NAVAJO COUNTY BOARD OF SUPERVISORS

Fern Benally • Alberto L. Peshlakai • Jason E. Whiting • Daryl Seymore • Dawnafe Whitesinger

"We are Navajo County"

NOTICE OF PUBLIC HEARING AND AGENDA
Tuesday, January 28, 2025
NAVAJO COUNTY GOVERNMENTAL COMPLEX
BOARD OF SUPERVISORS' CHAMBERS
100 EAST CODE TALKERS DRIVE
HOLBROOK, AZ 86025

One or more supervisors may attend telephonically

Pursuant to A.R.S. §38-431.02(H), the public body will have physical access to the meeting place one (1) hour prior to the start of the meeting. The Board may vote to meet in a closed executive session to discuss certain matters and for legal advice on any item as indicated on the following agenda, pursuant to A.R.S. § 38-431.03(A)(3). Items on the agenda may be considered out of order at the Chairperson's discretion. A copy of the agenda background material provided to the Board, except items to be considered in the executive session, is available for public inspection at the Navajo County website, www.navajocountyaz.gov

WATCH THE MEETING LIVE AT: www.navajocountyaz.gov/660
All public comments will need to be made in person or in writing. Written comments will be received by the Clerk of the Board's office twenty-four (24) hours prior to the Board meeting, at melissa.buckley@navajocountyaz.gov. Persons with disabilities who need accommodation to attend or participate in the meeting may contact the Clerk of the Board's office at least forty-eight (48) hours prior to the meeting, so accommodation can be arranged.

"NOTICE TO PARENTS AND LEGAL GUARDIANS: Parents and legal guardians have the right to consent before Navajo County makes a video or voice recording of a minor child, pursuant to A.R.S. § 1-602(A)(9). The Navajo County Board of Supervisors' regular meetings are recorded and may be viewed on Navajo County's website and social media pages. If you permit your child to attend/participate in a televised Navajo County Board of Supervisors meeting, a recording will be made, and your child's picture may be posted on Navajo County's social media pages. You may exercise your right not to consent by not allowing your child to attend/participate in the meeting."

9:00 a.m. Call To Order: Invocation and Pledge of Allegiance

1. **CONSENT AGENDA:** These items are considered to be routine or administrative in nature and will be approved in a single motion. A Board member may request for any item to be removed from the consent agenda and considered on the regular agenda:

   a. Minutes: January 14, 2025, Regular Minutes and Executive Session Minutes

   b. Clerk of Superior Court Report, December 2024

   c. Constable Reports: Holbrook Precinct #1, August, September, October & November 2024; Snowflake Precinct #3, December 2024

   d. Justice Court Reports: Holbrook Precinct #1, Winslow Precinct #2, Snowflake Precinct #3, Kayenta Precinct #4, Show Low Precinct #5, Pinetop-Lakeside Precinct #6, December 2024

e. Intergovernmental Agreement between the Navajo Nation and Navajo County Public Works to authorize Navajo County to continue using the remaining funds previously granted to it from the Navajo Rehabilitation Trust Fund for the purpose of conducting road maintenance and improvements on the Navajo Nation

f. Reissuance of Stale Dated Checks

g. Revised Amendment No. 1 to the Website Development, Hosting and Maintenance Contract #B22-08-016 correcting the Contract Term dates

h. Request approval to conduct a board member election for Timberland Acres Domestic Water Improvement District on March 12, 2025

i. 2025 Board of Supervisors Committee Appointments

2. **NAVAJO COUNTY PUBLIC HEALTH SERVICES DISTRICT**: Board of Directors Session:

a. **CONSENT AGENDA:** The following item(s) are considered to be of a routine or administrative in nature and will be approved as a group unless a member of the Board wishes to discuss a particular item:

1. Amendment to the Healthy Forest Initiative (HFI) 21-306 for a time extension to an end date of April 30, 2025

3. **ADMINISTRATIVE SERVICES:**

a. Presentation to Deanne Romo on her Retirement from Navajo County after 43+ Years of Service

Presented By: Eric Scott and Michael Sample

4. **PUBLIC WORKS:**

a. Consideration of a Task Agreement between the White Mountain Apache Tribe Division of Transportation and Navajo County to reimburse for crosswalk re-striping.

Presented By: Nicole Reske

b. Consideration of a Memorandum of Agreement between the Bureau of Indian Affairs, Fort Apache Agency Transportation Department and Navajo County for road related maintenance activities.

Presented By: Nicole Reske

c. Consideration and adoption of **Resolution Number 02-2025** approving the Navajo County Design & Construction Standards & Specifications Manual to provide standards, specifications, and guidelines that complement and support the County Ordinances and Regulations.

Presented By: Will Flake

d. **VICTORY HEIGHTS ROAD MAINTENANCE DISTRICT:** Board of Directors Session:

1. **CONSENT AGENDA:** The following item(s) are considered to be of a routine or administrative in nature and will be approved as a group unless a member of the Board wishes to discuss a particular item:

a. Contracts signed by County Manager pursuant to Board of Supervisors Resolution: Insurance for Victory Heights Road Maintenance District

5. **PLANNING & DEVELOPMENT SERVICES:**

a. Consideration and approval of a Professional Services Contract between Navajo County and Kimley-Horn and Associates, Inc. to provide professional services for Navajo County Water and Wastewater Master Plan.

Presented By: Mischa Larisch

b. **PUBLIC HEARING**: Consideration and possible adoption of **Resolution Number 03-2025**, approving/denying a Master Development Plan Amendment for Phases II, III, and IV of White Mountain Lake Vistas, which allowed for a total of 216 single-family lots, to a new Master Development Plan which will allow for 24 single-family lots, 133 manufactured homes, 133 multi-family units, storage and parking facilities, existing golf course, and undisturbed/recreation area in the White Mountain Lakes area.

