Uniform Traffic Control Devices (MUTCD) prepared by the U.S. Department of Transportation are approved references and shall be used together with this manual and the MAG Uniform Standard Details.~~

6.2 Street Improvements

6.2.1 All subdivision projects within the County shall provide a paved interior street system adequate to ensure that all lots, tracts, parcels, or facilities within the subdivision shall have improved access to the balance of the public street system. Subdivider shall provide access into the subdivision for public service and/or emergency operations.

6.2.2 The subdivider is responsible for construction of all street improvements along the subdivision's frontage to the ultimate grade and alignment for the said perimeter street. This shall include the removal and replacement of the existing street surface to the centerline. Roadway Improvements, utilities, street lighting, landscaping and relocation of overhead and irrigation facilities will be required at the sole expense of the subdivider.

6.2.3 A Paved All-Weather Public Access Road shall be installed for legal ingress and egress to the subdivision or private development from a paved public roadway as required by the County Engineer.

6.3 Street Classifications

- 6.3.1 Pinal County has ~~five~~seven basic classifications of streets for use relating to subdivision development. The location and street classification is determined as part of the site planning and platting process. The County Engineer will review each tentative plat and will specify any changes needed to conform with previously planned and approved street alignments. The County Engineer will also specify the classification for each street involved in the tentative plat. Refer to **Exhibit 6.2** for Street Cross Sections. All subdivisions shall provide for public arterial and collector streets at their normal alignments and as determined by the County Engineer.

~~Enhanced Parkway: Enhanced Parkways provide uninterrupted, high-volume mobility with limited access to adjacent areas and may include a mixture of intersections and interchanges.~~

a. ~~Parkway: Parkways provide uninterrupted, high-volume mobility with fewer grade-separated traffic interchanges than enhanced parkways.~~ The standard cross section for a principal and minor arterial is shown in Exhibit 6.2.

a.b. Arterial Street: Arterial streets provide regional continuity and carry large volumes of traffic between areas of the County and through the County.

The normal alignment for an ~~arterial~~Arterial roadway Roadway is along a section line. The standard cross section for a ~~major~~Principal and ~~minor~~Minor arterial Arterial is shown in **Exhibit 6.2**.

b.c. Collector Street: Collector streets provide direct access to abutting land uses, handle local traffic and provide access to the arterial street system. The normal alignment for a ~~major collector~~Collector roadway is along a mid- section line. The standard cross sections for major and minor collector streets are shown in **Exhibit 6.2**.

c.d. Local Street: Local streets provide direct access to abutting land uses and handle local traffic. Local ~~streets~~Streets will not be connected to arterial streets. Local ~~streets~~Streets provide access to the collector street system. The standard cross section ~~for a local street and low density local streets are~~is shown in **Exhibit 6.2**.

d.e. Low Density Local Street: Low ~~density~~Density local Local streets Streets will not be connected to arterial streets. Low ~~density~~Density local Local streets Streets provide access to the collector street system. Low Density ~~local~~Local streets Streets are for subdivisions with a lot size of not less than 1.0 acre or greater than 3.33 acres. The standard cross section for a Low Density ~~local~~Local street Street is shown in **Exhibit**

6.2.

- e.f.** Paved All-Weather Public Access Road: A roadway that connects the subdivision or private development to an existing paved public street. The access road shall be within dedicated public right-of-way with a minimum pavement width of 28 feet to accommodate two-way traffic. The standard cross section for a paved all-weather public access road is shown in **Exhibit 6.2**.

6.4 Subdivision Street Planning

Subdivision street plans should provide the minimum number of intersections and wash crossings, and discourage through traffic.

- 6.4.1** All streets shall conform to the Pinal County Comprehensive Plan, County standards, related transportation studies, specifications and requirements, and with due consideration to their relation to existing and other planned streets. This shall also include topographical conditions, surface drainage in and through subdivisions, public convenience and safety, and appropriate relation to the proposed uses of the land to be served by such streets. Where not shown in the Pinal County Comprehensive Plan, arrangement and other features of the streets shall provide for appropriate continuation of existing arterial and collector streets in surrounding areas where essential for circulation and access to community facilities.
- 6.4.2** Street configuration shall conform to the Traffic Impact Analysis and as approved by the County Engineer.
- 6.4.3** The subdivider may be required to provide additional right-of-way for local service or access along major streets, or other treatment to provide local access to residential properties.
- 6.4.4** Along a railroad right-of-way or limited access highway right-of-way, a parallel street may be required at a distance suitable for appropriate use of the intervening land, such as for park purposes in residential districts or for commercial or industrial purposes in appropriate locations; such distances also to be determined with due regard for their requirements of approach grades and future grades separation as approved by the County Engineer.
- 6.4.5** Provisions shall be made for railroad and other public or private utility crossings necessary to provide access to or circulation within the proposed subdivision, including the obtaining of all necessary permits from the public or private utilities involved, and any regulatory agencies having jurisdiction. The costs of such crossings shall be the responsibility of the subdivider.

- 6.4.6 Adequate provisions shall be made in the design of subdivisions for access to each lot or parcel, and for access to adjacent properties.

6.5 Street Right-of-Way Requirements

- 6.5.1 All public street right-of-way dedication shall be at no cost to the public and unencumbered. The public right-of-way requirements shall meet the ultimate development requirements. The dedicated right-of-way shall provide sufficient area for the installation for utilities, cut or fill slopes, sidewalks, traffic control devices, signs, fire hydrants, landscaping and other public facilities that must be located adjacent to street pavements.
- 6.5.2 Additional Right-of-Way widths may be required in special circumstances for the following conditions:
- a. Cut or fill slopes cannot be confined within the typical right-of-way.
 - b. Minimum sight distance lines on horizontal curves do not meet the standards.
 - c. Minimum sight distances at intersections do not meet the standards.
 - d. Auxiliary traffic lanes are required.
 - e. Allow for maintenance and inspection of drainage structures.
 - e.f. Other conditions that may be required by the County Engineer.

- 6.5.3 The minimum right-of-way requirements are as follows;

Parkway

200 feet [BB69]

~~Major-Principal~~ Arterial/ ~~Parkway~~	150 feet
Minor Arterial	110 feet
Major Collector	80 feet
Minor Collector	60 feet
Local Street	50 feet
Low Density Local Street	50 feet Paved All-Weather
Public Access Road	40 feet

6.6 Easements and Dedications

- 6.6.1 Public Utility Easements (PUE) shall [BB70] be a minimum of 8 feet

wide and located adjacent to each side of the dedicated street right of way. Public Utility Easements shall not be located within the side or back property lines.

- 6.6.2** Drainage easement dedications shall be provided conforming substantially with the lines of any water course, drainage way, channel, or stream and such further width or construction, or both, as will be adequate for the purpose. Parallel streets or parkways may be required in connection therewith. All drainage easements shall be outside the roadway right-of-way.

6.7 Pavement Cross Section

- 6.7.1** The minimum pavement width requirements are as follows (back of curb to back of curb):

<u>Parkway</u>	<u>163 feet</u>
~~Major-Principal~~ Arterial	101 feet
Minor Arterial	75 feet
Major Collector	51 feet
Minor Collector	40 feet
Local Street	32 feet
Low Density Local Street	32 feet
Paved All-Weather Public Access Road	28 feet (No Curbing)

- 6.7.2** The minimum* pavement section requirements are as follows:

<u>Parkway</u>	<u>6" AC/10"ABC</u>
~~Major-Principal~~ Arterial	6"AC/10"ABC
Minor Arterial	<u>4.5"AC/10"ABC</u>
Major Collector	3"AC/8"ABC
Minor Collector	3"AC/8"ABC
Local Street	<u>2.5"AC/6"ABC</u>
<u>Local Residential</u>	<u>2.5" AC/6"-ABC min</u>
Low Density Local Street	<u>2.5"AC/6"ABC</u>
Paved All-Weather Public Access Road	Per Geotechnical Report or <u>County—Minimums</u> <u>approved by the County</u> <u>Engineer</u>

*as MAG Standards are revised the minimum pavement section will be per the current MAG Standards

- 6.7.3** The above referenced pavement sections are minimums. Actual or alternate pavement sections shall be determined by geotechnical analysis and pavement design prepared and sealed by a professional engineer registered in the State of Arizona, and approved by the County Engineer. The actual pavement thickness shall be the greater of either the Pinal County minimum thickness contained herein or as determined by the geotechnical analysis, irrespective of whether treatment is required for expansive soils.

6.7.4 Undivided streets should have a normal crown that is a ~~two-way~~two-way cross slope with the cross section high point on the street centerline. Divided streets should have cross slope on each pavement section. The high point of each slope on each pavement section shall occur on the edge of the pavement nearest the median. Unusual conditions may cause cross slope requirements to vary, but normally the desirable cross slope is 2%, with a maximum cross slope of 3%. Any deviation from the desirable cross slope is subject to approval by the County Engineer.

6.7.5 Normal cross sections in street dip sections are discouraged. Where storm drainage runoff flows must cross the street, dip sections are needed. The pavements through the dip section should have a ~~one-way~~one-way slope (no crown, super elevated), curbing and medians must not be raised and cut off walls shall be installed. Transitions back to normal street cross slopes will be needed at both ends of the dip section.

6.7.6 All utility services to each lot of the subdivision shall be installed prior to placement of pavement.

6.7.7 Half-Street Improvements: Half-streets are to be avoided, except where essential to the reasonable development of the subdivision in conformity with this manual and where dedication of the other half will be practical when the adjoining property is subdivided. Where said partial rights-of-way would require the dedication of additional contiguous rights-of-way to make it full width, the subdivider shall include evidence that the additional right-of-way is available or is permanently reserved for future road purposes.

The minimum width for half-street improvements shall be twenty-four feet (24') measured from back of curb to the edge of the asphaltic pavement.

Half-street improvements terminating at the roadway monument or centerline shall be constructed with a thickened edge per MAG Standard Detail 201 Type A.

6.7.8 Alleys are not permitted unless approved by the County Engineer.

6.8 Decorative Paving^[BB71]

Decorative paving is not to be used without the County Engineer's approval. The local Homeowner's Association shall maintain all decorative paving. As an alternative to decorative paving, decorative stamped concrete may be used with the County Engineer's approval.

6.9 Curb and Gutter^[BB72]

6.9.1 The minimum curb and gutter requirements are

as follows;

<u>Parkway</u>	_____	6"
<u>Vertical Curb</u>		
~~Major-Principal~~ Arterial/ ~~Parkwa~~	_____	y
6" Vertical Curb		
Minor Arterial		6" Vertical Curb ^[BB73]
Major Collector		6" Vertical Curb
Minor Collector		6" Vertical Curb
Local Street		4" Rolled/4" Vertical Curb
Low Density Local Street		Ribbon Curb
Paved All-Weather Public Access Road		Thickened
Edge Pavement Tracts		Vertical Curb

6.9.2 Curb, and Gutter, and any scuppers, catch basins, or street drainage infrastructure shall be per the current MAG Uniform Standard Details, unless otherwise approved by the County Engineer.

6.9.3 All curb returns, except for local streets that have ribbon curbs shall (PC to PT) be constructed with vertical curb regardless of whether the tangent curb sections are vertical or roll curb. All curb returns shall be provided with sidewalk from PC to PT of the same width as that provided for the sidewalk behind the tangent curb sections. If no sidewalk is provided adjacent to the return, behind the tangent curb sections, the curb return sidewalk shall be a minimum width of four-five feet (4'5').

6.9.4 All street intersections ~~should~~ be constructed with concrete vertical curb returns with a sidewalk ramp per the current MAG Uniform Standard Details and the American Disabilities Act (A.D.A.). Any fifty foot (50') radius shall have a dual ramp (per MAG detail).

6.9.5 The radii for curb returns shall be in accordance with the table shown below: All dimensions are to back of curb.

Street Classification	Minor Arterial	Major Collector	Minor Collector	Local
<u>Parkway</u>	<u>50'</u>	<u>530'</u>	<u>530'</u>	-
~~Major-Principal~~	50'	<u>530'</u>	<u>530'</u>	-
Arterial				
Minor Arterial	50'	<u>530'</u>	<u>530'</u>	-
Major Collector	<u>530'</u>	30'	30'	25'
	0'			
Minor Collector	<u>530'</u>	30'	30'	25'
	0'			
Local	-	25'	25'	20'

6.9.6 In locations where dip sections are permitted the installation of a cut-off wall conforming to MAG Uniform Standard Details shall be installed.

The exposed portion of the cut-off wall shall have the appearance of a ribbon curb, with the same width as the street's regular curb and gutter. The cut-off wall shall extend across the flow path in the dip section to protect the pavement structure during runoff flows from a 100 year storm.

Install a five foot (5') transition section at each end of the dip section to match the street curb and gutter.

6.10 Sidewalks^[BB74]

- 6.10.1** Streets constructed to Pinal County standards shall have sidewalks installed per Standard Street Cross Sections **Exhibit 6.2** and MAG Standard Detail 230

Sidewalks shall be installed within right of way or sidewalk

easement. Sidewalk Widths:

a. Parkway: Detached Sidewalk = Six (6) feet wide with a minimum separation from back of curb of eight (8) feet.

a.b. Major Principal Arterial Street: Detached Sidewalk = Eight (8) feet wide with a minimum separation from back of curb of 5'. Meandering sidewalk requires a minimum radius of 150'. Attached Sidewalk = Ten (10) feet wide.

b.c. Minor Arterial Street: Detached Sidewalk = Eight (8) feet wide with a minimum separation from back of curb of 5'. Meandering sidewalk requires a minimum radius of 100'. Attached Sidewalk = Ten (10) feet wide.

c.d. Major Collector Street: Detached Sidewalk = Six (6) feet wide with a minimum separation from back of curb of 3'. Meandering sidewalk requires a minimum radius of 50'. Attached Sidewalk = Eight (8) feet wide.

d.e. Minor Collector Street: Detached Sidewalk = Five (5) feet wide with a minimum separation from back of curb of 3'. Meandering sidewalk requires a minimum radius of 50'. Attached Sidewalk = Six (6) feet wide.

e.f. Local Street: ~~Four~~ Five (45) feet wide (Attached).

- 6.10.2** Sidewalks are not required for residential subdivisions with lots one (1) acre and greater in area

- 6.10.3** Sidewalks are required on both sides of the local street for subdivisions with lot sizes less than one (1) acre.

6.10.4 Sidewalks are required on both sides of arterial and collector streets.

6.10.4 Sidewalk Curb Ramps shall be per MAG Uniform Standard Details and Specifications. Truncated domes (detectable warning) shall be constructed out of high-strength concremented material only. The material is to be durable with a non-slip surface not subject to spalling, chipping, delamination or separation. Detectable warning tiles shall have a design working life of at least 30 years.

6.11 Horizontal Alignment

6.11.1 A horizontal curve is required when the angle of change in horizontal alignment is equal to or greater than ten (10) degrees.

6.11.2 The Minimum Curve Radius requirements are as follows when tangent centerlines deflect more than ten (10) degrees and less than ninety (90) degrees:

Local	200'
Minor Collector	300'
Major Collector	800'
Minor Arterial	1,500'
<u>Major-Principal</u> Arterial	1,500'
<u>Principal</u>	<u>2,000'</u>

6.11.3 Compound curves (two curves with different radii in same direction) should be avoided. However if site conditions make the use of compound curve unavoidable, the shorter radius shall be at least 2/3 the length of the longer radius when the shorter radius is 1,000 feet or less. Compound curves are not permitted when design speeds require the shorter radius to be greater than 1,000 feet.

6.11.4 On two lane roads, tangent sections are required between compound curves.

~~**6.11.5** 6.1.1 A tangent section must be provided between reverse curves as shown in~~

6.11.5 -A tangent section must be provided between reverse curves as shown in **Exhibit 6.3.**

6.11.6 A tangent section shall be provided between an intersection and a curve for all collector and arterial intersections.

6.11.7 Minimum horizontal clearance for roadways shall be in accordance with the most recent version of the AASHTO Policy on Geometric Design of Highways and Streets.

6.11.8 Superelevation is discouraged on horizontal curves; however, superelevation of 2% may be used when the standard radius

cannot be provided due to circumstances beyond the control of the engineer and the general alignment cannot be changed. Superelevation greater than 2% may not be used except when approved by the County Engineer. In no case shall a superelevation exceed 6%. For superelevations, refer to the AASHTO publication, A Policy on Geometric Design of Highways and Streets.

Whenever superelevation is allowed on a divided street, a storm drainage system to collect the runoff along the median curb shall be provided. In no case shall nuisance water from the higher traveled way be allowed to cross the lower traveled way.

6.12 Vertical Alignment

- 6.12.1** The maximum longitudinal street grade requirements are as follows:

<u>Parkway</u>	6%
Arterial (~~Major Principal~~ & Minor)	6%
Major Collector	8%
Minor Collector	10%
Local	12%

- 6.12.2** The minimum longitudinal street grade for ALL streets is ~~0.25~~40%.

- 6.12.3** A vertical curve is required when grade changes are greater than 1.5% for parkways, arterials, and collector streets and greater than 2% for local streets (excluding areas of valley gutters and stop conditions). All sections of a street's vertical alignment must meet passing and stopping sight distance requirements for design speed established for the street. For further details, see the AASHTO publication, A Policy on Geometric Design of Highways and Streets.

- 6.12.4** When horizontal and vertical curves are combined, the horizontal curve shall lead and follow the vertical curve. For additional information on this topic, refer to the AASHTO publication, A Policy on Geometric Design of Highways and Streets.

6.13 Intersections

- 6.13.1** Intersections occurring on the inside of horizontal or crest vertical curves are prohibited. Where the grade of the through roadway is steep, flattening through the intersections is required as a safety measure.
- 6.13.2** A right angle intersection provides the shortest crossing distance for intersecting traffic streams. Where special conditions exist, intersection angles may diverge from a right angle by a maximum of 2 degrees on arterial and major collector streets and by a

maximum of 15 degrees on minor collector and residential streets as shown in **Exhibits 6.4 and 6.5.**

6.13.3 Street jogs with centerline offsets will be a minimum of 135 feet as shown in **Exhibit 6.6.**

6.13.4 All intersections shall comply with the current AASHTO Intersection Sight Visibility Triangle^[TW75] Requirements. A minimum 33' x 33' sight visibility triangle easement shall be provided^[BB76] for all intersections of collector or arterial streets. A minimum 21' x 21' sight visibility triangle easement shall be provided for all local street intersections. Sight visibility triangle easements shall be measured from the property line PI. All intersections shall comply with the current AASHTO Intersection Sight Triangle^[TW77] Requirements.

6.13.5 Property lines at street intersections shall be rounded with a radius of 25 feet for local and collector streets and ~~50~~³³ feet for arterial streets to allow maintenance of sight distance.

6.13.6 Street intersections with more than four legs and y-type intersections where legs meet at acute angles are prohibited.

6.13.7 Concrete valley gutters shall be constructed at all intersections where the drainage pattern requires them.

- a. Asphalt valley gutters will not be permitted.
- b. Valley gutters crossing a local street may be installed. Exceptions must be approved by the County Engineer.
- c. Valley gutters shall be constructed in accordance with MAG Uniform Standard Details.

6.13.8 Intersections onto arterial streets shall be approximately every (1/4) mile intervals.

6.14 Cul-de-Sacs and Knuckles^[BB78]

Cul-de-sac streets shall terminate in a circular right-of-way turnaround area of at least fifty (50) feet in radius and returns of the same radius. The County Engineer may approve an equally convenient form of turnaround area where extreme conditions justify. Cul-de-sac streets shall not exceed 500 feet in length (measured from the centerline of intersecting street) to the radius point of the turnaround. Cul-de-sac streets in excess of 500 feet must be approved by the County Engineer. Knuckles shall have a minimum right-of-way radius of 50' and returns of the same radius. Acceptable use of cul-de-sacs and knuckles are shown in Exhibits 6.7 and 6.8.

6.15 Dead End Streets

6.15.1 Dead end streets shall be required where a street connection is necessary to serve adjacent properties that will develop at a future date. A temporary turn-around shall be provided within the subdivision at all dead end streets.

6.15.2 The maximum length of a dead end street shall be the same as that of a cul-de-sac street.

6.15.26.15.3 Alternative types of turnarounds, such as “T” (Hammerhead) or “Y” style road geometries may be accepted if approved by the fire authority provide coverage over the area. If used, a “T” or “Y” roadway terminus shall have minimum leg lengths of fifty (50) feet.

6.16 Blocks

Block lengths, widths, and shapes of blocks shall be determined with due regard to:

6.16.1 Provision of sites suitable to the type of use contemplated.

6.16.2 Zoning requirements as to lot sizes and dimensions.

6.16.3 Need for convenient access, circulation, control and safety of street and pedestrian traffic.

6.16.4 Limitations and opportunities of topography.

6.16.5 Circulation within the subdivision, and access to the community facilities.

6.16.6 Lengths as long as practicable but not to exceed 1500 feet.

6.17 Turning Lanes and Medians

A separate turning lane permits separation of conflicting traffic movements and removes turning vehicles from the intersection area. Raised medians shall be used as directed by the County Engineer to separate traffic flows, channelize left turns and reduce conflicts. On collector streets, painted medians provide space between the through traffic lanes for left turning vehicles.

6.17.1 Right turn lanes shall be provided on arterial streets at all street intersections, where warranted per the Traffic Impact Analysis.

6.17.2 For left turn lanes at signalized intersections, dual turn lanes should be considered when the turn volume exceeds 25 vehicles per hour, the opposing through volume exceeds 100 vehicles per hour, or the delay to left turning vehicles exceeds 45 seconds. Abrupt reduction of alignment and sight distance standards should be avoided.

6.17.3 All medians are to be hardscape (i.e. – concrete, pavers, stamped concrete etc.) unless otherwise approved by the County Engineer.

~~The median surface shall maintain positive drainage. A median less than 4 feet wide shall be paved. The paved surface shall be crowned and have the same cross slope as the street pavement. Acceptable paving materials are asphalt or concrete. Medians wider than 4 feet shall be landscaped.~~

- 6.17.4** ~~Within the County right-of-way, full and partial median openings on a parkway, major and minor arterial shall be per the current Regionally Significant Routes for Safety and Mobility Final Report and Access Management Manual. If a street has a raised median, it is not possible to provide an opening in the median for every street intersection or driveway location. Full median openings should occur at not less than 1/4 mile intervals on parkways, expressways, and major arterials. Partial median openings, which allow only left turns off the major street, are acceptable at 1/8 mile spacing. On minor arterials, full median breaks should be no closer than 1/8 mile intervals.~~ Partial median openings and full median openings will be permitted per the approved Traffic Impact Analysis. In built up areas, where reasonable alternate access is not available, median openings may be provided at smaller intervals with the approval of the County Engineer.
- 6.17.5** The cross-slope in the median opening shall be limited to 2%. Median openings on curves with super elevation exceeding 2% will not be permitted.
- 6.17.6** Deceleration lanes may be required on streets in conjunction with driveways per the approved Traffic Impact Analysis and may require additional right-of- way.
- 6.17.7** Deceleration lanes are required as determined by the approved Traffic Impact Analysis. In addition, deceleration lanes are required when both of the following factors are determined to apply:
- a. The 85th percentile traffic speed on the street is at least 35 miles per hour or 45 miles per hour for a two lane (one lane each direction) roadway.
 - b. At least 20 vehicles will be making right turns into the access way and 100 vehicle directional traffic during a one hour period.

6.18 Driveways

- 6.18.1** Driveways are to be constructed in accordance with MAG Uniform Standard Details.
- 6.18.2** The minimum residential driveway length is 20 feet, measured from the face of the garage opening to the back of sidewalk or the back of curb if no sidewalk is provided.