Presented By: Cody Cooper

6. **COUNTY BUSINESS UPDATE:** Report from County Manager, County Attorney and Board members.

7. **CALL TO THE PUBLIC**: Individuals may address the Board on any relevant issue for up to 3 minutes. At the close of the call to the public, Board members may not respond to any comments but may respond to criticism, ask staff to review a matter or ask that a matter be placed on a future agenda.

8. **ADJOURN**

Dated: January 24, 2025

Posted: 8:40 a.m. By: MWB

NAVAJO COUNTY BOARD OF SUPERVISORS

Melissa W. Buckley

Melissa W. Buckley - Clerk of the Board

Board of Supervisors Regular **1. a.**

Meeting Date: 01/28/2025

Title: Draft Minues

Submitted By: Leah Thomas, Deputy Clerk of the Board of Supervisors

Department: Board of Supervisors

Motion before the Board:

Minutes: January 14, 2025, Regular Minutes and Executive Session Minutes

Background:

Attachments

1.14.2025 DRAFT Minutes

Form Review

Form Started By: Leah Thomas Started On: 01/22/2025 10:02 AM

Final Approval Date: 01/22/2025

NAVAJO COUNTY BOARD OF SUPERVISORS' MINUTES
Tuesday, January 14, 2025

Present:	Fern Benally, Supervisor District I; Alberto Peshlakai, Supervisor District II; Jason Whiting, Chairman; Daryl Seymore, Supervisor District IV (appearing virtually); Dawnafe Whitesinger, Vice-Chair
Staff Attendance:	Bryan Layton, County Manager; Brad Carlyon, County Attorney; Melissa Buckley, Clerk of the Board

9:01 a.m. Call To Order: Invocation and Pledge of Allegiance was led by **Supervisor Fern Benally**.

***BOARD OF SUPERVISORS*:**

a. *Election of Chair and Vice-Chair for 2025*:
Supervisor Whitesinger made a motion that **Supervisor Whiting** serve as Chair of the Board of Supervisors for 2025, motion seconded by **Supervisor Peshlakai**. Motion approved 4-1, with **Supervisor Benally** voting in opposition.

Supervisor Whiting made a motion that **Supervisor Whitesinger** serve as Vice-Chair of the Board of Supervisors for 2025, motion seconded by **Supervisor Peshlakai**. Motion approved 4-1, with **Supervisor Benally** voting in opposition.

b. *Presentation to **Chairman Jason Whiting** for his 2024 service*:
Vice-Chair Whitesinger recognized **Chairman Whiting** for his dedicated service throughout 2024. She shared her appreciation for his service to the communities. She shared her appreciation for his leadership, particularly during the challenging election year. She spoke about his commitment to serving all communities within Navajo County, his efforts in advocating for rural Arizona's needs with legislators and promoting economic growth. She presented him with a plaque for his role as Chairman from January to December 2024.
Chairman Whiting expressed his gratitude to the Board for their trust and support. He acknowledged the honor of working with each member and praised their dedication to their communities. He also thanked the elected officials, citizens, and staff of Navajo County for their collective efforts. He spoke of the county's culture of servant leadership.

***CONSENT AGENDA*:**

a. *Minutes: December 10, 2024 BOS Meeting*
b. *Clerk of Superior Court Report: November 2024*

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c. *Constable Reports: Winslow Precinct #2, July, August, September & October 2024; Snowflake Precinct #3, November 2024; Show Low Precinct #5, October & November 2024; Pinetop-Lakeside Precinct #6, November & December 2024*

d. *Justice Court Reports: Holbrook Precinct #1, Winslow Precinct #2, Snowflake Precinct #3, Kayenta Precinct #4, Show Low Precinct #5, Pinetop-Lakeside Precinct #6, November 2024*

e. *2025 Board of Supervisors Committee Assignments*

f. *Acceptance and approval of the FY25 Arizona Governor's Office of Youth, Faith and Family's STOP Grant #GR-STOP-GOYFF-010124-13Y2*

g. *State of Arizona Federal Fiscal Year 2024 State and Local Cybersecurity Grant Program Local Consent Agreement*

h. *Renewal of the Website agreement with Civic Plus*

i. *Settlement Agreement and Release in Case No. S0900CV202300338; Hunter, et al. Vs. Navajo County Fair, Inc., et al.*

j. *Fiscal Year 2024 Fund Transfers*

k. *Adoption of the Board of Supervisors Policies and Procedures*

l. *Contracts signed by County Manager pursuant to Board of Supervisors Resolution: Dependency Alternative Program (DAP) Advisory Attorney Agreement with Michael R. Ellsworth; Sentinel Technologies, Inc. for a Cisco Firewall for Compact Security Appliance with Threat Defense Software and Support Services; Contract for Professional Services with New York Wired for Education dba Workforce 180 to develop the WIOA local plan; Medical Malpractice insurance for our Medical Director (Dr. Goodman); Contract with Johnson Walzer Associates, LLC*

m. *Contracts signed by County Manager pursuant to Board of Supervisors Resolution: Change Order No. 1 to Pinedale Elementary School Restoration Project, Contract No. B24-02-008*

n. *Amendment No. 1 to the Inmate Commissary and Resident Banking Services Contract #B22-09-010*

o. *Sympathy Letters: Doris Yazzie, Shannon Shannon, Christopher Stapley, Crystal Castillo, Kelly Palmer and the family of Deputy Steve Cocking*

p. *Approval to conduct a board member election for Timberland Acres Domestic Water Improvement District on March 11, 2025*

q. *Approval to conduct board member elections for White Mountain Lakes Special Road District on May 20, 2025*:
Chairman Whiting stated that item “e” is being tabled to the next meeting. **Vice-Chair Whitesinger made a motion** to authorize the Chairman to sign the items in the consent agenda; motion seconded by **Supervisor Peshlakai**. Vote unanimous approving the motion.