- 6.18.3** The minimum length for a commercial or industrial driveway is 30 feet, measured from the entrance to the off-street parking area to the back of sidewalk or the back of curb if no sidewalk is provided.
- 6.18.4** A maximum of one driveway opening shall be permitted to a particular residential site or residential parcel from each abutting street(s). One additional driveway entrance may be permitted by the County Engineer.
- 6.18.5** A new driveway will not be allowed within 30 feet of any commercial property line, except when it is a joint use driveway, serving two abutting commercial properties and access agreements have been exchanged between, and recorded by, the two abutting property owners. Commercial driveways will not be allowed within 50 feet of the right of way line of an intersecting non-arterial street or within 600 feet of two intersecting arterial streets. Exceptions may be permitted by the County Engineer.
- 6.18.6** Driveway profile standards are illustrated in MAG Uniform Standard Details.

6.19 Multi-Use Trails

Trails constructed in County rights-of-way, such paths or trails must be approved by the County Engineer^[BB79], and [Open Space and Trails Parks and Recreation](#)^[TW80] Department shall require a permit from the Pinal County Public Works Department^[TW81] [and the Community Development Department](#).

6.20 Existing Adjacent Unimproved Roads

Existing unimproved roads in public right-of-way and adjacent to a subdivision may be required to provide a dust palliative such as a double chip seal.

6.21 Local Street Drainage^[BB82]

Streets shall be designed and arranged in relation to existing topography to facilitate drainage. Drainage ways between lots are discouraged. Streets shall not be used as primary drainage, unless curb and gutter is installed. Samples of residential street drainage are shown in **Exhibit 6.9**.

6.22 Roundabouts:

When considered as an alternative traffic control device, All roundabout designs are to comply with Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 672 Roundabouts: An Informational Guide, Second Edition produced in cooperation with the U.S. Department of Transportation, Federal Highway Administration (FHWA).

Certain physical or geometric complications may make it uneconomical or

ineffective to construct a roundabout at the location being evaluated. These could include right of way limitations, utility conflicts, drainage problems, and proximity of significant traffic generators or traffic control devices requiring pre-emption, as needed at railroad crossings. Specific conditions in which the use of roundabouts will be unacceptable include the following:

- Where roadway grade exceeds 4%;
- Where there is inadequate sight distance;
- Where major roadway ADT exceeds 90% of total intersection ADT
- Where high volumes of pedestrians with special needs would have difficulty crossing the road.
- Where a downstream traffic control device such as a traffic signal would result in a queue that extends into the functional area of the roundabout.
- At a single intersection within coordinated signal network.
- Multi-Lane Roundabouts (May be considered in High Density Urban Environments subject to review and approval by the County Engineer)

The design process for roundabouts is usually an iterative process of evaluating the geometric layout for operational performance, and safety. Minor adjustments in geometry can result in significant changes in the safety and/or operational performance. Thus, the designer often needs to revise and refine the initial layout attempt to enhance its capacity and safety. NCHRP Report 672, Exhibit 6-1 provides a general outline for the design process with cross-references to other sections of the Report for each individual step within the process. Roundabouts may follow the most current MCDOT Roadway Design Manual for general guidance subject to review and approval by the County Engineer.

6.226.23 Street Name Signs

The subdivider shall be responsible for purchase and installation of all street name signs within a subdivision, including intersections with perimeter streets. All street name signs shall conform to county standards and shall be furnished and installed at no cost to the County at locations as shown on the approved plans^[TW83].

6.236.24 Survey Monuments

Survey monuments are required at all street intersections and at the point of curvature and point of tangency of all curves on street monument line. Survey monuments shall conform to the applicable MAG Uniform Standard Details and shall be furnished and set by the subdivider at no cost to the County at locations as shown on the approved plans or as required by the Pinal County Public Works Department.

6.246.25 Traffic Signals

Traffic signals shall be designed and constructed in accordance with Arizona Department of Transportation (ADOT) when required by the Traffic Impact Analysis. Refer to Chapter 12 of this manual.

6.256.26 Paving Improvement Plan Requirements

The following requirements are for Paving Improvement Plan Submittal to Pinal County:

6.25.16.26.1 Cover Sheet

- a. Blue Stake notification.
- b. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- c. County Case number (~~S-000-00~~) at the lower right hand corner.
- d. Vicinity map with North arrow and section data.
- e. Index of plan sheets if more than one plan sheet.
- f. Developer's name, address, and telephone number.
- g. Engineer's name, address, and telephone number
- h. Engineer's stamp – signed and dated.
- i. Legend identifying all grades, symbols, lines, etc.
- j. Quantities.
- k. Basis of bearings and benchmark (NAVD 88 datum).
- l. Sheet numbering format - "1 of XX" where XX is total amount of sheets.
- m. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information. (can either be on cover sheet or sheet 2)
- n. Pinal County Engineer Approval Block.

APPROVED BY:

PINAL COUNTY ENGINEER
COUNTY, DEPARTMENT OF PUBLIC
WORKS

DATE PINAL

APPROVAL EXPIRES:

_____ DATE

Δ *RE-APPROVED BY:

PINAL COUNTY ENGINEER
DATE
PINAL COUNTY, DEPARTMENT OF PUBLIC
WORKS

APPROVAL EXPIRES:

D

A

I

E

- o. ~~As-Built~~ Provide a Record Drawing Certification

Statement for as-builts on the plans as follows:

~~AS-BUILT~~ RECORD DRAWING

CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD
DRAWING" MEASUREMENTS AS SHOWN
HEREON WERE MADE UNDER MY
SUPERVISION OR AS NOTED AND ARE
CORRECT TO THE BEST OF MY
KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR DATE

REGISTRATION NUMBER

6.25.26.26.2 General Requirements and Notes

The following are required for all paving construction. In ~~addition~~addition, these requirements must be set forth as general notes on all paving plans.

- a. ~~Developer~~Contractor shall obtain a Pinal County Right-of-Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Quality Assurance Inspection Section [TW84] at least fourteen ~~(14)~~seven (7) working calendar days prior to work.
- b. All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- c. All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of paving or related construction.
- d. Contractor is responsible for Blue Stake marking as construction is in progress.
- e. All residents to be notified in person 24 hours prior to driveway crossing.
- f. Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices or Pinal County requirements.
- g. Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least fourteen~~three~~ (14) ~~calendar~~working [CG85] days prior to work for review and approval.
- h. All pavement structural sections shall be per the approved Geotechnical Engineering Report or Pinal County minimums as identified in the Pinal County Subdivision and Infrastructure Design Manual, whichever is greater
- i. Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- g. ~~Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.~~
- j. Street name sign installation – street name signs are to be installed at each intersection. If street name signs are to be

installed on an existing or proposed street light pole, each sign is to be installed on a separate bracket. For street name sign blades that are 3" and under, a 12" bracket should be used. For blades that are 24" to 35", an 18" bracket is to be used. For blades that are 36" and above, a 24" bracket shall be used.

k. All Warning, Regulatory and Street Name signs will be installed on 2" square tubing and "slip base" type foundation system in accordance with ADOT Signing & Marking Standards (Detail S-1).

l. All Signs must be manufactured of "ASTM D-4956-01a-Proposed Type XI Sheeting" (3M 4000 DG3 series or equivalent) which will be attached to the standard signage aluminum plates. Sign imaging shall be in compliance with the reflective sheeting manufactures matched component system. Sign imaging shall consist of an acrylic based electronic cuttable film (3M 1170 Series or equivalent) or silk screened (depending on the quantity of signage) with standard highway colors. In addition, if called out on plans, to create a graffiti-protective coating, a premium protective overlay film (3M 1160 or equivalent) shall be used which is designated to comply with the underlying reflective sheeting match component system.

i.m. Any work done in a drainage channel or wash must comply with state and federal regulations.

j.n. A Storm water^[TW86] Pollution Prevention Plan (SWPPP) shall be submitted to Pinal County Public Works Department prior to issuance of construction permits.

k.o. Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to commencement of work, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

l.p. The following notes are required when special preservation or hillside issues are involved:

1. Before grading in areas containing native desert vegetation, the Contractor must obtain a permit from Arizona Department of Agriculture.
2. This site has special preservation or hillside issues. The paving plan must show all landscape preservation easements, construction fencing locations, and appropriate areas labeled. Prior to any clearing, grubbing, or grading operations construction fencing shall be shown on approved plans, permitted and

inspected and salvage operations permitted, inspected, and completed.

6.25.36.26.3 Plan and Profile Paving Sheet Requirements

- a. Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required.
- b. Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend approximately 100' beyond property boundary.
- c. Typical cross sections meet the requirements set forth in Subdivision Ordinance and stipulations or as recommended in the Geotechnical Report, whichever is greater. Shows width of sidewalk and minimum allowable pavement cross-slope. (pavement width is measured back-of- curb to back-of-curb)

<u>ROW Width</u>	<u>Pavement Width</u>	<u>Structural Section</u>
<u>200'</u>	<u>163'</u>	<u>6"AC/10"ABC</u>
<u>150'</u>	<u>101'</u>	<u>6"AC/10"ABC</u>
<u>110'</u>	<u>75'</u>	<u>5"AC/10"ABC</u>
<u>80'</u>	<u>51'</u>	<u>3"AC/8"ABC</u>
<u>60'</u>	<u>40'</u>	<u>3"AC/8"ABC</u>
<u>50'</u>	<u>32'</u>	<u>2.5"AC/6"ABC*</u>
<u>*Local Residential – 2.5" AC/6"ABC min</u> <u>* Note: All pavement structural sections shall be per the approved Geotechnical Engineering Report or Pinal County minimums as identified in the Pinal County Subdivision and Infrastructure Design Manual, whichever is greater</u>		
- d. A 21'x 21' (local to local) or 33'x 33' (for all others) sight visibility triangle easement (SVTE) all intersections.
- e. Typical Roadway Cross Sections shall indicate street names and station to station if more than one section is used for a street.
- f. Property line minimum radii: 25' or 5033' (for all arterial intersections). No chords.
- g. Intersection spacing along an arterial - approximately 1,320' (1/4 mile)
- h. Avoid street jogs with centerline offsets of less than 135'. On arterials, intersecting streets should align if possible.
- i. Local streets not allowed to intersect with an arterial street.
- j. Residential lots shall front only local streets.

- k. Have intersections as nearly as possible at right angles and in no case at less than 75°.
- l. Maximum length of cul-de-sac is 500 ft. (measured from the center line of the intersecting street to the radius point of the turnaround) with minimum right-of-way radius of 50 ft. for both the turnaround and the returns.
- m. Project Heading, title block (located in the lower right hand corner or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- n. Locations, dimensions, and purposes of any existing and proposed easements. Show ROW, existing and proposed pavement, curbs, and sidewalk with width dimensioned.
- o. Show all existing and new utilities in the roadway.
- p. Show centerline survey data.
- q. Label sheet reference with station numbers at all match lines.
- r. Label station and centerline spot elevation at intersections.
- s. Survey monuments are required on monument lines at intersections, PC's, PT's and PI's. Also required at knuckles or cul de sacs. Local intersections shall be Type B monuments.
- t. Station numbers shall be shown at all changes in street alignment, curb returns, and grade breaks.
- u. Minimum separation between sidewalk ramps and driveways shall be 5'.
- v. Grading between back of sidewalk and property line shall have a max. slope of 4:1. A minimum ~~one-foot~~one-foot bench is required at the back of sidewalk prior to start of the 4:1 slope.
- w. Provide typical street cross section. (show cross slopes of roadway and sidewalks and required pavement section).
- x. Pavement cross slope: 2% min.
- y. Minimum longitudinal street grade is 0.25%.
- z. ~~Longitudinal~~A vertical curve is required when grade changes are greater than 1.5% for arterial and collector streets and

~~greater than 2% for local streets, excluding areas of valley gutters and stop conditions. Minimum vertical curve is 75'. local street grade changes greater than 2% require a vertical curve. Minimum vertical curve is 75'. For collector and arterial streets, use 1.5%.~~

- aa. Transitions in roadway cross slopes shall be indicated on the plan view.
- bb. There shall be a minimum of 1' of cover over any pipe under the roadway. Minimum cover shall not include the pavement structural section. For covers less than 1' a structural (load) analysis shall be required.
- cc. All plans revised after the original approval shall be submitted to Pinal County Public Works for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- dd. If a portion of the street improvements for this development is within State, City or Town jurisdiction, plans are subject to review and approval by that public agency.

6.276 Access to Pinal County Roads and Rights-of-Way [TW87]

In addition to any other County requirements, Any proposed new access, whether a driveway or public/private roadway, onto an existing County roadway shall only be installed after a Right-of-Way Use Permit has been obtained. Access is subject to approval by the County Engineer and should comply with the Pinal County Access Management Manual (latest version) where applicable. In addition, the following requirements for access also apply:

6.276.1 Throat Lengths and Vehicle Storage, Parking Lots and Access

Adequate vehicle storage capacity shall be provided for both inbound and outbound vehicles, which facilitates the safe and efficient movement of vehicles between the road and the development. The minimum throat length of a non-residential access shall be forty (40) feet. Conflicts with parking spaces or internal drive aisles are not permitted in this length. Additional throat length may be required depending on the type of vehicles typically using the access, the speed of vehicles approaching the access, and expected traffic volumes generated by the access use. The access throat shall be of sufficient length to prevent vehicles from spilling onto the public right-of-way. Inbound vehicle storage areas shall be of sufficient size to ensure that vehicles will not obstruct the adjacent road,

sidewalk, or circulation within the facility. Lots in a subdivision or proposed for development shall be platted with sufficient area to accommodate the standards listed within this section.

The access throat shall be of sufficient length and number of lanes to provide adequate storage of outbound vehicles without them interfering with on-site circulation. Outbound vehicle storage areas shall be provided to eliminate backup and delay of vehicles within the development. At signalized intersections adequate storage for the outbound movement must be provided to enable vehicles to exit efficiently on the green portion of a traffic signal cycle.

6.276.2 Gated Access Points (Private Access^[BB88])

A private access approach that has a gate across it shall be designed so that the longest vehicle using it can completely clear the traveled way and/or roadside pedestrian features (including sidewalks) when the gate is closed. The gate must open swinging away from the County road or must slide laterally parallel to the County Road. In no case shall the gate be closer than 20ft to the traveled way and/or roadside pedestrian features. The County Engineer may require a queueing be included in the Traffic Impact Analysis (TIA) or Statement (TIS) to ensure that no queueing of vehicles will occur in the public Right-of-Way.

6.276.3 Channelization Islands

Channelizing islands may be incorporated into the access design for purposes of limiting movements into or out of accesses. Use of medians to control turning movements is preferred and will be required where physical conditions allow. Channelizing islands are traffic control devices and as such shall not be used solely for ornamental purposes.

6.276.4 Driveway Access Angle

The horizontal axis of the driveway access to the County Road shall be at ninety (90) degrees to the centerline of the roadway and extend a minimum of forty (40) feet from the edge of the roadway or from the right-of-way, whichever is greater. An angle between ninety (90) and seventy-five (75) degrees may be acceptable if the expected traffic volumes utilizing the access is low, physical constraints exist, and if approved by the County Engineer.

6.276.5 Limited or Partial Access Restrictions

The type of access shall provide for safe and efficient operation of the access and the road from which access is provided. As such, some vehicle movements at access points may need to be restricted with the implementation of $\frac{3}{4}$ or $\frac{1}{2}$ access configurations, based on a technical analysis as well as the need to prioritize regional mobility in accordance with the Pinal County Access Management Manual (latest version). A $\frac{3}{4}$ access allows only 3 of 4 turning movements by restricting 1 left turn movement (in or out). A $\frac{1}{2}$ access allows only 2 of 4 turning movements

by restricting both left turn movements, in and out (also called a right-in/right-out access). Limited or partial access should be accomplished via the use of raised medians where it is practical to do so. However, in some cases, “pork chops” or curved median diverters may be used with County Engineer approval.

6.287 Neighborhood Traffic Management (Traffic Calming)

The Institute of Transportation Engineers (ITE) defines traffic calming as: “The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users.”

By design, traffic calming is a self-enforcing traffic management approach that forces motorists to alter their speed or direction of travel. The purpose of traffic calming is to improve safety, especially for pedestrians and bicyclists, and to improve the environment or “livability” of streets for residents and visitors. Enhanced safety is one of the most fundamental benefits of traffic calming. By decreasing volume and/or reducing speed the number and severity of accidents is also greatly diminished.

6.287.1 Connections to Existing Roadway Network

Proposed developments that will access existing collector or local county roadways where significant residential driveway access exists shall evaluate the impacts of the proposed development traffic on those roadways. The development should consider implementing traffic calming measures as part of the project improvements on those existing roadways to mitigate the effects of adding new traffic to the existing roadway.

Where the projected traffic volume exceeds 800 vehicles per day (vpd), including background traffic and future traffic, on any existing street with residential driveway access affected by the development, the development shall provide a neighborhood traffic calming plan as part of the Traffic Impact Analysis. The Traffic Impact Analysis should identify and proposed specific traffic calming measures and locations to be incorporated in the development.

6.287.2 Internal Traffic Calming

Where a proposed street with residential driveway access is projected to carry more than 800 vehicles per day (vpd) or when it is longer than 1,000 feet, traffic calming measures or additional roadway access points shall be incorporated into the roadway design. Where the potential for cut-through traffic exists on a proposed street with residential driveway access, the development should consider implementing traffic calming measures to reduce speeds and deter cut-through movements.

Traffic calming measures may be implemented on any local streets not meeting the above threshold as part of the design of the development.

When traffic calming measures are proposed, the Traffic Impact Analysis should identify and propose specific traffic calming measures and locations to be incorporated in the development.

6.287.3 Traffic Calming Design Criteria

If a street is found to be eligible for the installation traffic calming measures, the following design specifications should be used to determine the exact location of traffic calming devices:

- Devices shall be placed in locations where drivers have adequate sight distance to see vertical deflection on the roadway surface, preferably from a distance of at least 250 feet on uninterrupted segments of road for drivers traveling at the design speed;
- Placement of devices must avoid conflicts with other transportation and utility infrastructure;
- Consideration should be given to locate devices near a streetlight to ensure nighttime illumination where possible;
- Devices shall be installed at least 200 feet apart but not greater than 500 feet apart on road segments bounded by two intersections;
- Devices shall be placed at least 5 feet from a driveway, and 20 feet from an alley;
- Devices shall be placed in conjunction with advanced warning signage necessary to warn drivers;
- Devices should be placed at least 200 feet from STOP or YIELD-controlled intersection approaches. However, where other constraints exist (e.g., short block spacing or presence of driveways) a distance of at least 100' may be used provided that proper spacing and placement of warning signs can be maintained;
- Devices should be placed at least 250' from a traffic signal (shorter spacing may be considered on a case-by-case basis);
- Where curb and gutter does not exist, provisions should be made to prevent drivers from driving around the traffic calming devices;
- Devices shall NOT be installed over manholes or water valves;
- Devices shall NOT be installed adjacent to fire hydrants;

The County Engineer may approve methods of traffic calming measures not meeting the above criteria when unique circumstances exist.

CHAPTER 7 HILLSIDE SUBDIVISION IMPROVEMENT REQUIREMENTS

7.1 General Information

This chapter addresses special requirements for subdivision design occurring in Hillside areas [TW89] within Pinal County.

7.2 General Hillside Subdivision Requirements

In addition to the requirements of ~~Article 5 in the current Pinal County Subdivision Regulations~~ Title 3, Chapter 3.25 in the Pinal County Development Services Code, the developer shall strive to sensitively integrate the infrastructure design into the natural hillside character of the development. The location of the roadway both horizontally and vertically as well as the cross-section should be compatible with the surrounding environment. If more restrictive requirements are placed on the development during the Zoning Phase the more restrictive requirements shall govern.

7.2.1 Topography with a two foot contour interval showing location of all major and minor washes. The County Engineer may determine a one foot contour interval shall be provided for certain plats. A separate sheet showing proposed contours may also be required if extensive re-grading is proposed.

7.2.2 All areas with natural cross-slopes greater than 15 percent shall be indicated on the Final Plat.

7.2.3 Street profiles, existing and proposed, for all streets.

7.2.4 A building envelope shall be shown on all lots. The building envelope shall occupy not more than 40% of the total lot area. There shall be a minimum ten (10') foot set back from any property line for the building envelope that shall be cordoned off in the field prior to any grading or construction, with the areas outside of the cordoned building envelope remaining in a natural state, both during and after construction. Disturbed areas will be re-vegetated.

7.2.5 Prepare/provide indigenous plant list [TW90] for re-vegetation within the building envelope.

7.2.6 Walls or fences on individual lots within the development shall be low walls or open fences (pipe, rail, iron, stonework etc.) except immediately around the home or pool area, where a wall or privacy fence six (6') feet high may be built within the building envelope.

7.2.7 Building heights shall not exceed the height of the ridgeline.

7.2.8 Subdivision design shall include preservation of existing ridgelines and scenic vistas.

7.3 Special Design Standards

Given the unique physical conditions of the hillside areas, appropriate design standards are established for areas with natural slopes greater than fifteen (15) per cent, (for example, 15.1%) cross-slope.

- 7.3.1 Street grades shall not exceed twelve per cent (12%) without approval from the County Engineer.
- 7.3.2 ~~If approved, S~~streets grades of twelve per cent (12%) or more shall have a maximum length of six hundred (600) feet.
- 7.3.3 Minimum dedicated street rights-of-way shall be forty (40) feet and are to be allowed only when justified by extreme cross slope or similar conditions and approved by the County Engineer.
- 7.3.4 "T" or "Y" type turning and backing areas may be substituted for circular turnarounds.
- 7.3.5 "Panhandle", double frontage, and other unorthodox lots may be permitted by the County Engineer.
- 7.3.6 Private streets or drives serving not more than three lots shall be permitted to a maximum length of three hundred (300) feet.

7.4 Special Construction Standards:

- 7.4.1 Streets shall be paved with asphaltic concrete not less than twenty four (24) feet wide and a five (5) foot concrete valley gutter on the uphill side and a six (6) foot gravel berm on the downhill side.
- 7.4.2 Where street grades exceed five (5) per cent, slope drainage shall be collected by and carried in a ~~paved or concrete~~ ditch section outside of the right- of-way to an acceptable outlet with provisions for adequate erosion control.
- 7.4.3 Each drainage course shall be piped through the road fill or diverted into an improved drainage conveyance. Size and location, both horizontal and vertical, shall be subject to approval by the County Engineer.
- 7.4.4 Road fills shall have minimum compaction densities per MAG Specifications 601.4.4.
- 7.4.5 Driveway or garage cuts may be made at the time of street grading and before street paving.

CHAPTER 8 GRADING DESIGN REQUIREMENTS

8.1 General Information

This chapter provides reference, guidance, and minimum criteria for the design of grading and drainage plans within Pinal County. It is intended for use in planning, design, and plan preparation processes.

8.2 General Requirements

- 8.2.1 All grading and drainage design improvements for subdivisions shall comply with the current Pinal County Drainage Ordinance and current Pinal County Floodplain Management Ordinance.
- 8.2.2 It is the County's policy that all subdivisions shall provide adequate drainage facilities so as to convey runoff, generated both on and off the project, around or through the project in such a manner as to ensure that dwellings will be free from flooding and that there is access for emergency and public service vehicles. The subdivider shall install storm sewers, channels and/or other physical improvements necessary to achieve this result.
- 8.2.3 It is the County's policy that all subdivisions within the County shall provide sufficient retention so as to eliminate any adverse impact of that subdivision on its downstream neighbors. All subdivisions shall provide ~~on-site~~onsite retention as required by the Pinal County Drainage Ordinance. Such retention facilities shall be a separate and distinct parcel, and maintained by the HOA within the subdivision and shall be planned for accordingly.
- 8.2.4 The subdivider shall provide a drainage easement maintained by the HOA for storm drainage conforming substantially with the line of such natural water course, channel, stream or creek, or provide an acceptable re-alignment of said water course, based upon a detailed drainage report prepared and sealed by a registered engineer, and meet all applicable requirements which may be required under Pinal County Drainage Ordinance and Pinal County Floodplain Management Ordinance.