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***EMPLOYEE RECOGNITION*:**

a. *Navajo County recognizes the following employees for their excellence in personal performance, far exceeding organization expectations for the month of December:* ***Brandon Damron*** *(Health District),* ***Brian Duncan*** *(I.T.),* ***Ron Smith*** *(Court Administration), and* ***Bryan Cook*** *(IT)*:
Lea Peterson recognized the employees for their excellence in personal performance far exceeding organization expectations for the month of December. A presentation was shown.

Vice-Chair Whitesinger expressed gratitude for the dedicated employees of the organization, acknowledging their hard work, leadership, and the positive example they set. She stated that the communities also appreciate their efforts and thanked them for their contributions.
Chairman Whiting shared his appreciation to the four employees, acknowledging that their contributions speak for themselves. He indicated that they are well-deserving of the recognition for their service and the positive impact they have, highlighting that they are appreciated, noticed, and valued by everyone.

***ADMINISTRATIVE SERVICES*:**

a. *Presentation to Bret Starns on his Retirement from Navajo County after 27+ Years of Service*:
Eric Scott stated that Bret Starns has been with Navajo County for over 27 years, noting his dedication to public service for both the residents and employees. He shared a quote from Mr. Starns, "The sum of the peanuts make the elephant," highlighting how small actions over time make a significant impact. He praised Mr. Starns for his unwavering willingness to help, whether it was providing support or assisting with inspections at various county buildings. He stated that it has been a pleasure to work with Mr. Starns and his constant readiness to contribute.
Bryan Layton stated that Bret Starns is a "master of all trades" rather than a "jack of all trades." He praised Mr. Starns for handling every challenge thrown his way with skill, including complex issues, and for his careful attention to fiscal responsibility. He spoke about his dedication to managing the county's resources wisely and his exemplary character as a hardworking, honest, and wonderful human being. He expressed gratitude for Mr. Starns decision to continue helping the county part-time, acknowledging him as a great asset and a valued friend.
Bret Starns expressed gratitude for the opportunity to work at Navajo County and the great people he worked with. He shared how the county played a significant role in raising his kids and praised the organization as a whole. He acknowledged the support of his wife, noting that now his time will be more dedicated to her.
Eric Scott presented Mr. Starns with a token of appreciation for his service to Navajo County.

Supervisor Seymore praised Mr. Starns for his hard work and dedication

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over the years, highlighting his key role in handling challenging projects that others might avoid, such as maintaining county facilities, repairing sewer lines, and modifying buildings. He expressed admiration for Mr. Starns and his team, congratulated him on his retirement, and wished him continued enjoyment in the next chapter of his life.

Vice-Chair Whitesinger expressed gratitude to Mr. Starns for his significant contributions to the organization, highlighting his quiet, consistent work and dedication. She praised him for being the "shining star" whose efforts often go unrecognized but make everyone look good. She spoke about how his work on various projects has directly improved the county's ability to serve its communities. She thanked Mr. Starns for choosing to work with Navajo County and for the lasting legacy he leaves behind, and expressed appreciation for the opportunity to learn from his example.

Chairman Whiting expressed gratitude for the opportunity to work with Mr. Starns, highlighting his positive attitude, calm demeanor, and excellent leadership style, especially when handling challenging tasks and projects. He spoke about his pleasantness and ease in working with others, making it enjoyable for everyone. He expressed happiness that Mr. Starns will continue to help part-time and wished him well as he spends more time with his family. He soke about Mr. Starns lasting legacy of leadership and service at Navajo County.

Supervisor Benally thanked Mr. Starns for his 27 years of service to Navajo County. She spoke about his friendly attitude, positivity, and dedication to his projects. She shared her appreciation for his contributions and wished him well in his future endeavors.

b. *Presentation and update on Capital Projects*:

A presentation was shown. Grant Evans provided an update on several capital projects within the county, which he categorized into completed, in-progress, and planning stages. He spoke about the completed projects, including the Complex Rehabilitation: upgraded restrooms, replaced failing sewer lines, and added security features that was completed in April 2024 within budget; the Clay Springs Roof Replacement: replaced the roof of a historic building, which was completed in December 2024 and funded by CDBG; and the Pinedale Elementary School Restoration: restoration nearly complete, including roof replacement and accessibility improvements, expected completion by this week, with a grant covering 55% of the costs. He spoke about the In-Progress Projects, including the Broadband Project: significant progress on conduit and handholds installation, with a target completion by July 2025; the Code Enforcement Facility: Groundbreaking was December 2024, with excavation and site preparation ongoing and the completion is expected by April 2026; and the Pinetop Lakeside Senior Center Roof Replacement: CDBG-funded project, materials have been ordered and work will begin once weather permits. He spoke about the Projects in Design/Planning, including the County Complex Entry Monument Sign: Ready to construct after receiving necessary permits, with work to start within a month; Public Service Counters: 95% design completion, with construction expected in spring 2025; Complex Master Plan: planning phase for optimizing space and addressing future needs and includes a strategic plan for the next 5-20

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years; and the Navajo County Historic Courthouse: Planning to replace 12 windows as part of an energy efficiency project, with design services starting immediately. Mr. Evans highlighted the ongoing efforts and collaborations to ensure these projects stay on track and meet their deadlines.

Chairman Whiting expressed his appreciation for the update on capital projects, recognizing the significant progress made. He spoke about the importance of Mr. Evan's role in coordinating the projects, securing grants, and obtaining additional funding. He thanked Mr. Evans for his contributions and praised the team for their efforts in modernizing and advancing these initiatives to improve county services.

Vice-Chair Whitesinger made a motion to enter into the Navajo County Public Health Services District Board of Directors Session, motion seconded by **Supervisor Peshlakai**. Vote unanimous approving the motion.