8.3 Irrigation & Utilities

- 8.3.1 All irrigation facilities, drainage ditches / swales and other utilities must be relocated onto easements at no cost to the County. Unused facilities in the right-of-way must be removed to the satisfaction of the County Engineer.
- 8.3.2 Any conflicting existing utilities shall be relocated to non-conflicting locations at no cost to the County, as required by the County Engineer.

8.4 Grading Improvement Plan Requirements

The following requirements are for Grading Improvement Plan Submittal to Pinal County:

8.4.1 Cover Sheet

- a. Blue Stake notification.
- b. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- c. County Case number (~~S-000-00~~) at the lower right hand corner.
- d. Vicinity map with North arrow and section data.
- e. Index of plan sheets if more than one plan sheet.
- f. Developer's name, address, and telephone number.
- g. Engineer's name, address, and telephone number.
- h. Engineer's stamp - signed and dated.
- i. Legend identifying grades, symbols, lines, etc.
- j. Earthwork Quantities.
- k. For lots 1AC or larger and having on-lot retention - provide a table showing retention volumes required and provided for each lot.
- l. Basis of bearings and benchmark (NAVD 88 datum).
- m. Sheet numbering format - "1 of XX" where XX is total amount of sheets.
- n. Pinal County Engineer Approval Block

APPROVED BY:

*PINAL COUNTY ENGINEER
COUNTY, DEPARTMENT OF PUBLIC
WORKS*

DATE PINAL

APPROVAL EXPIRES:

_____ *DATE*

Δ *RE-APPROVED BY:

PINAL COUNTY ENGINEER DATE
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:
DATE

- o. As-Built Provide a Record Drawing Certification Statement for as-builts on the plans as follows:

AS-BUILT RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD
DRAWING" MEASUREMENTS AS SHOWN
HEREON WERE MADE UNDER MY
SUPERVISION OR AS NOTED AND ARE
CORRECT TO THE BEST OF MY
KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR DATE

REGISTRATION NUMBER

8.4.2 General Requirements and Notes

The following are required for all grading construction^[TW91]. In addition, these requirements must be set forth as general notes on all grading plans.

- a. Developer shall obtain a Pinal County Grading and Drainage Permit prior to any work being performed. Contact Pinal County Public Works Inspection Section at least fourteen (14) calendar7-working days prior to work.
- a.b. Contractor shall obtain a building permit from Pinal County Community Development, Building Safety Division for all retaining walls. Permit applications shall be submitted online at least fourteen (14) calendar days prior to the start of work.
- b.c. Drainage plan shall be in accordance with the current Pinal County Drainage Ordinance and Pinal County Drainage Manual.

- e.d.** The Contractor is responsible for obtaining an earth moving permit from Pinal County Air Quality Control and the EPA, and for complying with their requirements for dust control.
- d.e.** All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- e.f.** Contractor is responsible for Blue Stake marking as construction is in progress.
- f.g.** A Storm water Pollution Prevention Plan (SWPPP) shall be^[TW92] submitted to Pinal County Public Works Department prior to issuance of construction permits.
- g.h.** All retention basins must drain design storm runoff volume ~~any storm event~~ within 36 hrs. The owner is responsible for any basin failing to meet the requirement and must take corrective action to bring the basin into compliance with ~~this criteria~~this criterion as well as the Pinal County Drainage Ordinance.
- h.i.** All ~~dry wells~~drywells shown on this project shall be maintained by the owners and are to be replaced by the owners when they cease to drain the surface water in a 36-hr period. Regular maintenance of the dry wells' silting chamber is required to achieve the best operation of the dry wells. The owner shall be responsible for registering all drywells with ADEQ. Drywell grate elevation shall be a minimum of 0.3 feet (ft.) above the bottom of retention basin to allow for silt accumulation
- i.j.** Any work done in a drainage channel or wash must comply with state and federal regulations.
- j.k.** Plan approval is valid for twelve (12) months from the date of County^[TW93] approval. If approval expires prior to commencement of work, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.
- k.l.** For plans with 1+ acre lots and on-lot retention: An individual grading and drainage plan for each parcel to be submitted for review and approval. The approved Master Drainage plan will need to be adhered to when individual parcel grading plan is submitted for review/ approval.

8.4.3 Plan Sheet Requirements

Subdivision & Infrastructure Design Manual

- a. Drawing Scale (minimum): 1" = 40'. Depending on complexity of design, a larger drawing scale may be required.
- b. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- c. Show sheet reference at all match lines.
- d. Blue Stake notification.
- e. Project Heading, title block (located in the lower right hand corner of plan sheets), drawing scale, North arrow, and PE seal with signature.
- f. Retention basins should be designed in accordance with the Pinal County Drainage Manual.
- g. Volume required, volume provided, bottom elevation, high water elevation, top elevation and emergency outfall location and elevation shall be labeled on each retention basin.
- ~~f. Retention basins should have a max depth of 3' with 4:1 side slopes (HWE = 2.5' with 6" freeboard). The design storm is the 100yr 2hr storm event. Sides of basins greater than 3' deep shall have 8:1 slopes.~~
- ~~g. Label volume required and volume provided in each retention basin. Label flow rates and depth of flows at all inlets to basins.~~
- h. ~~Dry well~~ Drywell grate elevation shall be min 0.3 ft above the bottom of retention basin.
- i. Minimum size for storm drain pipe is 18" but 24" is preferred. Headwalls and trash racks are required for both CMP and Polypropylene PipeHDPE pipe. Trash racks shall be installed as required by the Pinal County Drainage Manual. No Polypropylene PipeHDPE pipesmaterial allowable under right-of-wayed within the County right-of-way.size for storm drain pipe is 18" but 24" is preferred. HDPE N-12 pipe may be used for storm drains but prefer it not be used under pavement. Headwalls and trash racks are required for both CMP and HDPE pipe.at the discretion of the County Engineer. Only AASHTO M330 Polypropylene Pipe, 12-60" diameter is permissible.

Subdivision & Infrastructure Design Manual **i. Drainage** arrows and grade breaks shall be shown to indicate

drainage patterns.

- k. Driveway grades shall not be greater than 12%.
- l. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with “clouding” and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- m. If a portion of the street improvements for this development is within State, Town or City jurisdiction, plans are subject to review and approval by that public agency.

8.4.4 Details

- a. Plans should include a ~~dry—well~~drywell detail. ~~Dry wells~~Drywells must be drilled a minimum of 10’ into permeable porous strata or percolation tests will be required.
- b. Typical lot drainage detail – minimum side lot slope is 0.5%; no drainage from lot to lot allowed.

CHAPTER 9 WATER SYSTEM DESIGN REQUIREMENTS

9.1 General Information

This chapter provides guidance and minimum design criteria for the modification and construction of water systems within Pinal County. It is intended for use in planning, design and plan preparation processes.

The requirements for development of all potable water supplies shall not be less than those outlined by ADEQ regulations and engineering criteria for such[TW94] installations. The subdivider shall also design the system to the relevant specifications and standards set by the utility provider who will ultimately own and maintain the structure.

9.2 Water Main Extension

- 9.2.1 A water system shall be provided, for any subdivision containing lots or parcels less than two acres in area.
- 9.2.2 Water mains connecting with existing potable systems shall be installed to serve each lot when and if connection to such system is available.
- 9.2.3 Prior to the approval of the final plat, the subdivider shall submit to[TW95] the Planning Department a letter from the governing body of the water system showing the ability of the system to serve the proposed subdivision or development and evidence that a satisfactory agreement has been made for connection to the water system.
- 9.2.4 Fire hydrants and a fire distribution system shall be provided in accordance with the recommendations or requirements of the water system provider, and the fire department having jurisdiction[TW96], or by the County Engineer. At the request of the Community Development Director the fire provider must provide adequate proof that the provider has lawful jurisdiction to serve the area under the requested Plat
- 9.2.5 Water mains and fire hydrants shall be installed to grades, location, design, and sizes on plans submitted and sealed by a registered engineer in the State of Arizona and approved by the County Engineer, County ~~Environmental—Health—Department~~Aquifer Protection Division and Engineer of the water system provider.
- 9.2.6 When connection to a water system is not available, the subdivider[TW97] may provide service by the establishment of a shared water system in which case water mains and fire hydrants shall be installed to grades, location, design, and sizes as submitted and sealed by a registered engineer in the State of Arizona [BB98] and approved by the Arizona Department of

Environmental Quality (ADEQ), and the water supply shall be from an ADEQ approved source. [Requirements for Approvals To Construct Certificates and other ADEQ information can be found at the ADEQ website.](#)

- 9.2.7** In the case of a subdivision with lots over two acres in area, water supply may be from an individual water system. In this case evidence shall be submitted to the Planning ~~Department~~ [Division](#) in a report showing that sufficient potable water is available, that the subdivision has the rights to the water and that it can be obtained for all lots in the subdivision.

- 9.2.8** Plans shall be prepared in accordance with the Improvement Plan Requirements shown in Chapter 5 of the Subdivision & Infrastructure Design Manual.

9.3 Water System Improvement Plan Requirements

The following is required for Water System Improvement Plan Submittal to Pinal County:

9.3.1 Cover Sheet

- a.** Blue Stake notification.
- b.** Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- c.** County Case number (~~S-000-00~~) at the lower right hand corner.
- d.** Vicinity map with North arrow and section data.
- e.** Index of plan sheets if more than one plan sheet.
- f.** Developer's name, address, and telephone number.
- g.** Engineer's name, address, and telephone number.
- h.** Engineer's stamp - signed and dated.
- i.** Legend identifying grades, symbols, lines, etc.
- j.** Quantities
- k.** Basis of bearings and benchmark (use NAVD 88 datum).
- l.** Sheet numbering format - "1 of XX", where XX is the total amount of sheets.
- m.** Pinal County Engineer Approval Block.

APPROVED BY:

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC
WORKS APPROVAL EXPIRES:

DATE

Δ *RE-APPROVED BY:

PINAL COUNTY ENGINEER

DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

- n. Utility Company and ADEQ approval block or Maricopa County Environmental Services (if appropriate). Both approvals are required prior to County approval.
- o. ~~As-Built~~ Provide a Record Drawing Certification Statement for as-builts ~~shall be shown~~ on the plans as follows:

AS-BUILT RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD
DRAWING" MEASUREMENTS AS SHOWN
HEREON WERE MADE UNDER MY
SUPERVISION OR AS NOTED AND ARE
CORRECT TO THE BEST OF MY
KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

9.3.2 General Requirements and Notes

The following are required for all water construction. In ~~addition~~ addition, these requirements must be set forth as general notes on all water plans.

- a. ~~Developer~~ Contractor shall obtain a Pinal County Right of Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works

Inspection Section at least Fourteen (14) calendar~~7-working~~ days prior to work.

- b. All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.

- c. All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of construction. (If located outside pavement section, prefer level with finished grade but allow 6" max above finished grade.)

~~c.d. Contractor is responsible for Blue Stake marking as construction is in progress.~~

~~d.a. Contractor is responsible for Blue Stake marking as construction is in progress.~~

- e. All residents to be notified in person 24 hours prior to driveway crossing.

- f. Traffic control and barricading shall be according to the Manual on Uniform ~~_____~~ Traffic Control Devices or Pinal County requirements. [BB99]

~~Contractor to supply lighted barricades at 50' intervals with open trench signage.~~

- ~~g. Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least three (3) working days prior to work for review and approval.~~

- ~~h.g.~~ Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.

No trench to be left open/uncovered after working hours unless properly signed and barricaded per the approved Traffic Control Plan. Contractor to supply lighted barricades at 50' intervals with open trench signage.

h.

- i. Within the right-of-way, trench excavation, backfilling backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.

- j. Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to work commencing, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

9.3.3 Plan Sheets

- a. Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required
- b. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- c. Blue Stake Notification.
- d. Sheet references shall be shown at all match lines.
- e. Project Heading, title block (located in the lower right hand corner, or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- f. Caps on waterlines shall include a blow off valve assembly as required by utility company. All blow-off valve assemblies shall be located outside of the pavement section.
- g. Water meters shall be located out of public rights-of-way.
- h. With PUE: only dry utilities are allowed in PUE - waterline shall be placed within pavement section. Without PUE: dry utilities to be located in the area between the back of sidewalk and the right-of-way - the waterline shall be placed within the pavement section.
- i. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be "x'd" out and plan remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- j. If a portion of the street improvements for this development is within State, Town, or City jurisdiction, plans are subject to

review and approval by that public agency.

9.3.4 Details

- a. Plans shall include a typical detail for the trench. Trench typical detail per MAG Standard specification. Pea gravel material will not be allowed within rights-of-way or public utility easements.

Detail shall include the following note:

“Within the right-of-way, trench excavation, backfilling and compaction

shall be per MAG Standard Specification Section 601.

Bedding shall be

~~b.~~ specifically per MAG Standard Specifications 601.4.2 and 601.4.6.”

- e-b. Plans shall include a typical service location detail.

CHAPTER 10 SEWER SYSTEM DESIGN REQUIREMENTS

10.1 General Information

This chapter provides guidance and minimum design criteria for the modification and construction of sanitary sewer systems and on-site treatment facilities within Pinal County. It is intended for use in planning, design and plan preparation processes.

The requirements for development of sewer collection systems and sewage treatment facilities shall not be less than those outlined by ADEQ regulations and the engineering criteria for such installations. The sewer collection systems and sewage treatment facilities shall comply with the Arizona Administration Code Title 18, Chapter 9, Articles 2 and 3 (A.A.C. R18-9 – Article 2 & 3).

Minimum lot size may be modified by requirements of the County ~~Environmental Health Department~~Aquifer Protection Division pertinent to sanitary sewer systems. Any such modifications shall be based on data provided by the appropriate county departments and approved by the County Engineer or designee.

10.2 Sewer Line Extension

10.2.1 Where a public/private sewer system is reasonably accessible, the developer shall connect with such sewer system and provide a connection to each lot therein.

10.2.2 A sewer collection and treatment system shall be required for any subdivision containing lots or parcels less than one acre in area unless the County Engineer approves a waiver request from the developer. A waiver to allow on-site wastewater treatment facilities on lots smaller than one acre may be approved if, at a minimum, the following conditions are met:

- a. No sewer collection system or sewer collection infrastructure exists within one (1) mile of the proposed project site;
- b. Calculations are provided that demonstrate that the total number of lots within the subdivision does not exceed the total number of acres contained within the boundaries of the subdivision; or If the total number of lots within the subdivision exceeds the total number of acres contained within the boundaries of the subdivision then an alternative septic system that reduces the nitrogen loading requirement according to AAC R-18-9-E23 (i.e. nitrogen reducing system) is required, and provided that approval for the use of this method of sewer treatment and disposal is obtained from the following:
 1. Arizona Department of Environmental Quality
 2. Pinal County Aquifer Protection Division (conceptual approval)

Subdivision & Infrastructure Design Manual

- c. The subdivision is not in any sewer district area or mentioned on a Certificate of Need and Necessity (CCN) of a municipal sanitary sewer provider;
- d. No zoning district exist within one mile of the subject site that would permit densities higher than 1 dwelling unit per acre;
- 10.2.2e. The alternate or onsite waste water treatment system is for residential uses only; A sewer collection and treatment system shall be required for any subdivision containing lots or parcels less than one acre in area.

10.2.3 ~~When connection to a community sewer system is not available, on-site sewer treatment facilities, including septic tank systems and alternative on-site technologies, may be permitted provided that approval for the use of this method of sewer treatment and disposal is obtained from the following:~~ [BB100]

10.2.4 ~~Pinal County Environmental Health Department~~ Aquifer Protection Division

10.2.5 ~~Arizona Department of Environmental Quality~~

10.2.3 Plans shall be prepared in accordance with the Improvement Plan Requirements shown in Chapter 5 of this Subdivision & Infrastructure Design Manual.

10.2.4 A Note shall be placed on the face of the plat and improvement plans that an on-site wastewater treatment facilities septic system is to be utilized.

10.2.6

10.3 Additional Sewer System Improvement Plan Requirements

The following requirements apply to Sewer System Improvement Plan Submittal to Pinal County:

10.3.1 Cover Sheet

- a. Blue Stake notification.**

- b. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- c. County Case number (~~S-000-00~~) at the lower right hand corner.
- d. Vicinity map with North arrow and section data.
- e. Index of plan sheets if more than one plan sheet.
- f. Developer's name, address, and telephone number.
- g. Engineer's name, address, and telephone number.
- h. Engineer's stamp - signed and dated.
- i. Legend identifying grades, symbols, lines, etc.
- j. Quantities.
- k. Basis of bearings and benchmark (NAVD 88 datum).
- l. Sheet numbering format - "1 of XX", where XX is the total amount of sheets.
- m. Pinal County Engineer Approval Block.

APPROVED BY:

 PINAL COUNTY ENGINEER
 COUNTY, DEPARTMENT OF PUBLIC
 WORKS

 DATE PINAL

APPROVAL EXPIRES:

 DATE

Δ *RE-APPROVED BY:

PINAL COUNTY ENGINEER DATE
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

- n. Utility Company and ADEQ approval block. Both approvals are required prior to County approval.
- o. ~~As-Built~~ Provide a Record Drawing Certification Statement for as-builts shall be shown on the plans as follows:

~~AS-BUILT~~ RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR DATE

REGISTRATION NUMBER

10.3.2 General Requirements and Notes

The following are required for all sewer construction. In ~~addition~~ addition, these requirements must be set forth as general notes on all sewer plans.

- a. ~~Developer~~ Contractor shall obtain a Pinal County Right of Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Inspection Section at least 147 working days prior to work. The proposed traffic control plan may be submitted along with the Permit.
- b. All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.
- c. All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of construction. (If located outside pavement section, prefer level with finished grade but allow 6" max above finished grade.)

- d. Contractor is responsible for Blue Stake marking as construction is in progress.
- e. All residents to be notified in person a minimum of 24 hours prior to driveway crossing.
- f. Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices and ~~or~~ Pinal County requirements. ~~Contractor to supply lighted barricades at 50' intervals with open trench signage.~~
- g. Contractor shall submit a Traffic Control plan to Pinal County^[CG101] Public Works Inspection Section at least fourteen ~~three~~ (14~~3~~) calendar~~working~~ days prior to work for review and approval.
- h. Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- i. No trench to be left open/uncovered after working hours unless properly signed and barricaded per the approved Traffic Control Plan. Contractor to supply lighted barricades at 50' intervals with open trench signage.
- i.j. Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.
- j.k. Plan approval is valid for twelve (12) months from the date of County approval. If approval expires, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

10.3.3 Plan Sheets

- a. Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required.
- b. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- c. Blue Stake Notification.
- d. Sheet references shall be shown at all match lines.

- e. Project Heading, title block (located in the lower right hand corner or right side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- f. Sewer line shall be placed within the pavement section.
- g. Sewer MH's shall be located by station and offset.
- h. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- i. If a portion of the street improvements for this development is within State, City or Town jurisdiction, plans are subject to review and approval by that public agency.

10.3.4 Details

- a. Plans shall include a typical detail for the trench. Trench typical detail per MAG Standard Specifications. Pea gravel material will not be allowed within rights-of-way or public utility easements. Detail shall include the following note:
 - ~~a.~~ "Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6."
- b. Plans shall include a typical service location detail.

CHAPTER 11 LANDSCAPE AND IRRIGATION REQUIREMENTS

.1 General Information

This chapter provides guidance and minimum design standards for Landscape and Irrigation design in subdivisions and associated infrastructure improvement projects that are submitted for review to the County. The intent of this chapter is to establish comprehensive and consistent design standards for the use in preparing and submitting landscape and irrigation improvement plans.

.2 Additional Landscape and Irrigation Improvement Plan Requirements

The following requirements apply to Landscape and Irrigation Improvement Plan submittal to Pinal County.

.2.1 General Landscape Requirements and Notes

The following are required for all landscape construction. In ~~addition~~^{addition}, these requirements must be set forth as general notes on all landscape plans.

- a. Contractor shall obtain a Pinal County Right-of-Way Use Permit prior to any work being performed within the county right-of-way. Contact Pinal County Public Works Inspection Section at least fourteen (14) calendar days prior to work.
- b. All plant material placed in public rights-of-way shall be on an Active Management Area low water use plant list and approved by the Arizona Department of Water Resources.
- c. All plant material shall meet the minimum standards ~~and~~^[TW102] specifications of the Arizona Nurserymen's Association or ~~American Association of Nurserymen~~^{University of Arizona Pinal County Extension}.
- d. All trees placed in public rights-of-way shall be pruned up and maintained at a seven (7) foot minimum canopy height and minimum of ten (10) feet measured from edge of pavement. The minimum distance from the back of curb to the center of a tree is 3' and from the edge of sidewalk to the center of a tree is 2'. Along an arterial, trees are to be located at the back of the sidewalk.
- e. All plant material placed in the sight visibility triangle easements shall have a maximum growth height of 24 inches. All intersections, including driveways shall comply with the AASHTO Intersection Sight Triangle Requirements. The required Sight Triangle are indicated on the plan.

d. _____

~~e. All plant material placed in the sight visibility triangle easements shall have a maximum growth height of 24 inches. All intersections, including driveways shall comply with the AASHTO Intersection Sight Triangle Requirements.~~

- f. All landscaping and irrigation including drainage ways and rights-of-way shall be maintained by the ~~home~~ Home owners Owners asseeciation-Association or owner.
- g. No plant material shall be placed within three (3') feet or trees within seven (7) feet of a fire hydrant, light pole, electrical or communications box.
- h. Eucalyptus trees and Saguaro cactus shall not be placed in public rights- of-way.
- i. Turf grasses shall not be placed in public rights-of-way, but may be allowed as follows:
 - For erosion control within drainage ways.
 - When reclaimed water can be used for the irrigation system.
- j. Trees placed within seven (7') feet of a concrete structure, including sidewalks and curbs, shall have a root barrier installed adjacent to the structure.
- j-k. Canopy height shall be maintained to a minimum of 10 feet high above sidewalks. If trees are planted in medians or if the canopy extends beyond the edge of pavement the canopy shall be maintained to a minimum of at least 14 feet above the pavement surface.

.2.2 General Irrigation Requirements and Notes

The following are required for all irrigation construction. In addition, these requirements must be set forth as general notes on all irrigation plans.

- a. All mainline pipe to be a minimum of schedule 40.
- b. Sleeves shall be a minimum of two times the diameter of the line size.
- c. All mainlines and irrigation equipment shall be placed in the landscaped areas outside of the public right of way and public utility easement (PUE).
- d. Controller wires that are direct buried shall be NO. 14 or better, bundled and tied or wrapped every twelve (12') feet. During installation wires shall have a 24" loop tied at all direction changes greater than 30 degrees and be untied prior to trench

fill in.

- e. Flush caps shall be placed in a valve box at the end of all laterals.
- f. All valves, pressure regulators and other devices shall be placed in an appropriately sized valve box with a minimum of two (2") inches of pea gravel.
- g. Any and all reclaimed water used for irrigation shall conform to ADEQ Arizona Administrative Code R18-11, Article 3, Reclaimed Water Quality Standards. All reclaimed water lines shall be installed per MAG Specification Section 616.

.2.3 General Backflow Prevention Device (BPD) Requirements and Notes

The following are required for all BPD construction. In addition, these requirements must be set forth as general notes on all irrigation plans.

- a. Prior to placing any irrigation system in service, an Arizona Certified Backflow Device tester shall test the backflow prevention device and give a copy of the passed test results to the Pinal County inspector or mail it to the Pinal County Department of Public Works Inspection Section.
- b. After initial testing, all backflow devices shall be tested and passed annually in accordance with the locale utility company's requirements.
- c. Backflow prevention devices shall be placed a minimum of two (2') feet from the water meter and be the same size as the meter service line.
- d. All BPD devices shall have a minimum 24" X 36" X 4" class B concrete slab with pipe sleeves. If a security cage is installed concrete shall be six (6") inches larger on all sides than the security cage.

.2.4 General Landscape Lighting Requirement and Note

The following is required for all landscape construction. In addition, this requirement must be set forth as a general note on all landscape plans.

All landscape lighting shall comply with the Pinal County [Development Services Code Light Pollution Code and ARS Section 11-251](#), and be fully shielded.

.2.5 General Wall and Fence Requirement and Note

The following is required for all landscape construction. In addition, this requirement must be set forth as a general note on all landscape plans.

Walls and fences shall be placed outside rights-of-way and public utility easements.

.2.6

Cover Sheet

- a. Blue Stake notification.
- b. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with ~~final~~Final/~~tentative~~—Tentative
~~plat~~Plat.
- c. County Case number (~~S-000-00~~) at the lower right hand corner.
- d. Vicinity map with North arrow and section data.
- e. Index of plan sheets if more than one plan sheet.
- f. Developer's name, address, and telephone number.
- g. Landscape Architect's name, address, and telephone number.
- h. Landscape Architect's stamp – signed and dated.

- i. Legend identifying all grades, symbols, lines, etc.
- j. Quantities.
- k. Sheet numbering format - "1 of XX" where XX is total amount of sheets.
- l. Pinal County Engineer Approval Block.

APPROVED BY:

PINAL COUNTY ENGINEER
 DATE PINAL COUNTY, DEPARTMENT OF
 PUBLIC WORKS APPROVAL EXPIRES:

DATE

Δ *RE-APPROVED BY:

PINAL COUNTY ENGINEER DATE
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

.2.7 Plan Sheets

- a. Drawing Scale (minimum): 1" = ~~40'~~ 30' horizontal. Depending on complexity of design, a larger drawing scale may be required.
- b. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- c. Existing field conditions shall extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend a minimum 100' beyond property boundary.
- d. Show the 21'x 21' (local to local) or 33'x 33' (for all others) sight visibility triangle easement (SVTE) all intersections. Show the AASHTO sight distance triangles at all intersections, including driveways.

- e. Brick pavers are not allowed within Pinal County Right of Way. Decorative stamped concrete may be used as an alternative.
- f. Project Heading, title block (located in the lower right hand corner or right hand side of plan sheets), drawing scale, North arrow, and Landscape Architect's seal with signature.
- g. Plans shall show all locations, dimensions, and purposes of any existing and proposed easements. Show right-of-way, existing and proposed pavement, curbs, and sidewalk with width dimensioned.
- h. Sheet reference shall be shown at all match lines.
- i. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.
- j. If a portion of the street improvements for this development is within State, City, or Town jurisdiction, plans are subject to review and approval by that public agency.

CHAPTER 12 TRAFFIC SIGNAL REQUIREMENTS

12.1 General Information

This chapter presents the minimum design criteria, standards and requirements to be referenced when preparing traffic signal improvement plans for submittal to the County. Traffic Signal needs study and warrants are to be per the current Pinal County Traffic Impact Assessment Guidelines & Procedures manual.

Pinal County operates and maintains the traffic signal system throughout the unincorporated limits of the County. The traffic signals are installed through capital improvement projects, subdivision or private development infrastructure improvements.

12.2 Traffic Signal Improvement Plan Requirements

12.2.1 Cover Sheet

- a. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans.
- b. Developer's name, address, and telephone number.
- c. Engineer's name, address, and telephone number.
- d. Engineer's stamp - signed and dated.
- e. Vicinity map with North arrow and section data.
- f. Index of plan sheets if more than one plan sheet.
- g. County case number at the lower right hand corner.
- h. Quantities List of improvements
- i. Blue Stake notification
- j. Sheet numbering format - "1 of XX" where XX is total amount of sheets.
- k. Pinal County Engineer Approval Block

APPROVED BY:

PINAL COUNTY ENGINEER DATE
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES _____
DATE

Δ *RE-APPROVED BY:

PINAL COUNTY ENGINEER DATE
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES: _____
DATE

l. Record Drawing Certification Statement for as-builts on the plans

Subdivision & Infrastructure Design Manual

as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR DATE

REGISTRATION NUMBER

12.2 Design Criteria and Reference Documents

The latest revisions of the following publications are to be used in the design of traffic signals:

12.2.1 Manual on Uniform Traffic Control Devices for Streets and Highways; USDOT, FHWA.

12.2.2 Arizona supplement to the 2003 Manual on Uniform Traffic Control Devices; ADOT.

12.2.3 Traffic Signals and Lighting and Signing and Marking Standard Drawings; ADOT.

12.2.4 Traffic Control Manual for Highway Construction and Maintenance; ADOT.

12.2.5 Manual of Approved Signs; ADOT.

12.2.6 Traffic Engineering Policies, Guidelines and Procedures; ADOT.

12.2.7 Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals; AASHTO.

12.2.8 Roadway Lighting Design Guide; AASHTO.

12.2.9 Guide to Standardized Highway Lighting Pole Hardware; AASHTO.

12.2.10 Traffic Controller Assemblies with NTCIP requirements TS2-1998. National

12.2.11 Electrical Manufacturers Association.

12.2.12 Uniform Standard Specifications for Public Works Construction; MAG.

Subdivision & Infrastructure Design Manual

~~12.3~~ Additional Traffic Signal Improvement Plan Requirements

~~12.3.1~~ 12.2.2 General Requirements and Notes

The following are required for all traffic signal construction. In addition, these requirements must be set forth as general notes on all traffic signal plans.

- a. ~~Developer Contractor~~ shall obtain a Pinal County ~~Right-of-Way Use~~Infrastructure Permit prior to any work being performed within the county right-of-way. Contact Pinal County Public Works ~~Inspection Section~~Department at least 7 working days prior to work.
- b. During the installation of traffic signals or traffic signal interconnect; the Contractor will be responsible for making contact with the Pinal County Public Works ~~Inspection Section~~Department to arrange for inspections. At no time shall conduit be backfilled in the County's right-of-way without an inspection. Any questions concerning traffic signals, traffic signal interconnect or to arrange for an inspection, contact the Pinal County Public Works ~~Inspection Section~~Department. Inspections must be scheduled a minimum of 48-hours (or 2 business days) in advance.
- c. Any conduit that is placed without wiring for a new signal or traffic signal interconnect, a tracer wire (twin green) shall be placed in each conduit.
- d. When required, the Contractor shall install 3-~~4~~2" conduits to box an intersection for future traffic signal installation. If medians are present or are to be constructed with this project, the Contractor shall stub the conduit runs into a #5 pull box in each median.
- e. Pull boxes are to be spaced every 1000 feet on a conduit run, and are to be placed on each side of an intersecting roadway.
- f. Traffic signal conduit, pull boxes and ~~Loop-Video~~ Detection shall be installed.
- g. The traffic signal at the intersection of "name of intersection" will be owned and maintained by the Pinal County Public Works Department. Pinal County practices, standards, and details will govern the design and maintenance of this intersection.
- h. The location of utilities as shown on the plans are approximate. All utilities involved may not be shown. The contractor shall contact "Blue Stake" prior to starting any work and is responsible for Blue

Stake marking as construction is in progress.

- i. All cabinet, service pedestal, and pole foundation locations, as shown on the plans are approximate. The contractor shall field verify all new foundations location with the Pinal County Public Works Department.
- j. The contractor should verify all new foundation locations so as to not conflict with any utilities prior to construction activities.
- k. The contractor should field verify all existing signal equipment and materials, if applicable.
- l. Contractor will ensure that a Level II (I.M.S.A.) Technician is on site at all times while work is in progress.
- m. Prior to beginning ~~construction~~construction, the contractor shall submit an equipment materials list. This must be approved by Pinal County before purchase of any material.
- n. The controller cabinet should be wired and labeled with the same phase number designations, for initial and future phases. As shown in the phase movement diagram. Each connector shall have all pins within the connector brought to cabinet tie points.
- o. Pedestrian push buttons and associated access shall conform to ADA requirements including audible and vibro-tactile indications. ADA audible pedestrian signals shall be installed per Pinal County requirements. The sidewalk layout shall be based on the final pole locations and shall be approved by Pinal County.
- p. Trench backfilling should not be started until conduit has been inspected and approved by Pinal County. Trench excavation, back filling and compaction shall be per MAG Standard Specifications Section 601.
- q. All pull boxes shall be ADOT approved brands and models of polymer boxes, lids, extensions and locks. Traffic signal pull box lids shall say "PINAL COUNTY TRAFFIC SIGNAL" unless otherwise noted on the plans.
- r. The contractor shall maintain a minimum clearance of 21' from the crown of the road to the bottom of the mast arm. Documentation shall be provided to the Pinal County Inspector on site.
- s. The contractor will supply and install 36"x36" "TRAFFIC CONTROL CHANGE" sign, with light and two orange flags per sign, on each approach, as directed by the Pinal County Traffic

Signal Inspector. The location of each sign shall conform to the Manual on Uniform Traffic Control Devices requirements, and must be approved by Pinal County. The mounting height shall be minimum 7'-0". Signs shall be in place at the time of activation of the signal and remain in place for 30 consecutive days.

- t. Contractor to provide and install internally illuminated street name signs as specified on the plans and the special provisions. Sign message/text will be determined by Pinal County as part of the equipment submittal process.
- u. Prior to construction, the contractor will pothole for utilities. Prior to installation of conduit, the contractor will pothole for utilities where conduit installation will cross existing facilities.
- v. Tops of pole foundations shall be at same elevation as that of adjacent sidewalk or flush with the sidewalk. Concrete pole aprons shall be installed around pole bases if no sidewalk is present, the elevations shall match top of adjacent curb.
- w. The contractor shall provide and install the conduit runs from the utility company's power source pod to the meter pedestal. The utility company will install the service wire from the utility's power supply (POD) to the meter pedestal.
- x. The signal cabinet shall be installed such that maintenance personnel facing the door of the cabinet shall be able to view the intersection.
- y. The Contractor shall replace all landscaping and irrigation facilities that may be disturbed or damaged during traffic signal construction at his own expense.
- z. All Materials and installation of traffic signals, cabinet etc. shall conform to Pinal County's standards and details of the Arizona Department of Transportation (ADOT) Traffic Signal and Lighting standard drawings latest approved edition, the Manual on Uniform Traffic Control Devices (MUTCD) latest approved edition, the current MAG specifications and details, the special provisions and these plans.
- aa. All luminaires shall be compliant with the Pinal County [Development Services Code Light Pollution Code, A.R.S. Section 11-25](#); and shall be fully shielded.
- bb. Traffic Control and barricading shall be according to the Manual on Uniform Traffic Control Devices and Pinal County requirements.
- cc. Any work on arterial or collector roads will require an off-duty Pinal

County Sheriff's Officer with vehicle for traffic control. Contact should be made through the PCSO representative.

dd. The contractor will work from the County approved plan set. An approved set of plans will be on the job site at all times while work is in progress. Any deviations from approved plans shall not be allowed without an approved plan revision.

f.ee. Any work performed without the approval of the Pinal County Engineer and not in accordance with plans and specifications, is subject to removal and replacement by the contractor at no expense to Pinal County.

12.3.212.2.3 Plan Sheets

The Traffic Signal plan shall show the proposed intersection geometry and the traffic signal installation. All existing signal equipment is to be shown on the plan. Traffic signal plans shall be submitted on separate sheets apart from any other part of the construction documents with a scale no less than 1"=20'. Plan sheets must include the following: [BB103]

- a. Include the exact location of all major items of equipment such as poles, foundation, luminaries, conduit, signal heads and faces, ground boxes, detectors, controllers, etc. shown in detail.~~Traffic signal plans shall be submitted on separate sheets apart from any other part of the construction documents with a scale no less than 1"=20'.~~
- b. Identify all ingress/egress points to include street intersections and residential/commercial driveways within 500' of the installation point of the traffic signal.
- c. Show all new and existing utilities within the right-of-way and label them accordingly.
- d. Show all new and existing traffic control (signing, striping, traffic signals, lighting, stop lines etc.
- e. Show all existing town, city, county and state boundary limits and the existing and proposed right-of-way and dimension them accordingly.
- f. Project Heading, title block (located in the lower right hand corner, or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- g. Identify the traffic signals electric "service address".

d-h. Blue Stake notification.

CHAPTER 13 TRAFFIC SIGNING AND PAVEMENT MARKINGS REQUIREMENTS

13.1 General Information

This chapter provides the minimum design criteria, standards, and requirements to be referenced when designing traffic signs and pavement marking improvements within the County.

13.2 Traffic Signing and Pavement Marking Plan Requirements

13.2.1 Cover Sheet

- a. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with ~~f~~Final/~~T~~Tentative ~~p~~Plan.
- b. County case number at the lower right hand corner.
- c. Vicinity map with North arrow and section data.
- d. Index of plan sheets if more than one plan sheet.
- e. Developer's name, address, and telephone number.
- f. Engineer's name, address, and telephone number.
- g. Engineer's stamp - signed and dated.
- h. Legend identifying all grades, symbols, lines, etc.
- i. Quantities.
- j. Blue Stake notification.
- k. Basis of Bearings.
- l. Sheet numbering format - "1 of XX" where XX is total amount of sheets.
- m. Pinal County Engineer Approval Block

APPROVED BY:

PINAL COUNTY ENGINEER _____ DATE _____
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES

DATE _____

Δ *RE-APPROVED BY:

PINAL COUNTY ENGINEER _____ DATE _____
 PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE _____

- n. Record Drawing Certification Statement for as-builts on the plans as follows:**

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR DATE

REGISTRATION NUMBER

~~13.2~~ Design Criteria and Reference Documents

~~The following publications or their current revisions are to be used in conjunction with the design criteria in this Manual for traffic signs and pavement markings design work.~~

~~13.2.1~~ Manual of Uniform Traffic Control Device for Streets and Highways (MUTCD).

~~13.2.2~~ Signs and Marking – Standard Drawings (ADOT).

~~13.2.3~~ ADOT Traffic Control Design Guidelines (ADOT).

~~13.2.4~~ Manual of Approved Signs (ADOT).

~~13.2.5~~ Traffic Engineering Policies, Guidelines and Procedures (ADOT).

~~13.2.6~~ Uniform Standard Specifications for Public Works Construction (MAG).

~~13.2.7~~ Uniform Standard Details for Public Works Construction (MAG).

~~13.3~~ Additional Traffic Signing and Pavement Marking Plan Requirements

~~13.3.1~~ 13.2.2 General Requirements and Notes

The following are required for all traffic signing and pavement marking design and construction. In addition, these requirements must be set forth as general notes on all traffic signing and pavement marking plans

~~a.~~ Traffic signing and pavement markings plans shall be submitted with a scale no less than 1"=40' and include all centerline curve data.

~~b.~~ Traffic signing and pavement markings design should be in

the same plan view on the same plan sheet, if practical.

- c. Entire length of project is to be shown in plan view. Typical sections representative of traffic signing and pavement markings will not be accepted.
- d. Show the existing roadway, signing and marking and proposed signing and markings for approximately 500 feet beyond the project limits on each approach to the project.
- e. Identify all ingress/egress points to include street intersections and residential/commercial driveways within 500' of the project limits on both approaches and on both sides of the street.
- f. Show all new and existing signs within the right-of-way and identify them. Label existing signs "EXISTING" and show them grayed out.
- g. Right-of-way lines, city and county limits are to be clearly identified.
- h. All islands on arterial roadways shall be signed per the MUTCD guidelines. The beginning of each median where none exists prior, are to be signed. Median breaks in a continuous median will not require signing.
- i. STOP signs are to be shown at all local streets that intersect with collector streets within a subdivision. Local/local street intersections may not be STOP controlled unless directed by Public Works. STOP signs will be shown at all collector street intersections.
- j. All signing and pavement marking shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) as supplemented by the Arizona Department of Transportation with regard to size, color, shape, and placement. All sign posts shall be square tube in accordance with ADOT Standard Drawing S-1 and all post foundations shall be "slip base" in accordance with said standard drawing, unless as directed by the Pinal County Public Works Department. Sign retro reflective sheeting shall be in accordance with ADOT Section 1007.

13.3.2 Additional General Requirements and Notes

The following additional requirements are required for all traffic signing and pavement marking construction. In addition, these requirements must be set forth as general notes on all traffic signing and pavement marking plans

- a. ~~Developer-Contractor~~ shall obtain a Pinal County ~~Right-of-Way-UseInfrastructure~~ Permit prior to any work being performed within the county right-of-way. Contact Pinal County Public Works ~~Inspection-SectionDepartment~~ at least ~~fourteen (14) calendar-7-working~~ days prior to work.
- b. ~~Contractor is responsible for Blue Stake marking prior to installation of~~^[BB104]
- ~~b. any sign posts. Contractors installing traffic signs shall obtain a right-of-way permit from the Public Works Department prior to beginning any work within the County's right-of-way.~~
- c. All signing installed within the County's right-of-way shall be installed by an individual that has current certification from the International Municipal Signal Association (IMSA) or the American Traffic Safety Services Association (ATSSA), or equivalent. Equivalency shall be submitted for review prior to being accepted by the County.
- d. A pre-installation meeting with Public Works Department staff will be required prior to installing any signs or posts ~~or pavement markings~~ within ~~the County~~ right-of-way. Permits may be issued prior to this meeting but will not be valid until after the pre-installation meeting is held. To schedule a pre-installation meeting contact the Public Works ~~Division Department~~ two (2) business days prior.
- e. All signing and pavement markings^s shall conform to the ~~adopted latest edition of the~~ Manual on Uniform Traffic Control Devices ~~and~~ as supplemented by the Arizona Department of Transportation with regard to size, color, shape, and placement.
- ~~f. Street Name Sign installation—street name signs shall be installed at each intersection. If street name signs are to be installed on an existing or proposed street light pole, each sign shall be installed on a separate bracket. For street name sign blades that are 23" and under a 12" bracket shall be used. For blades that are 24" to 35", an 18" bracket shall be used. For blades that are 36" and above, a 24" bracket shall be used.~~
- ~~g. All sign sheeting shall conform to Section 1007 Retro reflective Sheeting of the ADOT Standard Specifications for Road and Bridge Construction Manual.~~
- ~~h. All signs shall be installed using 2" square tubing in accordance with ADOT Standard Drawing S-1. Sign~~

foundation systems shall be “slip base” type per the same standard drawing.

- i. The Contractor shall allow the concrete in the postholes to cure for at least 24 hours prior to standing the poles.
- j. Any signing that is to be relocated shall be reinstalled as directed by the Public Works Department.
- k. Any sign, except stop signs and street name signs, that is to be installed within 25 feet of an existing street light pole shall be installed on that pole and not on a separate support. Signs that need to be removed during construction shall be done so by the Contractor at their expense.
- l. The Contractor shall ensure that at no time a traffic sign is installed in such a way as to be blocked by trees or vegetation. In these cases the Contractor shall contact the Public Works Department to provide an alternate location for the installation of signing in question.
- m. Signing quantities and installation locations are subject to change at the time of installation based upon current accepted practice. The Contractor completing the signing installation is required to make contact with the Public Works Department prior to any signing being installed within the County's right-of-way.
- n. All pavement markings shall conform to the Arizona Department of Transportation and Specifications unless otherwise specified in the Manual of Uniform Traffic Control Devices, (Latest Editions), or as noted on the plans.
- o. The Contractor shall spot mark the entire project before applying any paint. When the spotting is complete the Contractor shall contact the county construction inspector, to make arrangements for inspection prior to applying any paint (3 business days advance notice is required). The permanent marking plans may be modified as directed by the County Engineer. The Contractor shall refer any questions concerning pavement marking to the Pinal County Traffic Engineering Section.
- p. Any pavement markings applied prior to field inspection by the Pinal County Traffic Engineering Section shall be removed and re-striped at the expense of the Contractor.
- q. It is the contractor's responsibility to ensure that the final surface course is placed so that the striping is offset 1 foot

clear of the construction joint, unless otherwise directed by the County Engineer.

- r. The dimensions shown to pavement striping are to the center of the striping or, in the case of double striping, to the center of the double striping.
- s. The final striping shall be 60 mil (0.060 inch) thick hot-sprayed thermoplastic reflectorized striping. Line widths shall be in accordance with ADOT Standard Drawings.
- t. The pavement arrow, symbols and legend shall be white 90 mil (0.090 inch) thick alkylid extruded thermoplastic reflectorized markings. Turn lane arrows shall be located in accordance with ADOT Standard Drawing M-11 with the exception of the word marking "ONLY" which shall not be used.
- u. The contractor shall clean the roadway surface to the satisfaction of the County Engineer, by sweeping and air jet blowing, immediately prior to the placement of all pavement markings. The roadway surface shall be dry and the air and pavement temperatures shall not be less than 50 degrees F for the placement of thermoplastic markings.
- v. All raised pavement markers shall have an abrasion resistant coating on the face of the prismatic reflectors and shall conform to the details of Standard Drawing M-19. They shall be installed with a bituminous adhesive which is on the ADOT approved products list.
- w. Where raised pavement markers are placed along solid striping, the nearest edge of each marker shall be offset 2 inches from the nearest edge of the striping.
- x. All signs shall be in compliance with the Manual on Uniform Traffic Control Devices (MUTCD), the ADOT Signing and Marking Standard Drawings, and the Traffic Engineering Manual of Approved Signs. All signs shall be fabricated of flat sheet aluminum with direct applied copy or silk-screened legend. Retro reflective sheeting shall be in accordance with ADOT Section 1007.
- y. The bottom of each sign shall be at least 7 feet above the nearest edge of pavement and at least 7 feet above the ground under the sign.
- z. The contractor shall install the signs so the nearest edge or corner of each sign is offset 2 feet behind the back of the

sidewalk.

- ~~aa. Raised median and curbs shall be marked in accordance with ADOT Standard Drawing M-1.~~
- ~~bb. All signing and pavement markings shall be installed within 5 calendar days of completion of the final lift pavement surface or as required by the Engineer.~~
- ~~cc. Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices or Pinal County requirements.~~
- ~~dd. Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least three (3) working days prior to work for review and approval.~~
- ~~ee. Any work on Arterial or Collector Roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.~~
- ~~ff. Plan approval is valid for twelve (12) months. If approval expires, the plans must be resubmitted for County update review and approval.~~
- ~~gg. All Signs must be manufactured of "ASTM D-4956-01a-Proposed Type XI Sheeting" (3M 4000 DG3 series or equivalent) which will be attached to the standard signage aluminum plates. Sign imaging shall be in compliance with the reflective sheeting manufactures matched component system. Sign imaging shall consist of an acrylic based electronic cuttable film (3M 1170 Series or equivalent) or silk screened (depending on the quantity of signage) with standard highway colors. In addition, if called out on plans, to create a graffiti-protective coating, a premium protective overlay film (3M 1160 or equivalent) shall be used which is designated to comply with the underlying reflective sheeting match component system.~~
- f. All^[BB105] Signs must be manufactured of "ASTM D-4956-01a-Proposed Type XI Sheeting" (3M 4000 DG3 series or equivalent) which will be attached to the standard signage aluminum plates. Sign imaging shall be in compliance with the reflective sheeting manufactures matched component system. Sign imaging shall consist of an acrylic based electronic cuttable film (3M 1170 Series or equivalent) or silk screened (depending on the quantity of signage) with standard highway colors. In addition, if called out on plans, to create a graffiti-protective coating, a premium protective overlay film (3M 1160 or equivalent) shall be used which is designated to comply with the underlying reflective sheeting match component system. All signs must have a quarter inch (1/4") white

border.