NAVAJO COUNTY PUBLIC HEALTH SERVICES DISTRICT: *Board of Directors Session*:

***CONSENT AGENDA*:**

1. *Data Sharing Agreement between Navajo County Public Health Services District (NCPHSD) and Arizona Department of Health Services (ADHS) for routine data sharing*
2. *Contract between Navajo County Public Health Services (NCPHSD) and AVERHealth for collection of laboratory samples*
3. *Contract B22-11-014 amendment number 1 for nurse practitioner services between Navajo County Public Health Services District and Jaskiranjit Hanson, FNP*
4. *Amendment to the cooperative agreement for animal impoundment services between Navajo County Public Health Services District and Pet Allies*:
   Vice-Chair Whitesinger made a motion to authorize the Chairman to sign the items in the consent agenda; motion seconded by **Supervisor Peshlakai**. Vote unanimous approving the motion.

***REGULAR AGENDA*:**

1. *Consideration of award of contract number B24-10-031, Navajo County Public Health Competency-Based Workforce Development Plan to Ascendient Healthcare Advisors*:
   Janelle Linn spoke about the importance of having a highly qualified workforce for the Public Health Department, especially after the COVID pandemic. She noted that a significant portion of the team will be eligible for retirement within the next few years, and as a result, the department is seeking approval to award a contract for a workforce development plan with succession planning components. The project will be primarily funded by a federal grant, covering about 80% of the costs. She requested

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approval of the contract with Ascendant Healthcare Advisors.

Vice-Chair Whitesinger made a motion to approve contract number B24-10-031, Navajo County Public Health Competency-Based Workforce Development Plan to Ascendient Healthcare Advisors, motion seconded by **Supervisor Seymore**. Vote unanimous approving the motion.

Supervisor Peshlakai made a motion to return to regular session, motion seconded by **Vice-Chair Whitesinger**. Vote unanimous approving the motion.

***PLANNING & DEVELOPMENT SERVICES*:**

a. ***PUBLIC HEARING:*** *Consideration and possible adoption of* ***Resolution Number 01-2025****, approving/denying an update to the Navajo County Comprehensive Plan*:

Cody Cooper provided clarification on the Navajo County Comprehensive Plan update, explaining that the plan is not a regulatory document but rather a guiding one. He indicated that it serves as a foundation for future amendments and the adoption of regulatory documents, including those related to renewable energy ordinances. He emphasized that while the plan provides a pathway for these changes, it does not directly implement regulations.

A presentation was shown. Terry Hogan, Consultant from Logan Simpson Design, shared her appreciation for the collaboration with the county's planning and development team. She indicated that the team consisted of experts in transportation, water resources, and economics, essential for addressing various planning areas. She reviewed the purpose of the comprehensive plan, which is required by state law for every Arizona county, noting that the plan provides a blueprint for growth and development, guiding coordinated, efficient, and sustainable growth while conserving natural resources and promoting public welfare. She stated that the plan is forward-looking, with the goal of aligning future development with the community's vision. She outlined how the comprehensive plan serves as the foundation for other planning tools like zoning codes and subdivision regulations. She stated that the team worked on the entire county, knowing that two-thirds of the county is in sovereign nations but that there's connectivity with roadways for open spaces, and coordinated with tribal governments and incorporated cities to ensure compatibility with their plans. She indicated that the process, lasting over 12 months, involved six phases, including public engagement and feedback. She indicated that that the draft was reviewed during a 60-day public period, and that the Planning and Zoning Commission recommended approval. She stated that if adopted, the plan would become effective immediately, serving as the governing land use document for Navajo County. She reviewed the Public Participation Plan **,** indicating that it is a statutory requirement and was presented to the board in March of last year. She stated that it aligns with state regulations and the county's existing public participation efforts. She spoke about the process and Strategy, noting that the goal was to maximize exposure and gather public input, which included setting up a project website that has had over 9,100 views and 74

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direct communication sign-ups. She indicated that a Comprehensive Plan Committee (CPC) of experts was established to guide the process at key milestones. She spoke about community outreach, indicating that multiple methods were employed to engage the community, including a community questionnaire, in-person and virtual interviews, and eight in-person events with over 900 participants. She stated that social media and press releases helped publicize the process and encourage participation. She spoke about the public review, indicating that a 60-day public review period was held, during which the plan was posted online, advertised through various media, and open house meetings were held. She stated that feedback was collected and reviewed, with most comments being positive. She reviewed the content of the plan, indicating that it addresses nine key topics, including land use, transportation, economic growth, housing, water, and energy with guiding principles and goals for each. She stated that a future land use map and policies for future growth were developed. She spoke about implementation, indicating that while not required by statute, an implementation plan has been included to help guide the execution of the plan. She stated that it includes 87 action items covering short-term, mid-term, and long-term goals. She stated that the project team recommends approval of the Navajo County 2050 Comprehensive Plan.

Supervisor Benally expressed dissatisfaction with the Comprehensive Plan, specifically highlighting the exclusion of input from the Navajo Nation and Hopi Tribe, which cover two-thirds of the county. She spoke about the plan primarily focusing on wealth and development for towns and municipalities while neglecting the rest of the county, leaving out vast areas with Indigenous populations. She questioned the rush to push the plan forward without involving these groups, raising concerns about the fairness and inclusivity of the plan.

Cody Cooper acknowledged the concerns raised, explaining that the comprehensive plan is limited by statutory authority, which excludes sovereign nations from the process. He spoke about efforts to engage with the Navajo Nation, conducting outreach to various chapters and community representatives, noting that despite reaching out to 40-50 entities, feedback was limited. He indicated that they had done their best within the legal constraints of their planning authority.

Chairman Whiting inquired if the plan only applies to areas within the county's statutory authority, excluding cities or incorporated areas, as they cannot plan for those regions.

Mr. Cooper confirmed that the plan only governs unincorporated, non-reservation areas of the county, as towns are required to create their own plans. He indicated that there is ongoing collaboration with towns, cities, and neighboring counties to ensure consistency and compliance with legal requirements. He spoke about Winslow doing their General Plan, noting that they reached out to the County for the a 60-day review period, which allowed the county to provide feedback and address any potential conflicts between their plans. He stated that the county continues to collaborate with all agencies within its authority but cannot regulate anything outside the unincorporated areas.