- g. The bottom of each sign shall be at least 7 feet above the nearest edge of pavement and at least 7 feet above the ground under the sign.
- h. The contractor shall install the signs so the nearest edge or corner of each sign is offset 2 feet behind the back of the sidewalk or back of curb, or if no curb exists, it shall be placed a minimum of 6 feet from the edge of pavement.
- i. Street Name Sign installation – street name signs shall be installed at each intersection. For street name sign blades that are 23" and under a 12" bracket shall be used. For blades that are 24" to 35", an 18" bracket shall be used. For blades that are 36" and above, a 24" bracket shall be used.
- j. All sign sheeting shall conform to Section 1007 Retro reflective Sheeting of the ADOT Standard Specifications for Road and Bridge Construction Manual.
- k. All signs will be installed using ADOT Signing and Marking Standards (Detail S-3).~~All signs will be installed using 2" square tubing and in accordance with ADOT Signing and Marking Standards (Detail S-1). Sign foundation systems will be "slip base" type per the same standard drawing.~~
- l. The Contractor shall allow the concrete in the postholes to cure for at least 24-hours prior to standing the poles.
- m. Any sign that is to be relocated shall be reinstalled as directed by the Public Works Department. Signs that need to be removed ~~or~~ relocated during construction shall be done so by the Contractor at their expense.
- n. The Contractor shall ensure that at no time a traffic sign is installed in such a way as to be blocked by trees or vegetation. In these cases the Contractor shall contact the Public Works Department to provide an alternate location for the installation of signing in question.
- o. Signing quantities and installation locations are subject to change at the time of installation based upon current accepted practice.
- p. All pavement markings shall conform to the Arizona Department of Transportation Specifications and the Manual of Uniform Traffic Control Devices.

- q. The Contractor shall spot mark the entire project before applying any paint. When the spotting is complete the Contractor shall contact the Pinal County Public Works Department, to make arrangements for inspection prior to applying any paint (5 working days advance notice is required).
- r. The Contractor shall apply a primer-sealer prior to the installation of all thermoplastic pavement markings in accordance with the thermoplastic manufactures' recommendations.
- s. Any pavement markings applied prior to field inspection by the Pinal County Public Works Department shall be removed and re-stripped at the expense of the Contractor.
- t. It is the contractor's responsibility to ensure that the final surface course is placed so that the striping is offset 1 foot clear of the construction joint, unless otherwise directed by the County Engineer.
- u. The dimensions shown to pavement striping are to the center of the striping or, in the case of double striping, to the center of the double striping.
- v. The final striping shall be 60 mil (0.060 inch) thick hot-sprayed thermoplastic reflectorized striping. Line widths shall be in accordance with ADOT Standard Drawings.
- w. The pavement arrow, symbols and legend shall be white 90 mil (0.090 inch) thick alkyd extruded thermoplastic reflectorized markings. Turn lane arrows shall be located in accordance with ADOT Standard Drawing M-11.
- x. The contractor shall clean the roadway surface to the satisfaction of the County Engineer, by sweeping and air-jet blowing, immediately prior to the placement of all pavement markings. The roadway surface shall be dry and the air and pavement temperatures shall not be less than 50 degrees F for the placement of thermoplastic markings^[BB106].
- y. Any obliterated pavement markings shall be thoroughly cleaned and sealed with an asphalt slurry coating within 24 hours of removal.
- z. All retro-reflective raised pavement markers shall have an abrasion resistant coating on the face of the prismatic reflectors and shall conform to the details ADOT Standard Drawing M-19. They shall be installed with a bituminous adhesive which is on the ADOT approved products list.

- aa. Where retro-reflective raised pavement markers are placed along solid striping, the nearest edge of each marker shall be offset 2 inches from the nearest edge of the striping.
- bb. All signs shall be in compliance with the Manual on Uniform Traffic Control Devices (MUTCD), the ADOT Signing and Marking Standard Drawings, and the Traffic Engineering Manual of Approved Signs. All signs shall be fabricated of flat sheet aluminum with direct applied copy or silk-screened legend. Retro reflective sheeting shall be in accordance with ADOT Section 1007.
- cc. Raised median and curbs shall be marked in accordance with ADOT Standard Drawing M-1 and MUTCD Section 2B.32 and 2C.64.
- dd. All signing and pavement markings shall be installed within five (5) working days of completion of the final lift pavement surface or as required by the County Engineer.
- ee. Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices or Pinal County requirements.
- ff. Any work on Arterial or Collector Roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.
- gg. Plan approval is valid for twelve (12) months from the date of County approval. If approval expires prior to commencement of work, the plans must be resubmitted to Pinal County for update review and approval.

13.3.3 Cover Sheet

- a. Project Heading block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.
- b. Case Number (S-000-00) at the lower right hand corner.
- c. Vicinity map with North arrow and section data.
- d. Index of plan sheets if more than one plan sheet.
- e. Developer's name, address, and telephone number.
- f. Engineer's name, address, and telephone number.

- ~~g. Engineer's stamp—signed and dated.~~
- ~~h. Legend identifying all grades, symbols, lines, etc.~~
- ~~i. Quantities.~~
- ~~j. Basis of Bearings.~~
- ~~k. Sheet numbering format—"1 of XX" where XX is total amount of sheets.~~
- ~~l. Pinal County Engineer Approval Block.~~

~~APPROVED BY:~~

~~PINAL COUNTY ENGINEER~~
~~DATE PINAL COUNTY, DEPARTMENT OF~~
~~PUBLIC WORKS APPROVAL EXPIRES:~~
~~DATE~~

- ~~m. As-Built Certification Statement shall be shown on the plans as follows: AS-BUILT CERTIFICATION~~

~~I HEREBY CERTIFY THAT THE "RECORD
DRAWING" MEASUREMENTS AS SHOWN HEREON
WERE MADE UNDER MY~~

SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR _____ DATE _____

REGISTRATION NUMBER _____

13.3.413.2.3 Plan Sheet Requirements

- a. Drawing Scale (minimum): 1" = 40' horizontal. Depending on complexity of design, a larger drawing scale may be required.
- b. Project Heading, title block (located in the lower right hand corner or right hand side of plan sheets), drawing scale, North arrow, and PE seal with signature.
- c. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.
- d. Traffic signing and pavement markings design should be in the same plan view on the same plan sheet, if practical.
- e. Entire length of project is to be shown in plan view. Typical sections representative of traffic signing and pavement markings will not be accepted.
- f. Show the existing roadway, signing and marking and proposed signing and markings for approximately 500 feet beyond the project limits on each approach to the project.
- g. Identify all ingress/egress points to include street intersections and residential/commercial driveways within 500' of the project limits on both approaches and on both sides of the street.
- h. Show all new and existing signs within the right-of-way and identify them. Label existing signs "EXISTING" and show them grayed out.
- i. Right-of-way lines, city and county limits are to be clearly identified.
- j. All islands on ~~a~~Arterial roadways shall be signed per the

MUTCD guidelines. The beginning of each median where none exists prior are to be signed. Median breaks in a continuous median will not require signing.

k. Stop signs are to be shown at all ~~Local~~ ~~Streets~~ that intersect with ~~Collector~~ ~~Streets~~ within a subdivision. Local to ~~Local~~ ~~Street~~ intersections may not be stop controlled unless directed by the County Engineer. Stop signs will be shown at all ~~Collector~~ ~~Street~~ intersections.

~~e.l.~~ County case number at the lower right hand corner (on all sheets).

~~d.m.~~ Existing field conditions ~~shall~~ should extend to the full existing right-of-way along the entire perimeter of the property or, where no right-of-way exists, extend a minimum 100' beyond property boundary.

n. Show proposed lane widths. Minimum proposed lane width to be 12'.

~~e.o.~~ Show right-of-way, existing and proposed pavement with width dimensioned.

~~f.p.~~ Show centerline survey data.

g. Sheet references with station numbers shall be shown at all match lines.

~~g.~~

r. 6.5' bike lanes should be provided on both sides on all arterials and major collectors (measured from back of curb to center of striping).

~~h. 6.5' (measured from back of curb to center of striping) bike lanes shall be provided on both sides on all arterials and major collectors.~~

~~i.s.~~ All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a triangle (delta revisions). The original plan sheet shall be "x'd" out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an "A" after the number. Pinal County Engineer's Re-Approval block indicating the delta revision shall be placed on the cover sheet.

11.11.11 If a portion of the street improvements for this development is within State, City, or Town jurisdiction, plans are subject to review and approval by that public agency.

CHAPTER 14 DRY UTILITIES AND OTHER IMPROVEMENT PLANS NOT SPECIFIED

14.1 General Information.

This chapter provides guidance and minimum design criteria for the modification and construction of dry utilities and other improvement plans that may be required that are not specified in this manual. It is intended for use in planning, design and plan preparation processes. Dry utilities and other improvement plans include but are not limited to: electrical, telecommunications and natural gas systems. These systems bring power, communication and fuel into a building, distribute it throughout. Examples of dry utility systems include electrical power, natural gas, telephone and cable. From time to time due to unique development conditions, the County Engineer may require plan submittals for dry utility installation or special improvement plan that does not fit into other improvement plans specified in the Manual. The County Engineer may require additional notes or utilize other specifications to ensure compliance with this Manual, other applicable Codes and Ordinances, and plan preparation and infrastructure design practices.

14.1.1 Plans shall be prepared in accordance with the Improvement Plan Requirements shown in Chapter 5 of this Subdivision & Infrastructure Design Manual.

14.2 Additional Dry Utilities and other Improvement Plans Requirements.

The following requirements apply to Dry Utilities and unspecified Improvement Plan Submittal to Pinal County:

14.2.1 Cover Sheet

A. Blue Stake notification.

B. Project Heading Block (located in the upper, middle of cover sheet) indicating name of project, type of plans. Check heading is consistent with final/tentative plat.

C. County Case number at the lower right hand corner.

D. Vicinity map with North arrow and section data.

E. Index of plan sheets if more than one plan sheet.

F. Developer's name, address, and telephone number.

G. Engineer's name, address, and telephone number.

H. Engineer's stamp - signed and dated.

I. Legend identifying grades, symbols, lines, etc.

J. Quantities.

K. Basis of bearings and benchmark (NAVD 88 datum).

L. Sheet numbering format - "1 of XX", where XX is the total amount of sheets.

M. Pinal County Engineer Approval Block:

APPROVED BY:

PINAL COUNTY ENGINEER DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

Δ *RE-APPROVED BY:

PINAL COUNTY ENGINEER DATE

PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES:

DATE

N. Utility Company or provider and ADEQ approval block (if applicable). Both approvals are required prior to County approval.

O. Provide a Record Drawing Certification Statement for "as-builts" on the plans as follows:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

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REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

14.2.2 General Requirements and Notes

The following are required for all dry utility construction and other unspecified improvement plans. In addition, these requirements must be set forth as general notes on all plans.

A. Contractor shall obtain a Pinal County Right of Way Use Permit prior to any work being performed within the county right of way. Contact Pinal County Public Works Inspection Section at least 14 working days prior to work. The proposed traffic control plan may be submitted along with the Permit.

B. All work required to complete the construction covered by these plans shall be in accordance with the Pinal County Subdivision & Infrastructure Design Manual and applicable MAG Standard Specifications and Details.

C. All frames, covers, valve boxes, and manhole covers shall be adjusted to finished grade prior to completion of construction. (If located outside pavement section, prefer level with finished grade but allow 6" max above finished grade.)

D. Contractor is responsible for Blue Stake marking as construction is in progress.

E. All residents to be notified in person a minimum of 24 hours prior to driveway crossing.

F. Traffic control and barricading shall be according to the Manual on Uniform Traffic Control Devices and Pinal County requirements. Contractor to supply lighted barricades with open trench signage.

G. Contractor shall submit a Traffic Control plan to Pinal County Public Works Inspection Section at least fourteen (14) working days prior to work for review and approval.

H. Any work on arterial or collector roads shall require an off-duty Pinal County Sheriff's Officer for traffic control. Contact shall be made through the PCSO representative.

I. No trench to be left open/uncovered after working hours unless properly signed and barricaded per the approved Traffic Control Plan.

J. All trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.

K. Plan approval is valid for twelve (12) months from the date of County approval. If approval expires, the plans must be resubmitted to Pinal County Public Works Department for update review and re-approval.

14.2.3 Plan Sheets

A. Drawing Scale (minimum): 1" = 40' horizontal and 1" = 4' vertical. Depending on complexity of design, a larger drawing scale may be required.

B. An overall key map to be provided to include proposed street names and neighboring properties to be noted as "UNSUBDIVIDED" if not yet platted, but if there is a proposed plat, provide plat name. If neighboring property is platted, provide recorded information.

C. Blue Stake Notification.

D. Sheet references shall be shown at all match lines.

E. Project Heading, title block (located in the lower right hand corner or right side of plan sheets), drawing scale, North arrow, and PE seal with signature.

F. Utility lines shall be placed within the pavement section.

G. All plans revised after the original approval shall be submitted to Pinal County Public Works Department for re-approval. Changes on each plan sheet shall be highlighted with "clouding" and be labeled with a numeral within a

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triangle (delta revisions). The original plan sheet be “x’d” out and shall remain the same sheet number and the plan sheet showing the revisions shall be labeled with the same number but with an “A” after the number. Pinal County Engineer’s Re-Approval block indicating the delta revision shall be placed on the cover sheet.

H. If a portion of the street improvements for this development is within State, City or Town jurisdiction, plans are subject to review and approval by that public agency.

14.2.4 Details

A. Plans shall include a typical detail for the trench. Trench typical detail per MAG Standard Specifications. Pea gravel material will not be allowed within rights-of-way or public utility easements. Detail shall include the following note:

“Within the right-of-way, trench excavation, backfilling and compaction shall be per MAG Standard Specification Section 601. Bedding shall be specifically per MAG Standard Specifications 601.4.2 and 601.4.6.”

B. Plans shall include a typical service location detail.

CHAPTER 15 AS-BUILT PLANS REQUIREMENTS

14.115.1 General Information

This chapter provides guidance and minimum requirements for the preparation of As-Built ~~plans~~Plans. It is intended for use during construction and documentation of infrastructure projects.

In accordance with the Pinal County Subdivision Regulations acceptable As-Built ~~plans~~Plans are required prior to the release of a Certificate of Completion^[TW107]. Additionally, any type of construction will not be accepted until certified As-Built ~~plans~~Plans have been submitted to and accepted by the County.

14.1.115.1.1 Submittals

- a. "As-Built" ~~plans~~Plans shall be 24" x 36", one bond copy and one electronic copy in PDF format submitted on 24" x 36" mylar (4 mil thickness) and be of quality allowing microfilming.
- b. "As-Built" ~~plans~~Plans shall be signed and sealed by a Professional Engineer or Land Surveyor registered in the State of Arizona with a completed and sealed "AS-BUILT RECORD DRAWING" CERTIFICATION" approval block.

14.215.2 Minimum As-Built Requirements

These are the minimum technical requirements for As-Built ~~plans~~Plans. The As-Built ~~plans~~Plans must also include all noted changes to the improvement plans.

14.2.115.2.1 Street Paving Plans

- a. Station for all grade breaks.
- b. Back of curb offset dimension at all changes in alignment.
- c. Top of curb, gutter and pavement centerline elevations at all grade breaks, curb return, valley gutters, plus any other location necessary to adequately show drainage.
- d. Survey monuments – installation and accuracy certifications.

14.2.215.2.2 Irrigation and Storm Drain Plans

- a. Street centerline station and offset dimension to the main at all changes in alignment and/or changes in grade.
- b. Street centerline station and offset dimension to all structures and changes in alignment.

- c. Top and invert elevations for all structures.

~~14.2.3~~15.2.3 Grading Plans

- a. Elevations at all drainage control points (i.e. retention overflow point, tops and bottoms of retention basins, drain rims, valley gutters, and curbs).
- b. Dimensions of all retention areas.
- c. Retention calculations revised to as-built condition.
- d. Finished pad and ~~proposed~~ finished floor elevations.

~~14.2.4~~15.2.4 Water System Plans

- a. Street centerline station and offset dimensions to:
- b. All fire hydrants and fittings (i.e. valves, blow-offs, etc.).
- c. Main at all changes in alignment.
- d. All horizontal control points (i.e. centerline intersects, P.C., P.T.).
- e. Station and elevations given at all vertical alignment changes.
- f. Centerline station and offset to each service tap; size of tap and dimension to nearest side property line.
- g. Note centerline station, offset and elevations to all changes in vertical alignment (i.e. dips, bends, etc., required to avoid conflicts with other utilities).

~~14.2.5~~15.2.5 Sewer System Plans

- a. Street centerline station and offset dimension from street centerline to main at manholes and all changes in alignment.
- ~~a.~~ b. Sewer line station at centerline of each manhole.
- ~~b-c.~~ Rim and invert elevation for each manhole.
- ~~c-d.~~ Calculated slope between manholes.
- e. Sewer line stationing at centerline of each service tap at 90 degrees to main; if not installed 90 degrees to main, station and offset to end of each service tap.

15.2.6 Landscape and Irrigation Plans

- a. All plant material placed in the sight visibility triangle easements shall have a maximum growth height of 24 inches.

All intersections, including driveways shall comply with the AASHTO Intersection Sight Triangle Requirements.

- b. All landscaping and irrigation including drainage ways and rights-of-way.
- c. Trees placed within seven (7') feet of a concrete structure, including sidewalks and curbs, shall have a root barrier installed adjacent to the structure.
- d. All mainlines and irrigation equipment placed in the landscaped areas outside of the public right of way and public utility easement (PUE).
- e. All valves, pressure regulators and other devices placed.
- f. Any and all reclaimed water used for irrigation shall conform to ADEQ Arizona Administrative Code R18-11, Article 3, Reclaimed Water Quality Standards. All reclaimed water lines shall be installed per MAG Specification Section 616.
- g. Backflow prevention devices placed.
- h. All BPD devices shall have a minimum 24" X 36" X 4" class B concrete slab with pipe sleeves. If a security cage is installed concrete shall be six (6") inches larger on all sides than the security cage.
- d.

CHAPTER ~~15.1~~16 PERMITTING, INSPECTION & CONSTRUCTION

~~15.1~~16.1 General Information

This chapter outlines the requirements for permitting, inspection and overall standards for construction in Pinal County

~~15.2~~16.2 Permit Requirements

All infrastructure improvements within right-of-way shall be constructed under an approved permit from the Pinal County Public Works [Quality Assurance Inspection Section](#)^[TW108]. The permit application must be submitted at least ~~fourteen (14)~~[seven \(7\) working calendar](#) days before work is scheduled to begin. Until all improvement plans, studies, reports, investigations and required assurances have been submitted and approved, the permit application for work within the subdivision and rights-of-way will not be accepted.

~~15.3~~16.3 Notification of Construction

The County Engineer ~~or his representative~~^[TW109][designee](#) shall be notified at least ~~fourteen (14)~~[seven \(7\) calendar](#) days prior to the start of construction.

~~15.4~~16.4 Specifications

~~15.4.1~~[16.4.1](#) All work and material shall conform to the current Uniform Standard Specifications for Public Works Construction (MAG).

~~15.4.2~~[16.4.2](#) It is not the intention of the Pinal County Public Works Department to prohibit use of other materials, methods or designs for infrastructure improvements. Other County specifications may be substituted as satisfactory alternates with prior submission of structural designs, tests and other supporting data and upon written approval of the County Engineer prior to approval of plans or performance of work.

~~15.5~~16.5 Materials

~~15.5.1~~[16.5.1](#) [Aggregate](#) Base Material - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction. The total thickness shall be determined by laboratory tests of the subgrade materials with a minimum of ~~six inches~~[six-inch](#) Class II Aggregate Base.

~~15.5.2~~[16.5.2](#) Asphaltic Concrete - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction. [Asphalt and polymer modified asphalt containing air blown/oxidized asphalt, polyphosphoric acid \(PPA\), or re-refined/recycled engine oil bottoms \(REOB\) will not be accepted.](#) ~~except that the minimum asphalt content shall be five per cent (5%) unless otherwise~~

approved in writing by the County Engineer. Local residential streets, use 1½" Marshall Mix design; Collector streets, 1½" Gyratory Mix design and Arterial streets 2" 1½" Gyratory Mix over 3" ¾" Gyratory Mix designs.

~~15.5.3~~16.5.3 Concrete for all curb, gutter, sidewalks, driveway entrances, wash crossings and street related concrete construction shall meet MAG Uniform Standard Specification and Details for Public Works Construction.

— Reinforced Concrete Pipe - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction.

16.5.4 Corrugated Metal Pipe - Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction.

~~15.5.4~~ — Polypropylene Pipe – Shall meet MAG Uniform Standard Specifications and Details for Public Works Construction Section 740 and AASHTO M330.

16.5.5

~~15.5.5~~16.5.6 Miscellaneous - All construction shall meet MAG Uniform Standard Specifications and Details for Public Works.

15.616.6 Pavement

~~15.6.1~~16.6.1 All pavement and curbs and gutters shall be constructed to the grades set by the Engineer of the project per the approved plans. Asphalt and polymer modified asphalt containing air blown/oxidized asphalt, polyphosphoric acid (PPA), or re-refined/recycled engine oil bottoms (REOB) will not be accepted

~~15.6.2~~16.6.2 The subgrade of the street shall be scarified to a depth of at least 6" and thoroughly compacted by wetting and rolling per MAG specifications. ~~The compacted depth shall be not less than six (6) inches.~~

- a. On every project samples of the subgrade material shall be taken per each soil type on the project or as determined by the County Engineer. at locations not more than 500 feet apart. Samples shall be tested by an approved laboratory. Laboratory reports shall be submitted to the County Engineer with street paving plans. The report shall show plastic index and gradation. The depth of the base material required shall be established after analysis of the subgrade soil and shall be in accordance with the plasticity index/grading chart set forth in these regulations.

— The base material shall conform to MAG Specifications 310.2. be sand and gravel or crushed rock (not decomposed granite) and shall conform to gradation as required by the County Engineer. The plasticity index shall not exceed five (5). Material shall be placed in uniform layers not to exceed four

~~(4) inches in depth.~~ Each layer shall be bladed to a smooth surface conforming to the cross sections shown on the plans and shall be watered and thoroughly rolled in a manner satisfactory to the County Engineer. Laboratory reports showing gradation and the plasticity index, shall be submitted to the office of the County Engineer^[BB110].

b.

Asphaltic concrete shall conform to MAG Specification Sections 321 and 710.

Asphalt and polymer modified asphalt containing air blown/oxidized asphalt, polyphosphoric acid (PPA), or re-refined/recycled engine oil bottoms (REOB) will not be accepted. ~~The compacted depth of the bituminous mix required for surfacing shall be not less than two and one-half (2 1/2) inches. The aggregate shall be sand and gravel or crushed rock (not decomposed granite) and shall conform to gradation, as required by the County Engineer. Plasticity index shall not exceed five (5).~~

c.

~~The cost of all sampling and testing shall be borne by the subdivider or contractor. Bituminous material satisfactory to the County Engineer shall be used at the rate of 4% to 6% by weight. The materials shall be thoroughly mixed to provide a uniform coating and adequate cementation and stability. Mixing may be by field or plant methods. After spreading, the surface shall be rolled with a roller weighing not less than five (5) tons.~~

d.

~~Seal Coat- A construction fog seal shall be applied at the 1 year warranty walk-through, at such a time all pavement marking shall also be refreshed according to approved as-built plans.~~

e.

~~b. to the finished Asphaltic Concrete surface at the rate of 0.10 gallons of diluted mixture per square yard. The dilution shall be two (2) parts of the concentrate to one (1) part water. No sanding will be required.~~

The Fog Seal Concentrate shall be composed of a petroleum^[TW111] resin-oil base uniformly emulsified with water and shall conform to the following physical and chemical requirements:

Specification Designation	Test Method	Requirements
Viscosity, S.F. at 77°F, sec	ASTM D244-60	5-40
Residue, % (1)	ASTM D244-60 (Mod)	58-62
Cement Mixing Test, %	ASTM D244-60	Zero
Sieve Test, % Max. (2)	ASTM D244-60 (Mod)	0.10
Particle Charge Test	ASTM D244-60	Positive
Test on Residue from Viscosity, sc, 140°F	ASTM D244-60	(Mod):
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e.f. ASTM 244 Modified Evaporation Test for percent of residue is made by heating 50 gram sample to 300°F. until foaming ceases, then cool immediately and calculate results.

d.g. Test Procedure identical with ASTM D244 except that distilled water shall be used in place of 2% sodium oleate solution.

15.7 16.7 **Compaction**

15.7.1 16.7.1 Subgrade: Top six inches of pavement and curb and sidewalk subgrade shall be compacted to a minimum of ~~ninety-five~~ ninety-five percent (95%) of the maximum density of the material. Sidewalk subgrade and shoulder shall be compacted to a minimum of ~~ninety-five~~ ninety-five percent (95%) of the maximum density of the material.

15.7.2 16.7.2 Aggregate Base Material: The base course shall not be placed on subgrade until compaction tests of the subgrade have been completed by the Engineer of Record and found to meet the specifications contained herein and the grade has been string line checked by the Inspection Section. ~~Section.~~ Base material shall be compacted, full depth, to a minimum of one hundred percent (100%) of the maximum density of the material being used.

15.8 16.8 **Contraction and Expansion Joints:**

Contraction and Expansion joints shall be placed per MAG Standard Specifications section 340. ~~Expansion joints shall be premolded bituminous fiber conforming to AASHTO M33-70 and placed only at intervals of 96' and at ends of curb returns. Contraction joints shall be placed at twelve foot (12') intervals on straight runs and within curb returns. Expansion joints shall also be placed at the end of days work if not at curb return. No cold joints will be permitted.~~

15.9 16.9 **Utilities**

It shall be the subdivider's responsibility to arrange for all necessary installation, relocation or removal of all conflicting utilities at no expense to the county. Before placement of base course or pouring of concrete the subdivider shall furnish to Pinal County Public Works Inspection Section utility clearance certificate from each utility having facilities in the area. Test reports as required by Chapter 16 herein, Special Provisions for Installation of Underground Utilities, must also be received by Pinal County Public Works Inspection Section prior to issuance of approval for paving or curb operations. The County Engineer will give approval for utility installation, grading and subgrade compaction.

15.1016.10 Traffic Control Devices

The existence of any traffic control device within the limits of the construction area shall be shown on the plans and detailed as to legend or purpose. Under no circumstances shall the owner, ~~their~~^{his}_{TW112} agent, or contractor be allowed to disturb any device so shown on the plans except with the approval of the County Engineer. The owner or ~~his~~^{the} agent shall make known to the Pinal County Public Works Inspection Section in writing his desire for removal or relocation of any such device and it shall be so noted on the plans.

15.1116.11 Street Signs and Street Survey Monuments

No approval or acceptance of a project will be given until street names signs and survey monuments are completely in place.

15.1216.12 Dust Control

Existing regulations of the Pinal County ~~Environmental—Health Department~~^{Aquifer Protection Division}, Pinal County Air Quality Department, and other applicable federal, state and county ordinances and regulations shall be rigidly observed and enforced. Water or other approved dust palliative in sufficient quantities shall be applied during all phases of construction involving open earth work to prevent the unnecessary discharge of dust and dirt into the air. An air quality permit shall be required. Subdivider shall contact Pinal County Air Quality ~~Department~~^{Division}.

15.1316.13 Individual Mail Boxes

Individual mail boxes are permitted to be placed only in such locations that will not interfere with traffic, either vehicular or pedestrian, or create a hazard of any nature. If a sidewalk is constructed adjacent to the curb, the box shall be located behind the sidewalk and clear of the vertical projection of the back edge of the sidewalk by a minimum one-foot. If no sidewalk is constructed, the box must clear the vertical projection of the back edge of the curb by a minimum of one foot. If no curb is constructed the box must clear the vertical projection of the edge of the pavement by a minimum of three feet. Installation of individual mail boxes in the County right-of-way shall be done under permit from the Pinal County Public Works Inspection Section.

15.1416.14 Inspection

All work within rights-of-way shall be inspected by the Pinal County Public Works Department Inspector. The inspector ~~shall have~~^{has} the authority to reject work or material that is not in compliance with the approved improvement plans and County requirements.

15.1516.15 Testing

~~15.15.1~~^{16.15.1} The samples and tests of material shall be made in accordance with the Uniform Standard Specifications and Details
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for Public Works Construction as furnished by the Maricopa Association of Governments [\(MAG\)](#) and as follows:

- a. Pavement Subgrade - one compaction test per 500' each lane with a minimum of one test per street; 95% minimum compaction required.
- b. Curb Subgrade - one compaction test per 500' with a minimum of one test per street, per side; 95% minimum compaction required.
- c. Sidewalk Subgrade - one compaction test per 500' with a minimum of one test per street, per side; 95% minimum compaction required (both attached and detached sidewalk)
- d. Base Material - one compaction test per 500' per lift, per lane with a minimum one test per street; 100% minimum compaction required. One sample required per 1000 tons with a minimum one sample per day and one per source.
- e. Trench Backfill - one compaction test per 500' of mainline trench per lift, with a minimum of one test per street. One third of all service trenches shall be tested; 95% minimum compaction required on all trenches full depth including trenches in the PUE.
- f. Structure Backfill - one compaction test per 100 cubic yards of backfill; 95% minimum compaction required. One sample shall be taken for every 500 cubic yards placed.
- g. Fill Construction (Borrow/Embankment) - one compaction test per 750 cubic yards placed, per lift; 95% minimum compaction required. One sample shall be taken per soil type/source or as directed.
- h. Portland Cement Concrete - See Section 725 of the MAG Uniform Standard Specifications for required concrete tests.
- i. Asphaltic Concrete - See Section 321 of the MAG Uniform Standard Specifications for required asphaltic concrete tests.
- ~~a. Samples are to be taken to a minimum depth of eight inches below proposed subgrade elevation. Depths of up to three (3) feet on arterial type roads may be required in certain instances.~~
- ~~b. One test per eight hundred (800) lineal feet with at least one test per proposed street. Additional tests may be required by the County Engineer at apparent visible changes in soil type.~~

- ~~c.~~ Each sample is to have a sieve analysis per AASHTO T27 with results reported as percent passing, plus a plasticity index per AASHTO 90.
- ~~d.~~ Test results are to be forwarded to the Pinal County Public Works Inspection Section together with the paving plans.
- ~~e.~~ Additional tests may be required by the County Engineer for purposes of assurance of design information in cases of submittal of pavement designs other than the Standard.

~~15.15.2~~ Compaction tests shall be performed as follows:

- ~~a.~~ Pavement subgrade -- one test per 800 lineal feet of roadway with at least 1 test per street minimum.
- ~~b.~~ Curb subgrade -- one test per 500 lineal feet of curb with at least 1 test per street minimum.
- ~~c.~~ Base Material -- one test per 800 lineal feet of roadway with at least 1 test per street minimum. Maximum densities for the materials being compacted shall be determined in the laboratory for the same materials

~~in accordance with AASHTO T-99. Field density tests shall be performed in accordance with AASHTO T-191.~~

~~15.15.3~~ The following daily concrete test cylinders shall be taken:

- ~~a. Two sets per pour over four (4) hours pouring time, two six-inch (6") cylinders per set.~~
- ~~b. One set per pour for less than four (4) hours pouring time, two six-inch (6") cylinders per set. A seven day break shall be made for each set. When the seven day break is below 1800 PSI a twenty-eight (28) day break shall be made. At least one 28 day cylinder shall be broken for each project with more than forty (40) cubic yards of poured concrete.~~

~~15.15.4~~ The following test shall be taken for asphaltic concrete:

- ~~a. Gradation — Expressed as % by weight passing, using AASHTO T-164 and T-168.~~
- ~~b. Asphalt content — Expressed as % by weight of total mixed material, sampled and tested per AASHTO T-164 and T-168.~~
- ~~c. Compaction — As previously specified in paragraph VII-C above. A minimum of one sample per 1200 tons of material, but no less than one sample from each source is required for each day's paving. Additional samples may be ordered by the County Engineer or Engineer of Record whenever obvious.~~

~~15.16~~16.16 Approval

The street improvements will not be considered ready for final inspection until all drainage items, grading, and backfill are complete and pavement, curbs, and sidewalks swept clean of all dirt and debris. Curbs and the area behind curbs shall be totally backfilled and neatly dressed to a maximum 4:1 slope. The contractor shall furnish a water truck at the time of final inspection for the purpose of testing street drainage. Any ponding in excess of ~~ten square feet in surface area or~~ one-quarter inch in depth shall require corrective action by the contractor. The corrected "As-Built" plans as described in Chapter ~~15~~16 herein must be submitted before final project approval.

CHAPTER ~~17~~¹⁶ UTILITY CONSTRUCTION IN COUNTY RIGHT-OF-WAY

~~16.1~~^{16.1}~~17.1~~ General Information

This chapter presents the special provisions and requirements for design, permitting, and testing requirements for construction of utilities in dedicated County right-of-way.

Prior to the issuance of a permit to allow the excavation and installation of underground utilities, i.e., (electric power, cable, fiber optic, telephone, and water) in any County right of-way the subdivider, contractor or person installing underground utilities shall conform to the requirements of this Manual.

~~16.2~~^{16.2}~~17.2~~ General Requirements

All work and materials shall conform to the current Uniform Standard Specifications and Details for Public Works Construction as furnished by the Maricopa Association of Governments ([MAG](#)) apply to trench backfill material, backfill compaction and roadway surface restoration, except as noted in this chapter. In case of conflict between the MAG Standard Specifications and these Special Provisions, the Special Provisions shall govern.

Other agency specifications for construction material which are equal to or greater than Pinal County Specifications, listed herein, may be substituted as satisfactory alternates with prior written approval of the County Engineer.

Other construction methods, which are determined from engineering studies and laboratory tests, may be substituted as satisfactory alternates with prior written approval of the County Engineer.

~~16.3~~^{16.3}~~17.3~~ Utility Separation

All underground electric power lines installed in the streets, alleys, roads, highways or right-of-ways belonging to the County, shall be installed at least twelve (12) inches below any underground water pipelines at the point where underground electric power lines cross or intercept any underground water pipelines. In addition, underground electric power lines shall be encased in conduit for a distance of at least five (5) feet on each side of the point of intersection with underground water pipelines. All installation costs of underground electric power lines and conduit shall be borne by those installing the underground electric power lines.

~~16.4~~^{16.4}~~17.4~~ Additional Utility Plan Requirements

~~16.4.1~~^{16.4.1}~~17.4.1~~ All preparation of plans, specifications, construction and inspection within County right-of-way shall be performed under the supervision of a Civil Engineer registered in the State of Arizona.

[Plans may be submitted electronically.](#)

Subdivision & Infrastructure Design Manual

~~16.4.2~~17.4.2 Plans shall be submitted^[TW113] on a maximum sheet size of 24" x 36" and must be neat, clear, legible, and completed in all respects. Profiles will be required on projects involving installation of sewer and underground irrigation lines in dedicated right-of-way. Power facilities must also be submitted in profile where the trade size of a single conduit exceeds six inches (6") in diameter or where multiple conduits including the concrete encasements are sixty (60) square inches or greater in cross-sectional area. In addition, profiles may be required by the County Engineer in cases of possible alignment or grade conflicts, cover problems, or crossing conflicts. Plans shall be submitted to the Pinal County Public Works Department for review and approval. The application for the construction permit will not be accepted until all improvement plans have been approved. Upon approval of all plans, the right-of-way permit application shall be submitted at least seven (7) working days prior to beginning of work.

~~16.4.3~~17.4.3 Upon completion of Construction, a set of As-Built Plans shall be submitted to the Public Works Quality Assurance Inspection Section.

~~16.5~~17.5 **Backfill and Compaction**

~~16.5.1~~17.5.1 Backfill: Material shall conform to the latest edition of the MAG Uniform Standard Specifications and Details for Public Works Construction Section 601.

~~16.5.2~~17.5.2 Compaction:

a. All trenches shall be thoroughly compacted to a uniform density of not less than 95%

b. Asphalt concrete or chip seal roadway trench repairs shall be constructed in accordance with Type A, B, or T-Top trench repair of MAG Std. Detail 200-1 and section 336 (G) with the exception of backfill. All backfill material shall be ABC per MAG section 702 & 601 or CLSM (Controlled Low Strength Material) per MAG section 604 & 728. All joints of new asphalt patches shall be crack sealed after patching.

~~a. That portion of the backfill from the bottom of the trench to eight inches (8"), compacted depth, over the top of the pipe shall be backfilled with uniformly graded material with maximum size passing a one and one eighth inch (1-1/8") screen. This material shall be uniformly jetted to ensure proper bedding of pipe. Backfill around underground electric lines must meet the specification of the responsible electrical utility.~~

~~b. All trench backfill under existing or proposed roads shall be mechanically compacted in lifts no larger than 6 inches or~~

~~water settling may be allowed under proposed roadway in new subdivisions per Soils Report. Backfill shall consist of material that has been screened with the largest rock being 2 inches. Backfill material shall be processed and have moisture incorporated to near optimum prior to placement in trench. All other trenches outside road section may be backfilled by water settling as noted in section 16.5.2d.~~

- ~~c. All open cut trenches across existing asphalt or chip sealed roads shall be backfilled with a 1 sack slurry and patched with a minimum of 2 inch hot mix asphalt.~~
- ~~d. Fill material in lifts not exceeding eight feet (8') in depth shall be leveled, the trench flooded and the material jetted to within one foot (1') of the pipe with sufficient water to ensure filling of all voids with backfill material.~~
- ~~e. Water settling is permitted beyond the limits of 16.5.2b with a required compaction of eighty five percent (85%), or the natural compaction of the native material, whichever is higher.~~

~~16.5.3~~**17.5.3** Where an excavation meets the criteria of Section 16.5.2b above, the excavation shall be filled with A.B.C. or granular select material, placed at optimum moisture in lifts sufficiently thin to ensure required compaction for the full depth of the lift, and in no case greater than thirty inches (30") compacted depth, unless previously approved in writing by the County Engineer. Granular select material shall not exceed three inches (3") in diameter and shall be graded in such a manner as to ensure the exclusion of any and all voids in the backfill. The upper two feet (2') is to be mechanically compacted to not less than ninety-five percent (95%) of maximum density. Sufficient water may be added to raise the moisture content to optimum only. Below these two feet (2'), the material shall be compacted to not less than eighty-five percent (85%) of the maximum density for the backfill material as determined by AASHTO Test T-99. Field determination of density shall be made in accordance with AASHTO Test T-147 or other test procedure previously approved in writing by the County Engineer.

~~16.5.4~~**17.5.4** The minimum cover for utility lines shall be thirty-six inches (36") other than direct burial cable which shall be twenty-four inches (24"). Cover is defined as the difference in elevation between the top of the line or pipe and the ultimate gutter grade of the roadway.

For facilities outside the area defined in Section 16.5.2b above, cover is defined as the difference in elevation between the top of the line or pipe and the natural or regarded ground surface, whichever is lesser.

~~16.6~~**17.6** **Compaction Test Reports**

Subdivision & Infrastructure Design Manual

~~16.6.1~~**17.6.1** The cost of making compaction tests shall be paid by the owner or the contractor. The tests shall be made at the locations and depths specified by the County Engineer or his or her representative. A minimum of one set of tests shall be required for each one foot (1') of trench depth for trenches within the area defined in 16.5.2b above. The minimum number of passing tests per set anticipated to prove specification compliance may be estimated at the following rates:

- a. Pavement Cut Crossings – one (1) test per crossing.
- b. Pavement Cuts or Trenches within two feet (2') of pavement edge ~~two~~one (~~2~~1) tests per five hundred lineal feet (500').
- c. At all other locations – one (1) test per ~~four~~five hundred lineal feet (~~5~~400').
- d. Test may be taken at four-foot (4') vertical increments in the same vertical plane at the option of the Engineer of Record.
- e. Copies of all test reports shall be sent directly to the Engineer of Record from the testing laboratory, and to the Pinal County Public Works Inspection Section within five (5) days after tests are conducted.

~~16.6.2~~**17.6.2** Pavement Cutting and Restoration:

a. Within one year^[BB114] of construction of new streets, renovation or reconstruction of a street, no street cuts will be permitted. Consideration will be given on a case-by-case basis for those cuts that are emergency in nature but are still subject to restoration as stated in the Pinal County Development Services Code, Title 7, Chapter 7.05, Section 7.05.060^[TW115].

b. In order to limit the potential for pavement cuts to occur early in the life of a new or reconstructed pavement section, the developer shall coordinate their improvements plans with all utility companies providing service in the area.

~~a-c.~~ All cuts in asphalt or concrete pavement shall have saw cut or neat and straight edges. Excavated pavement material shall be removed from the site^[TW116].

~~b-d.~~ Pavement Cut Replacement: The asphaltic material used for replacement of pavement cuts shall conform to MAG Uniform Standard Specifications and Details for Public Works Construction, MAG Standard Detail 200-1.

1. The thickness of the pavement and aggregate base replaced shall be consistent with the thickness of the existing asphalt pavement and base but shall not be less than ~~three~~ inches (32") of asphaltic pavement over nine inches (9"), compacted depth, of aggregate base compacted to one hundred percent (100%) of maximum density for the material.
2. For Portland cement concrete paving cut replacement this same specification shall apply. The existing pavement shall be trimmed to a neat edge and the edge shall be treated with a proper emulsion to ensure a bond between the existing pavement and the patch.

~~e.e.~~ It is required that all roadway crossing of lines four inches (4") in diameter or less to be installed under pavement which is less than three (3) years old, be bored under the pavement.

~~16.6.3~~17.6.3 Surface Restoration of Graveled or Earth Surfaced Roads: The surface replacement of gravel surfaced roads shall be consistent with the existing surface material in place, and consist of select material or A.B.C. as directed by the County Engineer.

Fill placed on existing gravel surfaced roads or earth surfaced roads to obtain minimum allowable cover over the pipe of utility lines shall be placed to proper grade for the full width of the existing roadway and shall be compacted and graded to the satisfaction of the County Engineer.

~~16.6.4~~17.6.4 The Contractor shall secure a County Right-of-Way Use Permit prior to start of any construction operations within County right-of-way. The permit application must be submitted at least seven (7) working days before work is scheduled to begin.

- a. The permittee shall notify the property owner or resident of adjoining occupied property at least two (2) working days prior to disruption of access to the property, and at no time deny access to the property longer than one (1) normal working day, and shall provide plank for crossings, if necessary.
- b. The permittee shall maintain all existing traffic control signs within the construction area, and shall reset all signs in their original locations as soon as construction operations will permit. The permittee shall place and maintain traffic warning signs during the course of work, as required by the County Engineer.
- c. Only rubber-tired equipment shall be used on pavement except that crawler equipment using street pads may be used.

- d. Existing regulations of the Pinal County ~~Environmental Health Department~~Aquifer Protection Division and Air Quality Division as applicable shall be rigidly observed and enforced. Water or approved dust palliative in sufficient quantities shall be applied during all phases of construction involving open earth work to prevent the unnecessary discharge of dust and dirt into the air.
- e. During the course of work, the permittee shall maintain the work area in a clean and orderly condition. Excess excavation, debris, etc., shall not be permitted to accumulate on the road surface or shoulders. Work shall progress in such a manner that no condition such as soft trenches, drop-offs from the edge of pavement, etc., shall exist. Upon completion of installation, the permittee shall clean the pavement surface, pull and dress shoulders, and otherwise put in order the entire work area to the satisfaction of the County Engineer. If said work is not completed in a manner acceptable to the County Engineer, the utility doing the work shall be held responsible and further permits shall not be issued pending the completion of the work.
- f. All work in County right-of-way shall be performed by a licensed contractor in the State of Arizona. The contractor shall show proof of liability insurance. Documents shall be submitted to Pinal County Public Works Inspection Section simultaneously with the permit application.
 - ~~1. Utility company and a licensed, bonded and insured contractor shall submit an application.~~
 - ~~2. Two sets of county approved utility plans.~~
 - ~~3. A copy of the contractor's license.~~
 - ~~4. A copy of the contractor's insurance indicating Pinal County as additionally insured for a minimum of one million dollars (\$1,000,000.00).~~
 - ~~5. A performance bond in the amount of five thousand dollars (\$5,000.00) minimum or case bond in the amount of one thousand dollars (\$1,000.00) minimum or the cost of the job, whichever is greater.~~
 - ~~6. A County approved Traffic Control Plan meeting the requirements of the latest edition of utilizing the Manual on Uniform Traffic Control Device Standards.~~

CHAPTER 18 STREET LIGHTING

All Street Lights located in public or private Right-of-Way shall have LED lighting fixtures installed to the satisfaction of the County Engineer subject to the follow criteria:

18.1 Specifications.

Street Light plans and details shall be included with the improvement plans and shall be submitted for review by the County. Street Light design and construction plans shall be prepared and sealed by a licensed professional engineer registered in the State of Arizona.

18.1.1 All new Street Light poles installed on arterial and collector streets shall be on a concrete foundation. New streetlight poles on local streets shall be direct bury type.

18.1.2 Traffic signs shall not be installed on a streetlight pole without approval from the County Engineer.

18.1.3 Street Lights, if installed as approved by the County Engineer, shall have LED luminaries that are fully shielded and a color temperature of no more than 3000 Kelvin.

18.2 Location.

The Street Light system shall be installed within the right-of-way where possible. Where right-of-way is not available and where a utility easement allows for streetlight equipment, the engineer may design equipment for installation within the utility easement with approval from the County Engineer. If located on private property the installation shall follow the currently adopted requirements of Title 2 of the Pinal County Development Services Code.

18.3 Horizontal Clearances.

Street Light poles shall be subject to the following horizontal clearances:

18.3.1 Street Light poles shall be located a minimum of one (1) foot behind the back of sidewalk where the sidewalk abuts the curb.

18.3.2 Where no sidewalk exists, the Street Light pole shall be located a minimum of five (5) feet behind the back of curb.

18.3.3 Where no sidewalk and no curb exists, Street Light poles shall be installed a minimum of ten (10) feet from the edge of pavement.

18.3.4 Street Light poles should maintain a minimum of seven (7) feet of horizontal clearance between fire hydrants, and water services facilities.

18.3.5 Street Light poles should maintain a minimum of three (3) feet of horizontal clearance from service taps (water/sewer) and two (2) feet of clearance from storm drains and sewer facilities.

18.3.6 Street Light poles should also be located a minimum distance of six (6) feet from driveways. If the driveway has a wing, streetlight poles must be located a minimum distance of six (6) feet from the wing.

18.4 Additional Requirements.

All other Street Light requirements not mentioned herein shall conform to the design standards and specifications of the local electrical utility. Where no standards exists, the designer shall refer to Arizona Public Service (APS) standards and specifications.

CHAPTER 17 STREET LIGHTING

All Street lights located in public or private Right of Way shall have LED lighting fixtures installed to the satisfaction of the County Engineer^[BB117].

36"

24"

PINAL COUNTY COVERT SHEET FORMAT FOR TENTATIVE/FINAL PLATS

**TENTATIVE/FINAL PLAT OF
(PROJECT TITLE)**

A PORTION OF GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA

SECTION TOWNSHIP RANGE

NOTES
1.
2.
3.