Supervisor Benally expressed frustration that the Navajo Nation was not properly involved in the planning process, despite the claim of reaching out

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to all jurisdictions. She criticized the exclusion of the two-thirds of Navajo County covered by sovereign nations, stating that the county's plans seem to prioritize certain areas while neglecting others. She spoke of a constituent's perception of prejudice in the area and felt the county was not being inclusive in its approach, despite claiming the plan was comprehensive.

Supervisor Peshlakai expressed his appreciation for the comprehensive plan and the efforts behind it, acknowledging the differences between county and tribal planning processes. He explained that the county's plan focuses on land use, infrastructure, and economic growth within county boundaries, while tribal nations prioritize cultural preservation, self-determination, and economic development within their sovereign lands. He clarified that tribal nations are not bound by state regulations in the same way as counties, which operate under state authority. He noted that tribal nations receive federal funding for community planning, unlike counties, which rely on local taxes.

10:26 a.m. **Supervisor Peshlakai** stepped out of the meeting.

Supervisor Seymore expressed gratitude for staff's hard work in developing the comprehensive plan, emphasizing its importance for future community growth, zoning, and economic sustainability. He spoke about the plan's potential to guide the county's development over the next 20-30 years, addressing challenges like population decline and shifts in the economy. He commended the plan as a necessary update, noting the county's last comprehensive plan was in 2004, and it was only recently revised to remain compliant. He acknowledged that while the plan isn't perfect, it provides a strong foundation for growth and will be refined over time through regulations and ordinances.

10:30 a.m. **Supervisor Peshlakai** returned to the meeting.

Chairman Whiting opened the Public Hearing. There being no comments, the Public Hearing was closed.

Vice-Chair Whitesinger asked for clarification on the approval process and inquired about the procedure for making amendments or modifications to the plan if needed in the future, specifically in the context of the recommendation to review the plan every 10 years.

Mr. Cooper explained that, by state law, the comprehensive plan must be updated or readopted every 10 years, but that the plan is a "living document," meaning it can be amended or modified earlier if significant trends or shifts are identified. He indicated that any changes would follow a process similar to the one already completed, allowing for updates as needed at the local level.

Vice-Chair Whitesinger expressed appreciation for the effort and professionalism in developing the comprehensive plan, highlighting its importance in meeting state requirements and its impact on local communities. She commended the outreach efforts to educate the public about the plan's significance and its potential effects on property, land, and future projects. She acknowledged the importance of considering

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renewable energy and the involvement of tribal communities in the planning process, emphasizing that tribal partnerships are a valued asset to Navajo County. She expressed gratitude for the work put into the plan and clarifying the county's commitment to valuing and supporting tribal communities.
Chairman Whiting thanked staff for the efforts made to connect with various communities and gather feedback on what citizens want for Navajo County. He acknowledged the thorough outreach efforts and expressed their impression of the process.

Supervisor Peshlakai made a motion to adopt **Resolution Number 01-2025**, approving an update to the Navajo County Comprehensive Plan, motion seconded by **Vice-Chair Whitesinger**. Motion passed 4-1 with **Supervisor Benally** voting in opposition.

***PUBLIC WORKS*:**

a. *Presentation of Navajo County's Waste Tire Program and notification of the receipt of the Arizona Department of Environmental Quality (ADEQ) Voluntary Environmental Stewardship Program (VESP) Bronze Award*:
A presentation was shown. Madhav Mundle stated that Navajo County received the VESP Bronze Award from ADEQ for maintaining sustained compliance with environmental laws for three consecutive years, recognizing the county's waste tire program. He stated that the program, managed by Navajo County Public Works in collaboration with ADEQ, involves two tire collection sites in Holbrook and Show Low. He indicated that the county also organizes community cleanups and works with a contractor to haul and dispose of tires, noting that in fiscal year 2024, over 54,000 tires were collected. He stated that the program is funded by the state, with annual funding varying but typically exceeding $210,000. He indicated that the county's outreach includes informational materials available on their website.
A presentation was shown. Manny Bowler, Community Liaison for Navajo, Apache, and Gila counties, spoke about Navajo County's waste tire program, which received the VESP Bronze Award for sustained compliance with environmental laws. She stated that this recognition is part of the Voluntary Environmental Stewardship Program (VESP), created by the Arizona State Legislature. She indicated that the program encourages organizations to improve their environmental practices, with recognition levels ranging from Copper to Platinum, noting that Navajo County's tire program caught up on six years of overdue reporting and has maintained compliance. She praised the county's efforts, noting that the program has become a model for other areas, including Apache County, where tire disposal options are limited. She thanked the county for its continued support of waste tire disposal events.

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b. *Consideration of an Intergovernmental Agreement with the State of Arizona, Department of Transportation for the Silver Creek Drive and Silver Lake Boulevard Crossing* :
Madhav Mundle stated that Navajo County received funding through AZ Smart Funds for the design of a bridge replacement project in District 3, specifically in the White Mountain Lakes Community. He indicated that the project would involve designing a new bridge over Rocky Arroyo and creating a new storm drain crossing at Silver Lake Boulevard. He stated that Public Works applied for and secured $890,000 for the design phase, which will be administered by ADOT. He indicated that the project aims to improve access and infrastructure in the area. He noted that they would apply for separate funding to do the construction work. He stated that staff requests approval of the IGA.

Chairman Whiting inquired about the plan for managing traffic disruptions during construction, emphasizing the importance of minimizing the impact on the public and ensuring smooth traffic flow during the project.
Mr. Mundle confirmed that managing traffic disruptions will be a key consideration during the project, assuring that access to the community will not be cut off and that detour routes will be planned. He indicated that the goal is to avoid impacting both routes simultaneously, ensuring the community's access is maintained during construction, which will be addressed as part of the design and development phase, focusing on traffic maintenance.
Chairman Whiting encouraged them to communicate effectively with the public about the upcoming construction, including timelines and alternative routes.