STATE OF ARIZONA
COUNTY OF PINAL
RESERVED FOR
FUTURE SHEETS
22 5

COUNTY SEAL

DECLARATION, TITLE WARRANTY, AND
DEDICATION

(COVER SHEET ONLY)

LIEN HOLDER'S RATIFICATION
(IF ADDITIONAL SPACE IS NEEDED, CAN
BE CONTINUED ON SECOND SHEET. ADD
CONTINUATION NOTE ABOVE COMPANY
NAME ON LOWER RIGHT CORNER OF
SHEET.)

ACKNOWLEDGMENT

ENGINEER
(COMPANY'S NAME)
STREET ADDRESS
CITY, STATE ZIP

DEVELOPER
(COMPANY'S NAME)
STREET ADDRESS
CITY, STATE ZIP

OWNER
(COMPANY'S NAME)
STREET ADDRESS
CITY, STATE ZIP

LOCATION MAP

VICINITY MAP

BASE ZONING

ACKNOWLEDGMENT

LAND SURVEYOR'S CERTIFICATION
(COVER SHEET ONLY)

APPROVALS
(COVER SHEET ONLY)

LEGEND
(COVER SHEET ONLY)

TYPICAL LOT LAYOUT &
BUILDING SETBACKS
(COVER SHEET ONLY)

SERVICE PROVIDERS

LAND USE TABLE

TRACT TABLE

TRACT NAME

AREA

GENERAL TRACT USES

ACRES

ACRES

TOTAL

ENGINEER COMPANY'S NAME

PROJECT TITLE

DATE PREPARED: / /

00-000-S

NOTARY PUBLIC

MY COMMISSION EXPIRES

EXHIBIT 3.1

SCREEN PLANTING OR BLOCK WALL AND ONE FOOT
VEHICULAR NON-ACCESS EASEMENT PROTECT ADJACENT
LOTS FROM STREET NOISE AND DUST AND PRESERVE THE
TRAFFIC FUNCTION OF THE ARTERIAL ROUTE



SCHEMATIC SUBDIVISION

EXHIBIT 6.1

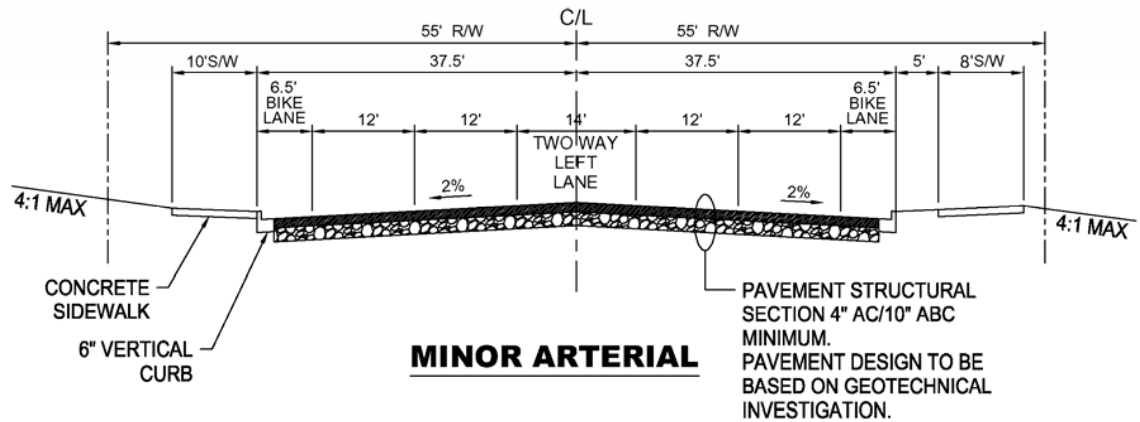
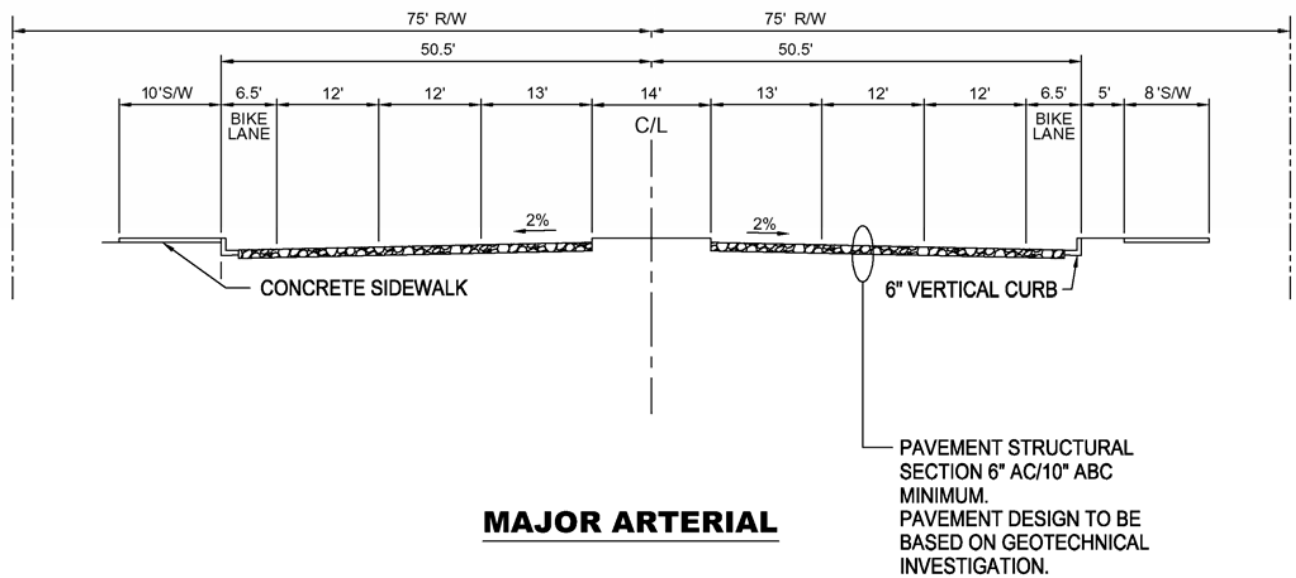


EXHIBIT 6.2

(Exhibit 6.2 updated to reflect changing requirements in Chapter 6 and new parkway cross section)

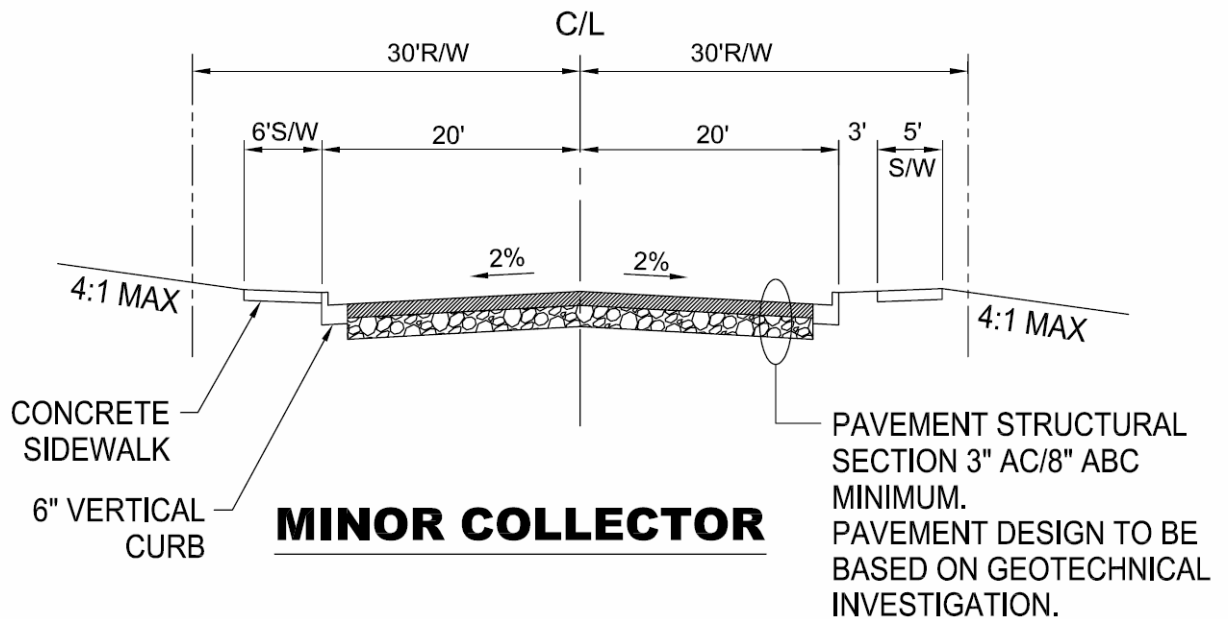
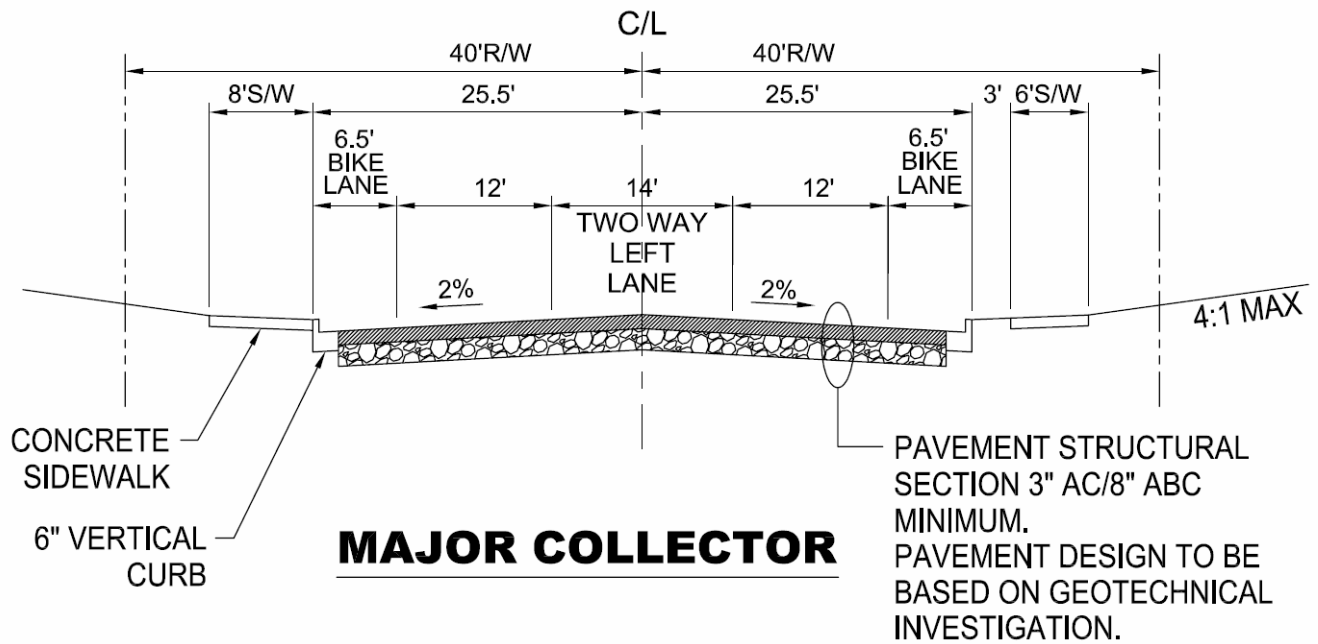
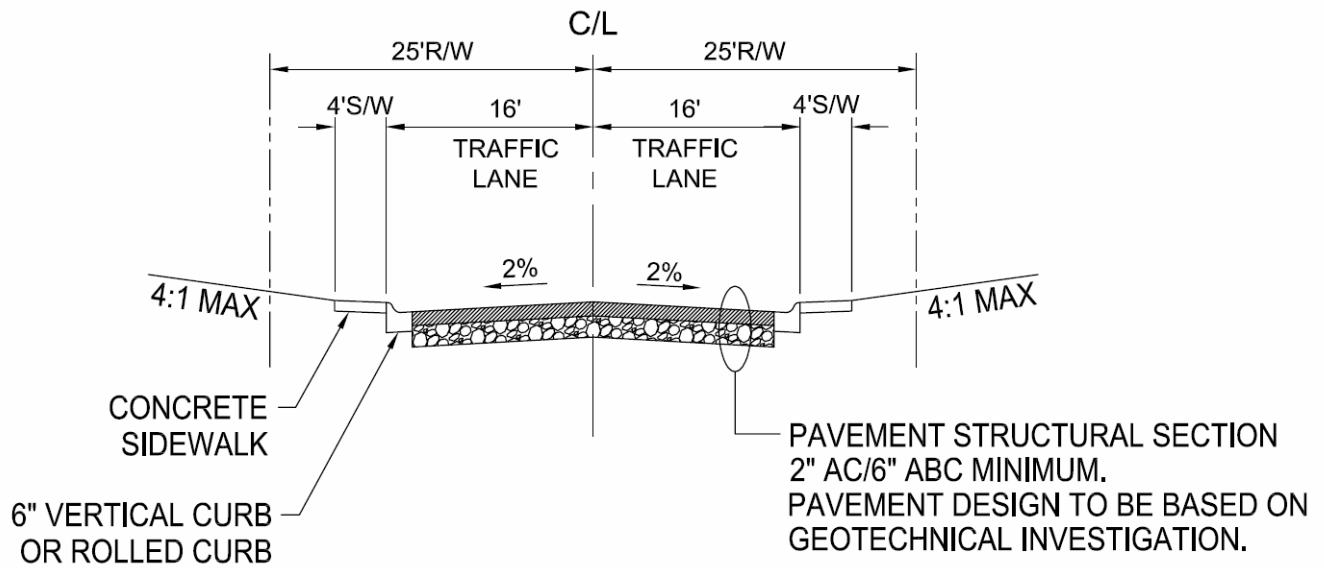
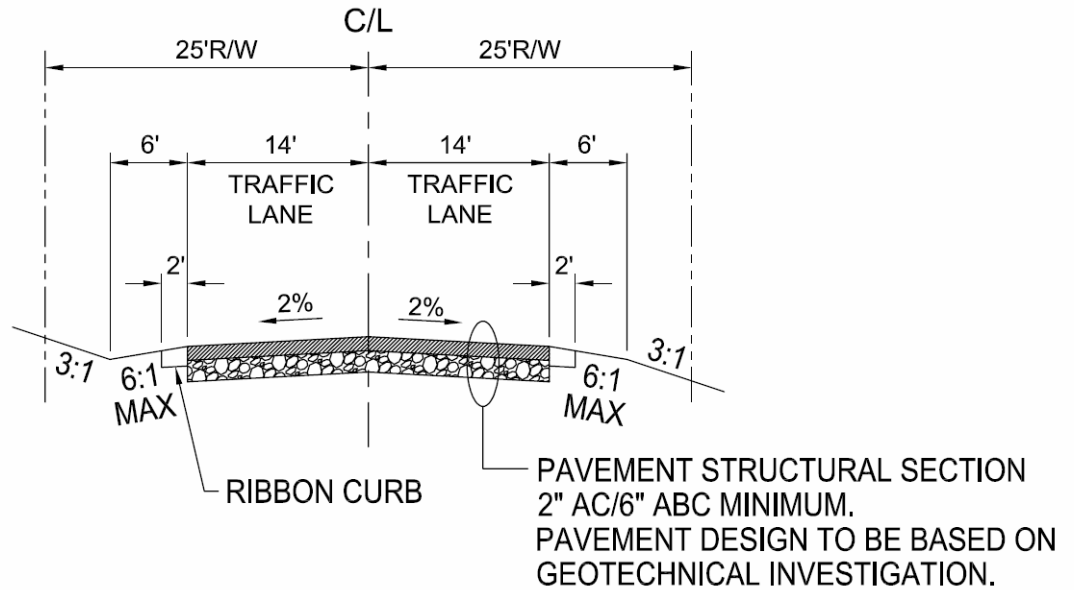


EXHIBIT 6.2 (CONT.)



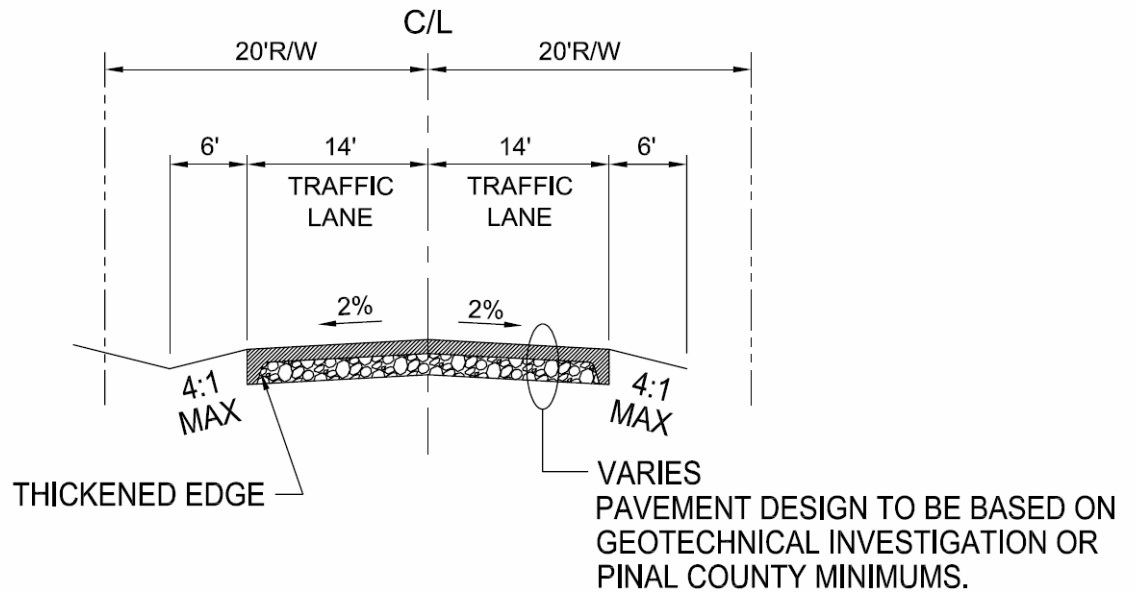
LOCAL STREET



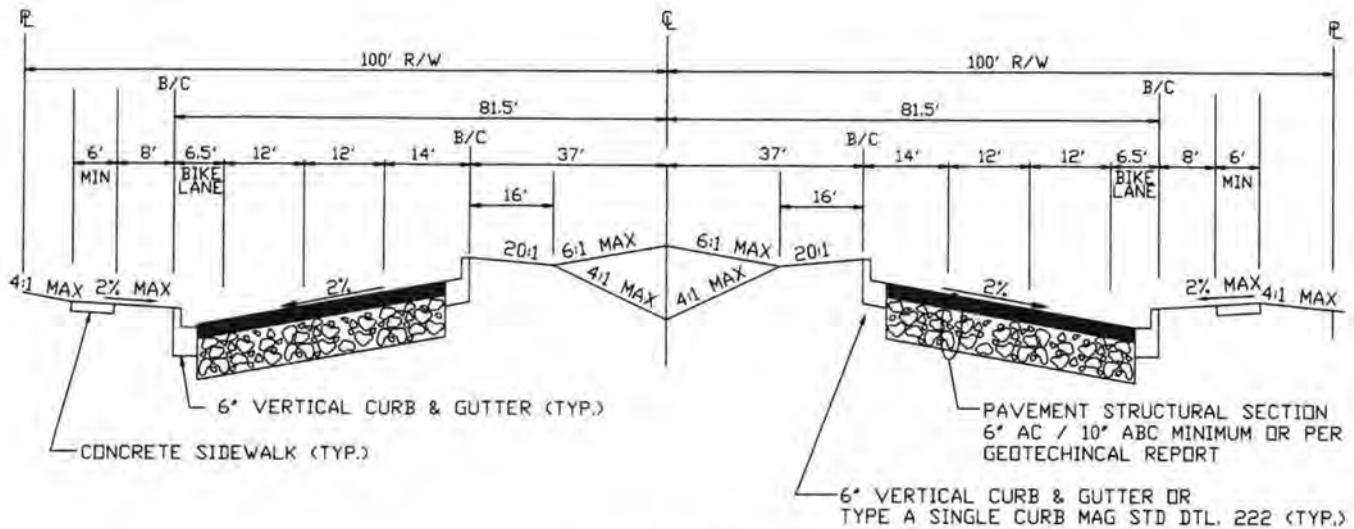
LOW DENSITY LOCAL STREET

**LOTS 1 ACRE TO 3.33 ACRE AREA
WITH ON-LOT RETENTION**

EXHIBIT 6.2 (CONT.)



PAVED ALL-WEATHER PUBLIC ACCESS ROAD

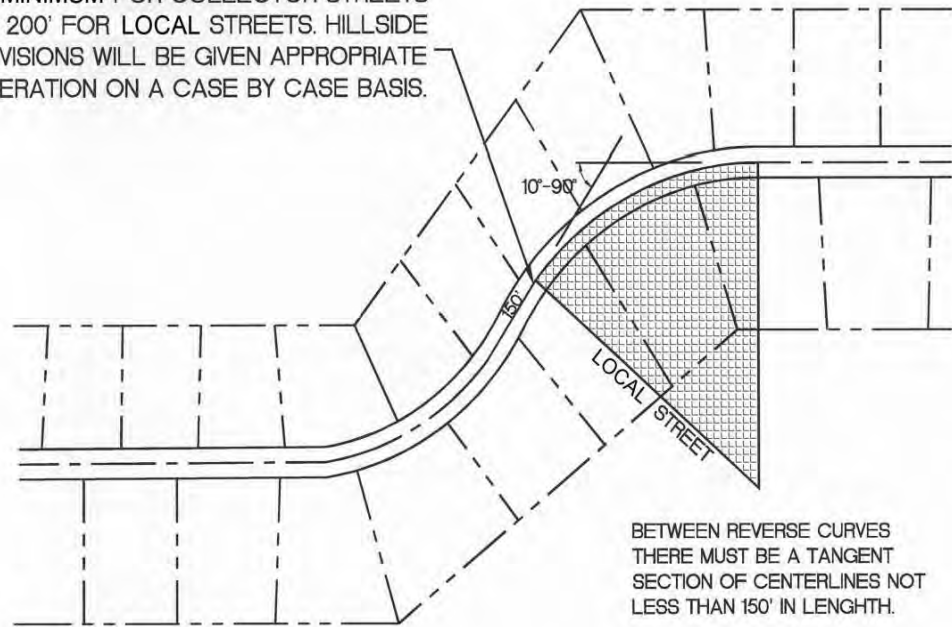


PARKWAY

[*New cross section to Exhibit 6.2](#)
FINAL DESIGN SUBJECT TO COUNTY ENGINEER APPROVAL

EXHIBIT 6.2 (CONT.)

WHEN TANGENT CENTERLINES DEFLECT
MORE THAN 10° AND LESS THAN 90°
THEY SHALL BE CONNECTED BY A
CURVE WITH MINIMUM RADIUS EQUAL TO
300' MINIMUM FOR COLLECTOR STREETS
AND 200' FOR LOCAL STREETS. HILLSIDE
SUBDIVISIONS WILL BE GIVEN APPROPRIATE
CONSIDERATION ON A CASE BY CASE BASIS.