Vice-Chair Whitesinger made a motion to approve an Intergovernmental Agreement with the State of Arizona, Department of Transportation for the Silver Creek Drive and Silver Lake Boulevard Crossing, motion seconded by **Supervisor Peshlakai**. Vote unanimous approving the motion.

***BOARD OF SUPERVISORS*:**

a. *Consideration of an application from Concho Animal Advocates for a Class B Bingo License, at the Cedar Hills Senior Center, 9419 E Concho Highway, Snowflake* :
Leah Thomas stated that this is an application for bingo licenses from the Concho Animal Advocates, who plan to hold bingo at the Cedar Hills Senior Center near Snowflake. She indicated that the Sheriff's Department, Treasurer's Department, Health Department, and Planning and Development, have confirmed that the application meets the requirements for their departments. She stated that staff recommends approval of the application.

Vice-Chair Whitesinger made a motion to approve an application from Concho Animal Advocates for a Class B Bingo License, at the Cedar Hills Senior Center, 9419 E Concho Highway, Snowflake, motion seconded by **Supervisor Peshlakai**. Vote unanimous approving the motion.

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b. ***EXECUTIVE SESSION:*** *pursuant to A.R.S. §38-431.03(A)(3) for the Board to receive legal advice from its attorney regarding a Civil Action filed by SBA Communications Corporation 3:24-CV-08230-DWI*:
10:56 a.m.
Supervisor Peshlakai made a motion to move into Executive Session, motion seconded by **Vice-Chair Whitesinger**. Vote unanimous approving the motion.

c. ***RECONVENE:*** *Consideration and direction to County Attorney regarding a response in the Civil Action filed by SBA Communications Corporation 3:24-CV-08230-DWI*:
11:11 a.m.
Vice-Chair Whitesinger made a motion to return to regular session, motion seconded by **Supervisor Peshlakai**. Vote unanimous approving the motion.

Vice-Chair Whitesinger made a motion that staff be directed to file a response to the civil action filed by SBA Communications, motion seconded by **Supervisor Peshlakai**. Vote unanimous approving the motion.

COUNTY BUSINESS UPDATE: *Report from County Manager, County Attorney and Board members* :
Supervisor Seymore thanked **Chairman Whiting** and **Vice-Chairman Benally** for their leadership in the past year. He spoke about the tragic loss of life in California and reflected on the continuing risks and challenges faced in the White Mountains region. He shared an inspirational story from a friend who overcame adversity after being released from prison, emphasizing the importance of freedom, faith, and rebuilding in times of loss. He encouraged setting goals for personal growth and resilience in the new year.
Supervisor Benally spoke about her attendance at the local Veterans' organization and Chapter meetings. She indicated that she attended the inauguration of officials in the Western and Chinle Agencies, noting that she has several chapters in both areas. She spoke about her attendance at the holiday events at the Veterans organizations and Chapters in her area.
Vice-Chair Whitesinger recognizing the Sheriff's Department for their professionalism as the honor guard at Deputy Cockings' funeral and expressed condolences to his family. She spoke about the recent fires in California, noting the lessons in compassion and the importance of addressing urban-interface fires. She emphasized the need for communities to work together in fire mitigation efforts and acknowledged the widespread impact of the fires, which have caused unprecedented devastation.
Chairman Whiting expressed concern about the upcoming fire season, emphasizing the importance of preparation and praying for rain. He thanked the Board for their trust and acknowledge the genuine care they show for their constituents. He reflected on attending Deputy Cockings' funeral and expressed appreciation for the emotional and supportive gestures observed, particularly from Supervisor Whitesinger. He spoke about the value of kindness, grace, and assuming positive intent in interactions with others, encouraging everyone to

DRAFT

support each other and remain accountable as they move into 2025.

CALL TO THE PUBLIC:
There were no individuals present for Call to the Public.

Vice-Chair Whitesinger lead everyone in singing Happy Birthday to **Chairman Whiting**.

ADJOURN**:** 11:22 a.m. meeting adjourned.

APPROVED: **DATED: January 28, 2025**

Jason Whiting, Chairman
Navajo County Board of Supervisors

ATTEST:

Melissa W. Buckley, Clerk
Navajo County Board of Supervisors

DRAFT

Board of Supervisors Regular **1. e.**

Meeting Date: 01/28/2025

Title: IGA Navajo Nation & Public Works road maintenance

Submitted By: Melissa Buckley, Clerk of the Board of Supervisors

Department: Board of Supervisors

Motion before the Board:

Intergovernmental Agreement between the Navajo Nation and Navajo County Public Works to authorize Navajo County to continue using the remaining funds previously granted to it from the Navajo Rehabilitation Trust Fund for the purpose of conducting road maintenance and improvements on the Navajo Nation

Background:

It is the mutual desire of the Nation and Navajo County to achieve their goals and work in harmony for the common purpose of protecting the public health, safety, and welfare of the people of the Nation residing in Navajo County through a cooperative relationship between the parties

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Attachments

IGA Navajo Nation

Form Review

Inbox	Reviewed By	Date
Brandt Clark	Brandt Clark	01/16/2025 10:46 AM

Form Started By: Melissa Buckley Started On: 01/16/2025 09:32 AM

Final Approval Date: 01/16/2025

INTERGOVERNMENTAL AGREEMENT BETWEEN
THE NAVAJO NATION
AND
THE NAVAJO COUNTY, ARIZONA
DEPARTMENT OF PUBLIC WORKS

This Intergovernmental Agreement ("IGA") is entered into as of this ___ day of _____ by and between the Navajo Nation, through the Navajo-Hopi Land Commission Office, hereinafter referred to as the "Nation," and Navajo County, a political subdivision of the State of Arizona, through its Department of Public Works, hereinafter referred mas "Navajo County."