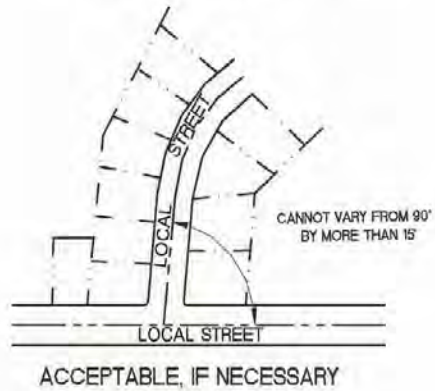
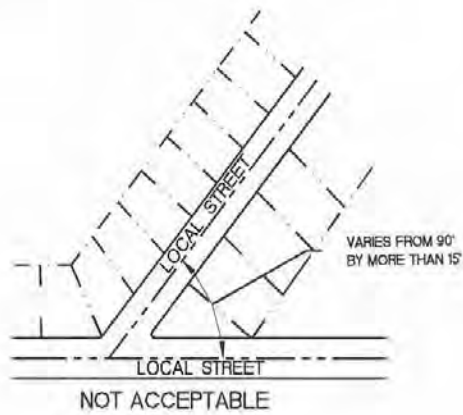


BETWEEN REVERSE CURVES
THERE MUST BE A TANGENT
SECTION OF CENTERLINES NOT
LESS THAN 150' IN LENGTH.

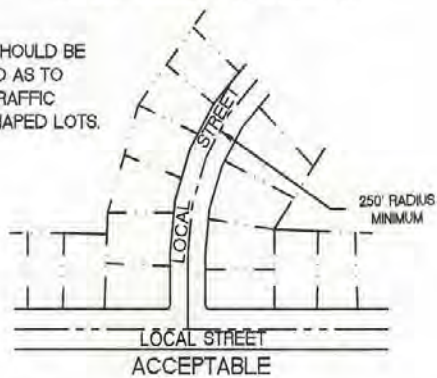
NOTE: HORIZONTAL ALIGNMENTS
ON ARTERIAL ROUTES SHALL BE
DETERMINED BY THE COUNTY
ENGINEER.

CENTERLINE DEFLECTION AND REVERSE CURVES FOR COLLECTOR AND LOCAL STREETS

EXHIBIT 6.3



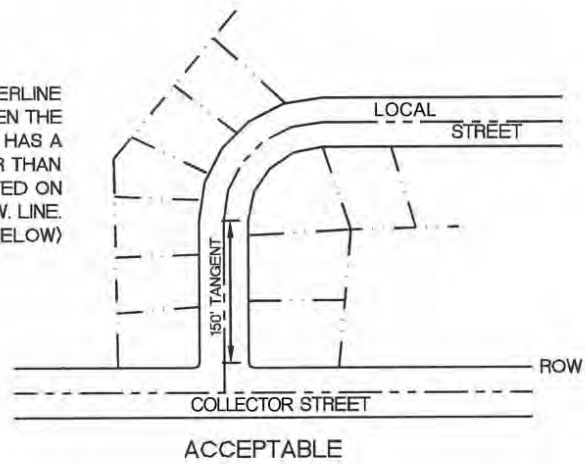
STREET INTERSECTIONS SHOULD BE
CAREFULLY DESIGNED SO AS TO
ELIMINATE DANGEROUS TRAFFIC
MOVEMENTS AND ODD SHAPED LOTS.



ANGLE OF INTERSECTIONS FOR LOCAL STREETS

EXHIBIT 6.4

150' TANGENT SECTION OF CENTERLINE
IS REQUIRED EXCEPT WHEN THE
LOCAL STREET CURVE HAS A
CENTERLINE RADIUS GREATER THAN
400' WITH THE CENTER LOCATED ON
THE ARTERIAL STREET R.O.W. LINE.
(SEE BELOW)

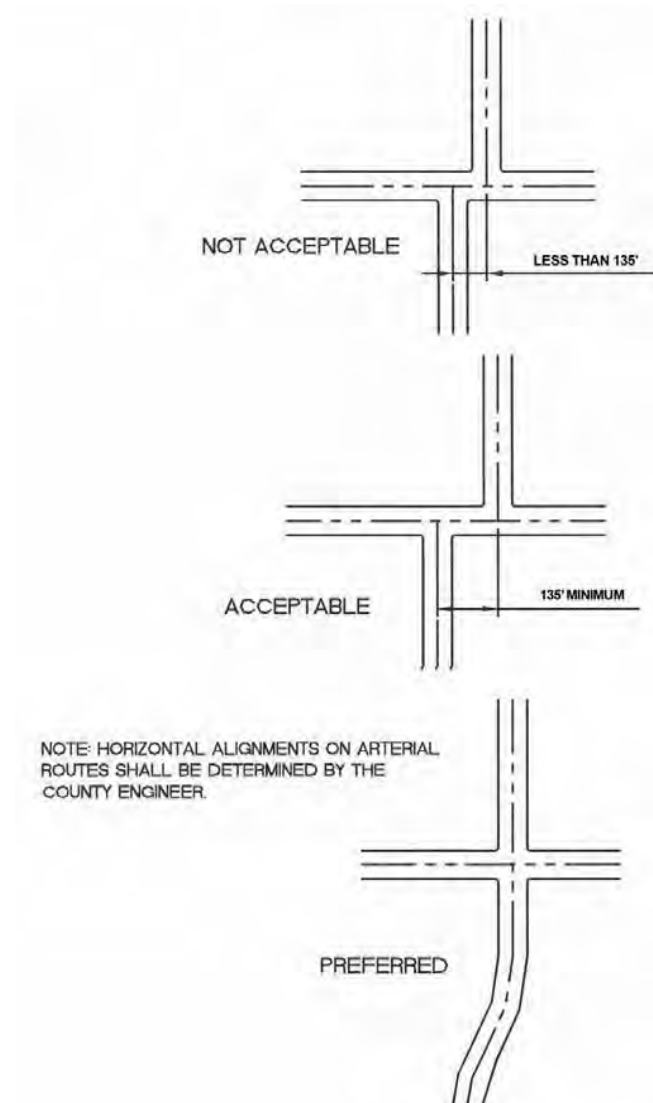


ALL INTERSECTION OF ARTERIAL STREETS
AND COLLECTOR STREETS SHOULD BE AT
RIGHT ANGLES.



ANGLE OF INTERSECTIONS FOR COLLECTOR STREETS

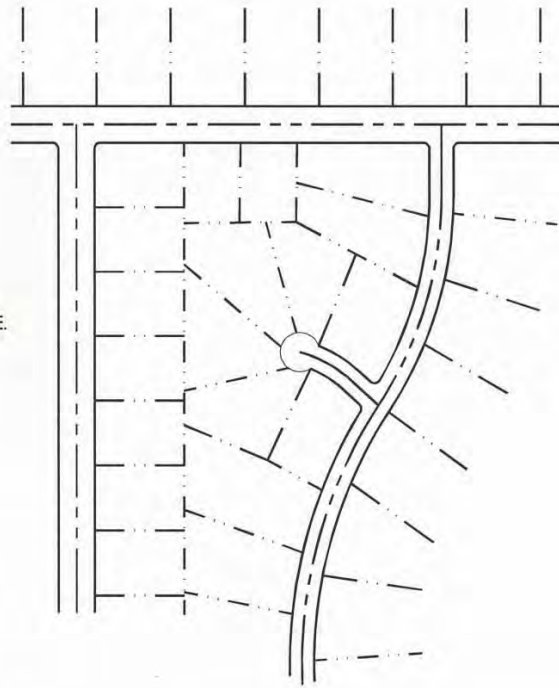
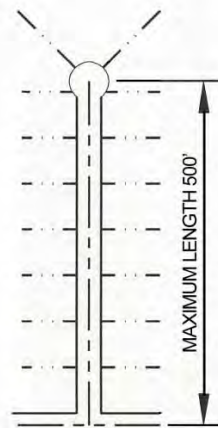
EXHIBIT 6.5



**STREET JOGS
FOR
LOCAL AND COLLECTOR
STREETS**

EXHIBIT 6.6

CUL-DE-SACS SHALL BE USED TO SERVE IRREGULAR AREAS OF A TRACT THAT WOULD OTHERWISE BE INACCESSIBLE. CUL-DE-SACS SHALL NOT BE USED EXCESSIVELY NOR AS A PRIMARY DESIGN FEATURE.

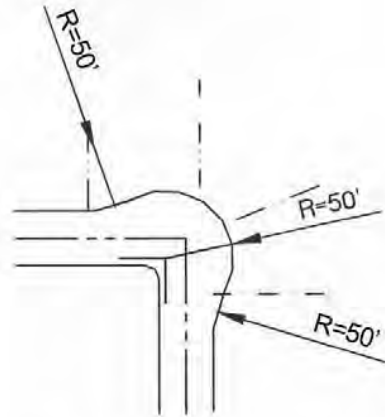


CUL-DE-SACS MAY NOT BE LONGER THAN 500 FEET AND SHALL TERMINATE IN A TURN-AROUND AT THE CLOSED END.

CUL-DE-SACS FOR LOCAL STREETS

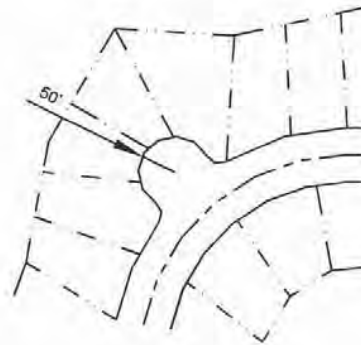
EXHIBIT 6.7

KNUCKLE DESIGN AND LOTTING
ARRANGEMENT FOR RIGHT
ANGLE TURNS



ACCEPTABLE

KNUCKLE DESIGN PROVIDES
FRONTAGE FOR ADDITIONAL
LOTS IN DEEPER PORTIONS
OF A BLOCK.

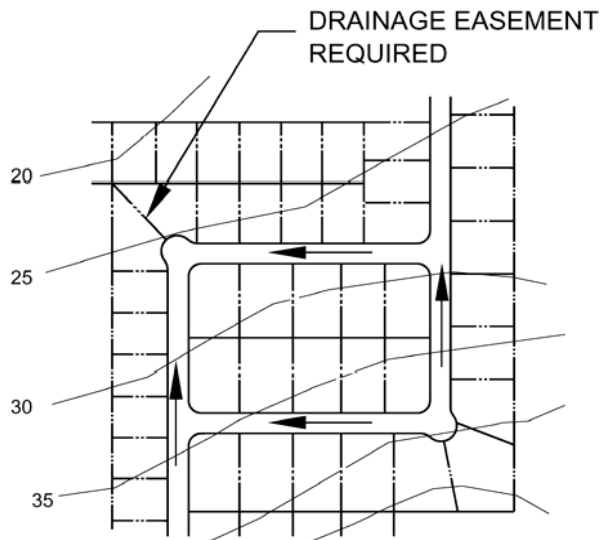


ACCEPTABLE

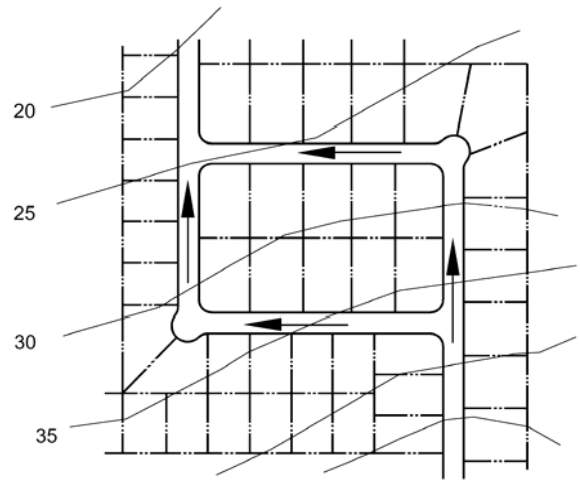
NOTE: KNUCKLE DESIGNS SHALL
NOT BE USED ON COLLECTOR
OR ARTERIAL STREETS.

KNUCKLE DESIGNS FOR LOCAL STREETS

EXHIBIT 6.8



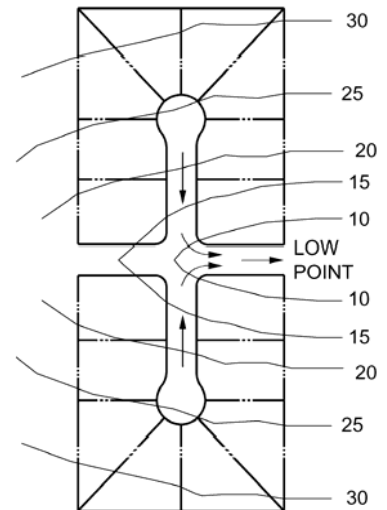
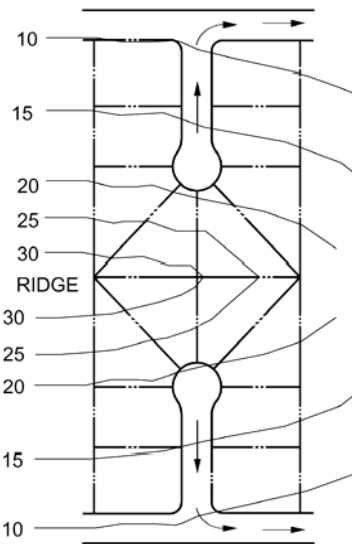
NOT ACCEPTABLE



ACCEPTABLE

STREETS SHOULD BE SO DESIGNED AND ARRANGED IN RELATION TO EXISTING TOPOGRAPHY AS TO FACILITATE DRAINAGE. PROPER DESIGN WILL ELIMINATE EXCCESIVE CUTS AND FILLS AND UNNECESSARY DRAINAGEWAYS BETWEEN LOTS.

STREETS SHOULD NOT BE USED AS PRIMARY DRAINAGE, UNLESS CURB AND GUTTER IS INSTALLED.



ACCEPTABLE

STREET DRAINAGE FOR LOCAL STREETS

EXHIBIT 6.9

Exhibit 7.0

<u>QUALITY ASSURANCE TESTING FREQUENCY</u>			
<u>TYPE OF TEST</u>	<u>TEST METHOD</u>	<u>SAMPLING POINT</u>	<u>MINIMUM TESTING FREQUENCY</u>
<u>Borrow / Fill</u>			
<u>Gradation</u>	<u>AASHTO T 27</u>	<u>Stockpile</u>	<u>1 per 1000 CY per Source</u>
<u>X Value</u>	<u>MAG 210.2</u>		
<u>PI</u>	<u>AASHTO T 89</u> <u>AASHTO T 90</u>		
<u>Proctor Density</u>	<u>ASTM D 698</u>	<u>Stockpile</u>	<u>1 per Source and as needed</u>
<u>Field Density</u>	<u>ASTM D 6938</u>	<u>In-place</u>	<u>1 per 500 CY, minimum 1 per lift</u>
<u>Subgrade & Existing Ground</u>			
<u>Gradation</u>	<u>AASHTO T 27</u>	<u>Roadway</u>	<u>1 per Soil Type</u>
<u>PI</u>	<u>AASHTO T 89</u>		
<u>Proctor Density</u>	<u>ASTM D 698</u>		
<u>Swell</u>	<u>ASTM D 4546</u>	<u>Roadway</u>	<u>As needed</u>
<u>Field Density</u>	<u>ASTM D 6938</u>	<u>In-place</u>	<u>1 per 5000 SY/per lift</u>
<u>Aggregate Base Class</u>			
<u>Fractured Coarse Aggregate Particles</u>	<u>ASTM D 5821</u>	<u>Crusher Belt or Stockpile</u>	<u>1 per 1,200 CY</u>
<u>Gradation</u>	<u>AASHTO T 27</u>	<u>Crusher Belt or Stockpile</u>	<u>1 per 1,000 CY</u>
<u>PI</u>	<u>AASHTO T 89</u> <u>AASHTO T 90</u>		
<u>Proctor Density</u>	<u>ASTM D 698</u>	<u>Crusher Belt or Stockpile</u>	<u>1 per Source and as needed</u>
<u>Field Density</u>	<u>ASTM D 6938</u>	<u>Roadway</u>	<u>1 per 1,000 CY (100 % Min Density)</u>
<u>LA Abrasion & Loss</u>	<u>AASHTO T 56</u>	<u>Crusher Belt or Stockpile</u>	<u>1 per Source</u>

EXHIBIT 7.0 (cont'd)

<u>QUALITY ASSURANCE TESTING FREQUENCY</u>			
<u>TYPE OF TEST</u>	<u>TEST METHOD</u>	<u>SAMPLING POINT</u>	<u>MINIMUM TESTING FREQUENCY</u>
Concrete			
<u>Temperature</u>	<u>ASTM C 1064</u>	<u>Point of Discharge</u>	<u>1 per 100 CY per Class, per Day</u>
<u>Slump</u>	<u>ASTM C 143</u>		
<u>Compressive Strength</u>	<u>ASTM C 31 & ASTM C 39</u>		

<u>QUALITY ASSURANCE TESTING FREQUENCY</u>			
<u>TYPE OF TEST</u>	<u>TEST METHOD</u>	<u>SAMPLING POINT</u>	<u>MINIMUM TESTING FREQUENCY</u>
Asphaltic Concrete Pavement			
<u>Gradation</u>	<u>AASHTO T-308</u>	<u>Roadway</u>	<u>1 per subplot</u>
<u>Binder Content</u>	<u>AASHTO T-308</u>		
<u>Bulk Density</u>	<u>AASHTO T-245 or AASHTO T-312</u>		
<u>Maximum Theoretical</u>	<u>AASHTO T-209</u>		
<u>Laboratory Air Voids</u>	<u>AASHTO T-269</u>		<u>1 per lot</u>
<u>Compaction</u>	<u>ASTM D-2950</u>		<u>Periodic during paving</u>
<u>Thickness</u>	<u>ASTM D-3549</u>		<u>1 per sub-lot</u>
<u>In-Place Voids</u>	<u>AASHTO T-269</u>		

EXHIBIT 7.0 (cont'd)

<u>QUALITY ASSURANCE TESTING FREQUENCY</u>			
<u>TYPE OF TEST</u>	<u>TEST METHOD</u>	<u>SAMPLING POINT</u>	<u>MINIMUM TESTING FREQUENCY</u>
<u>Asphalt Rubber Asphalt Concrete (ARAC) Pavement</u>			
<u>Gradation</u>	<u>AASHTO T-308</u>	<u>Roadway</u>	<u>1 per subplot</u>
<u>Binder Content</u>	<u>AASHTO T-308</u>		
<u>Bulk Density</u>	<u>AASHTO T-245 or</u> <u>AASHTO T-312</u>		
<u>Maximum Theoretical</u>	<u>AASHTO T-209</u>		
<u>Laboratory Air Voids</u>	<u>AASHTO T-269</u>		<u>1 per subplot</u>
<u>Compaction</u>	<u>ASTM D-2950</u>		<u>Continuous during paving</u>
<u>Thickness</u>	<u>ASTM D-3549</u>		<u>At the Engineer's Discretion</u>

<u>QUALITY ASSURANCE TESTING FREQUENCY</u>			
<u>TYPE OF TEST</u>	<u>TEST METHOD</u>	<u>SAMPLING POINT</u>	<u>MINIMUM TESTING FREQUENCY</u>
<u>Trench Backfill</u>			
<u>Gradation</u>	<u>AASHTO T 27</u>	<u>Stockpile</u>	<u>1 per 1000 CY per Source</u>
<u>PI</u>	<u>AASHTO T 89</u> <u>AASHTO T 90</u>		
<u>Proctor Density</u>	<u>ASTM D 698</u>	<u>Stockpile</u>	<u>1 per Source and as needed</u>
<u>Field Density</u>	<u>ASTM D 6938</u>	<u>In-place</u>	<u>1 per 300 LF, per lift</u>

EXHIBIT 7.0 (cont'd)

<u>QUALITY ASSURANCE TESTING FREQUENCY</u>			
<u>TYPE OF TEST</u>	<u>TEST METHOD</u>	<u>SAMPLING POINT</u>	<u>MINIMUM TESTING FREQUENCY</u>
RIP RAP MAG 220			
<u>Specific Gravity</u>	<u>ASTM C 127</u>	<u>Stockpile</u>	<u>1 Per Source</u>
<u>LA Abrasion</u>	<u>ASTM C 535</u>		
<u>Gradation</u>	<u>AASHTO T 27</u>	<u>Stockpile</u>	<u>1 per 1000 Tons Per Source</u>
<u>Flat Elongated Particles</u>	<u>ASTM D 4791</u>	<u>Stockpile</u>	<u>1 per 100 Tons, Per Source</u>

APPENDIX A:

<u>RESOLUTION NUMBER</u>	<u>SECTIONS AFFECTED</u>	<u>DESCRIPTION</u>	<u>DATE</u>
	<u>Multiple</u>	<u>Adoption</u>	



AGENDA ITEM

April 17, 2024 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #:

Dept. Name: Clerk of the Board

Director: Natasha Kennedy

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Pursuant to A.R.S. 38-431.02, NOTICE IS HEREBY GIVEN, that the public will have physical access to the meeting room at 9:15 AM.

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

History		
Time	Who	Approval

ATTACHMENTS:
Click to download
No Attachments Available



AGENDA ITEM

April 17, 2024 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #:

Dept. Name:

Director:

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Notice of Possible Recess: The Board may take a Recess around 12:30 p.m. and the meeting will reconvene around 1:00 p.m.

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

History		
Time	Who	Approval

ATTACHMENTS:
Click to download
No Attachments Available



AGENDA ITEM

April 17, 2024 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #:

Dept. Name: Clerk of the Board

Director: Natasha Kennedy

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Meeting Notice of Posting

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

History	Who	Approval
Time		

ATTACHMENTS:

Click to download

☐ [Notice of Posting](#)



PINAL COUNTY
WIDE OPEN OPPORTUNITY

MEETING NOTICE OF POSTING

STATE OF ARIZONA

COUNTY OF PINAL

I, Natasha Kennedy, being duly sworn upon her oath, says as follows:

I am the appointed Clerk of the Pinal County Board of Supervisors.

In my position as Clerk of the Board of Supervisors and Board of Directors, I am responsible for posting all Agendas.

Pursuant to A.R.S. 38-431.02 notice is hereby given that the Pinal County Board of Supervisors will hold a Work Session meeting on **Wednesday, April 17, 2024 at 9:30 AM** in the Board Hearing Room, 1891 Historic Courthouse, Administrative Complex, located at 135 N. Pinal Street, Florence, Arizona 85132. The public will have physical access to the meeting room at 9:15 AM.

Notice of Possible Recess: The Board may take a Recess around 12:30 PM and the meeting will reconvene around 1:00 PM.

Board Meetings are broadcasted live and the public may access the meeting on the County Website at Pinal.gov under "Meeting Videos."

Board Agendas are available on the County Website at Pinal.gov under "Agendas & Minutes."

At any time during business hours, citizens may reach the Clerk of the Board Office at (520) 866-6068 or via email at ClerkoftheBoard@pinal.gov for information about Board meeting participation.

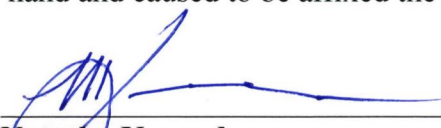
Note: One or more members of the Board may participate in this meeting by telephonic conference call.

I hereby further certify that I caused to be posted this Friday, April 12, 2024, around 11:00 AM the Work Session Agenda as follows:

1. A kiosk located outside the front entrance to The Old Historical Courthouse, Administrative Complex Building, 135 North Pinal Street, Florence, Arizona 85132
2. County Website under Agendas & Meetings located at Pinal.gov
3. Emailed the NOVUS Agenda Distribution List and Clerk of the Board Notification Distribution List

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Official Pinal County, Arizona Seal this 12th day of April, 2024.




Natasha Kennedy
Clerk of the Board of Supervisors
Pinal County, Arizona

CLERK OF THE BOARD OF SUPERVISORS

1891 Historic Courthouse | 135 North Pinal Street | P.O. Box 827 | Florence, AZ 85132 | T: 520-866-6068
www.pinal.gov



AGENDA ITEM

April 17, 2024 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #:

Dept. Name:

Director:

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

[Click Here for the General Board Meeting Rules of Order](#)

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

History	Who	Approval
Time		

ATTACHMENTS:

[Click to download](#)

No Attachments Available