WHEREAS, the Nation has established the Navajo-Hopi Land Commission Office for the administration and utilization of the Navajo Rehabilitation Trust Fund, as authorized by the Navajo-Hopi Land Commission, to improve the economic, educational, and social conditions of the families and Navajo communities affected by the Healing decision, the provisions of Public Law 93-531, as Amended, and the establishment of District Six as exclusively Hopi Land; and

WHEREAS, Navajo County supports the Nation, BIA, and Navajo Department of Transportation through its Department of Public Works in the maintenance of public roadways and related transportation structures within the unincorporated areas of the county under the jurisdiction of its Board of Supervisors; and

WHEREAS, it is the mutual desire of the Nation and Navajo County to achieve their goals and work in harmony for the common purpose of protecting the public health, safety, and welfare of the people of the Nation residing in Navajo County through a cooperative relationship between the parties; and

WHEREAS, each party to this IGA respects the sovereign status of the other and wishes to establish procedures to fully implement the government-to-government relationship with respect to transportation projects of mutual interest and benefit. In recognition of the sovereign status of the Nation, Navajo County respects the Nation's government, values, cultures, and laws; and

WHEREAS, Navajo County has authority to enter into this IGA and participate in transportation projects of mutual interest and benefit with the Nation pursuant to the laws of the State of Arizona, specifically A.R.S. § 11-952; and

WHEREAS, the Nation has authority, as a sovereign nation, to enter into this IGA and participate in transportation projects of mutual interest and benefit with Navajo County; and

WHEREAS, the Nation granted Navajo County $265,667.35 from the Navajo Rehabilitation Trust Fund for the purpose of conducting road maintenance and improvements on the Navajo Nation pursuant to an agreement entered on November 10, 2016 and that agreement expired on November 10, 2023.

NOW, THEREFORE, the parties hereby agree to the following:

I. PURPOSE AND OBJECTIVES

A. The purpose of this IGA is to authorize Navajo County to continue using the remaining funds previously granted to it from the Navajo Rehabilitation Trust Fund for the purpose of conducting road maintenance and improvements on the Navajo Nation.

B. The parties mutually agree that this IGA is intended to encourage consultation and

cooperation with one another on transportation projects of mutual interest and benefit, particularly projects that support the mission and objectives of the Navajo-Hopi Land Commission Office.

C. The parties will work together to find funding sources that help further the objectives of the Nation and improve the roads utilized by the relocatees.

Il. RESPONSIBILITIES

A. Navajo County shall do the following:

1. Use funds previously received from the Navajo Rehabilitation Trust Fund under the agreement entered on November 10, 2016 to conduct road maintenance and improvement within the following six (6) Chapters identified by the Nation: Birdsprings, Dilkon, Indian Wells, Jeddito, Teesto, and White Cone.

2. Maintain the funds in a unique account. All funds remaining at the end of three (3) years will be returned to the Nation.

3. Utilize the BIA, Navajo County, or NDOT for labor, equipment, and material applied on the selected roads.

4. Complete road maintenance and improvement activities pursuant to the Budget incorporated herein and attached as Exhibit "A."

5. Provide a quarterly financial report to the Nation via mail, showing the account status and identifying expenditures for the quarterly report.

6. Provide on a bi-annual basis a project status and financial report to the Nation.

B. The Nation shall do the following:

1. Allow Navajo County to retain the remainder of the funds previously received from the Navajo Rehabilitation Trust Fund under the agreement entered on November 10, 2016 for road maintenance and improvement within the following six (6) Chapters identified by the Nation: Birdsprings, Dilkon, Indian Wells, Jeddito, Teesto, and White Cone for a duration of 3 years from the date this IGA is fully executed.

3. Review reports submitted by Navajo County on a quarterly basis.

III. TERMS OF AGREEMENT

A. **Designated Contact Person**. The primary points of contact for carrying out the purposes and objectives of this IGA and supplying copies of all correspondence, reports, and invoices, shall be:

Navajo-Hopi Land Commission Office
ATTN: Deputy Director
PO Box 2549
Window Rock, Arizona 86515

Navajo County Department of Public Works
ATTN: Director
Madhav Mundle

PO Box 668
Holbrook, Arizona 85901

B. **Meetings**. The primary contacts as described herein, and selected members of their staff, will meet at least bi-annually to review the project status and to identify and seek to remove obstacles impairing the achievement of the transportation-related goals, objectives, and tasks.

C. **Location of Improvements**. The selection of roads to be improved will be determined by NDOT, the BIA, and the six Chapters identified herein.

D. **No Waiver**. In executing this IGA, neither the Nation nor Navajo County waives any rights, including but not limited to: treaty rights, immunities, sovereign immunities, jurisdictional defenses, or defenses based on their protecting laws. Specifically, nothing in this IGA shall be construed as a waiver of sovereign immunity by the Navajo Nation, consent to be sued, or consent to jurisdiction of any federal or state court. Nothing in this IGA creates, implies, nor should be construed to create any right of action by either party against the other, or in any third party. The acceptance of performance, or failure to object to, any breach, default, or failure of performance, under the terms of this IGA shall not constitute a waiver of the right to demand performance as specified in the IGA.

E. **Agreement to Work in Good Faith**. In good faith, the County manager, Director of Public Works, and other Navajo County employees, in their official capacities or through their designees, shall endeavor to implement the terms of this IGA.

F. **Dispute Resolution**. All disputes and controversies regarding this IGA shall be resolved by the Director of the Navajo-Hopi Land Commission Office and the Director of Navajo County's Department of Public Works. If these officials are unable to resolve the dispute or controversy, the officials listed below may participate in the resolution.

Navajo Nation Official:

Navajo County Official: Bryan Layton, Navajo County Manager

G. **Liability**. Navajo County agrees to hold harmless and indemnify the Nation against any and all losses, costs, damages, claims, accident or injury to person or property including death, attorneys' fees, expenses, and other liability whatsoever (collectively, "Claims"), arising under, related to, or in connection with this IGA, except to the extent such claims are directly caused by the gross negligence or wanton and willful conduct of the Nation or to the extent they result from the negligence of Nation officials or employees as provided for and in accordance with 1 N.N.C. §551 *et seq.* The Nation is responsible for the maintenance and upkeep of the work completed at the conclusion of the project. Navajo County does not assume any responsibility for liability for the continuing maintenance and upkeep of the work completed under this IGA.

H. **Modifications**. Any modifications to this IGA shall be made only by written amendment, signed and executed by all parties.

I. **Availability of Funds.** The liability of the Nation under this IGA is contingent on the availability of funds pursuant to 2 N.N.C. §223 (A) and (B).

J. **Applicable Law and Jurisdiction.** Navajo County shall comply with all Navajo Nation laws, as they may be amended from time to time, including, but not limited to, the Navajo Preference in Employment Act, 15 N.N.C. §601 *et seq.*, the Navajo Nation Business Opportunity Act, 5 N.N.C. §201 *et seq.*, and applicable regulations. This IGA shall be governed by the laws of the Navajo Nation. Matters not addressed by Navajo Nation law may be decided by reference to the laws of the State of Arizona. Jurisdiction shall be solely in the courts of the Navajo Nation.

IV. DURATION AND TERMINATION OF AGREEMENT

A. This IGA shall become effective when signed by both parties and shall continue in force for three (3) years from the date both parties' sign. Termination may be initiated by either party after thirty (30) day written notice to the other party of its intention to terminate.

B. The Nation may terminate this IGA at any time if the work or services provided by Navajo County are not satisfactory, if Navajo County should default on any provision within this IGA, or if Navajo County fails to submit required reports and other documents as required within the defined time schedules.

C. If this IGA is terminated prior to its expiration, Navajo County shall immediately return all remaining funds to the Nation.

IN WITNESS WHEREOF, the duly authorized officials of the parties have executed this IGA on the dates affixed by their signatures, with the effected date as stated above.

THE NAVAJO NATION

_____ Date: _____
Dr. Buu Nygren, President

Navajo-Hopi Land Commission Office

_____ Date: _____
Sarah Slim, Executive Director

The Navajo County, Arizona Department of Public Works

_____ Date: _____
Chairperson, Board of Supervisors

Navajo County

Order of Magnitude Cost Estimate
MOA - Exhibit A

4/19/2016

Southwest Millings Projects 2016-2017				
Exhibit B - Map			Estimated Costs to Complete	
Contributions (NDOT $350,000 & NC $100,000)				$ 450,000.00
Segment A	BTA	Indian Wells	$ 11,000	$ 439,000
Segment B	BTA	Indian Wells	$ 13,000	$ 426,000
Segment D	BTA	Dilkon	$ 11,000	$ 415,000
Segment E	BTA	Dilkon	$ 11,000	$ 404,000
Segment M (Mod)	BTA	Jeddito	$ 15,000	$ 389,000
Segment M	BTA	Jeddito	$ -	$ 389,000
Segment C	RT 15	Indian Wells	$ 58,000	$ 331,000
Segment F	Rt 2	Birdsprings	$ 226,000	$ -
Segment G	Rt 9901	Teesto	$ 58,000	$ -
Segment H	Rt 9065	Teesto	$ 124,000	$ -
Segment I.1	Rt 9092	White Cone	$ 63,200	$ -
Segment I.2	Rt 9092	White Cone	$ 100,000	$ -
Segment J	Rt 9062	White Cone	$ 320,000	$ (39,000)
Segment K	Rt 9000	White Cone	$ 116,000	$ -
Segment L	Rt 9061	White Cone	$ 116,000	$ -
Segment N.1	Rt 9056	Jeddito	$ 31,500	$ -
Segment N.2	Rt 9056	Jeddito	$ 31,900	$ -
Segment O	Rt 9062	Teesto	$ 50,000	$ 281,000
Segment N.2	Rt 9056	Jeddito	$ 31,900	$ -
Subtotal			**$ 1,290,600**	
Sub Total A,B,D,E,M,O,J			**$ 431,000**	$ -

The estimate provide is based off a partnership with Navajo Nation and Navajo County. Navajo County is relying on Navajo Division of Transportation to provide personnel and equipment, and needed clearances for each route.

Board of Supervisors Regular **1. f.**

Meeting Date: 01/28/2025

Title: Reissuance of Stale Dated Check

Submitted By: Steven Lesueur, Chief Deputy Treasurer

Department: Treasurer

Motion before the Board:

Reissuance of Stale Dated Checks

Background:

Treasurer's checks were issued as refunds for overpaid property taxes or for investor payments. The checks were voided because they had been outstanding for a year or more. The payees were contacted and are requesting replacement checks. All have completed the required Affidavit For Issuance of Duplicate Warrant form. Upon approval, a new check will be issued to the individual(s) pursuant to A.R.S. §11-632.

Issued Date	Check Number	Amount	Name on Check
10/25/2023	2300038712	70.00	Obrien Dennis Patrick or Jeanette Anita

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Attachments

Affidavit - O'brien

Form Review

Inbox	Reviewed By	Date
Treasurer	Danielle Earl	01/16/2025 09:00 AM

Form Started By: Steven Lesueur Started On: 01/16/2025 08:47 AM

Final Approval Date: 01/16/2025

AFFIDAVIT

FOR ISSUANCE OF DUPLICATE WARRANT

STATE OF Arizona)
) ss.
COUNTY OF Yuma)

The undersigned, being first duly sworn, deposes and states:

1. I make this affidavit pursuant to A.R.S. §11-632.

2. I am the Payee (or authorized representative of the Payee) of the following lost or destroyed warrant drawn on the Navajo County Treasurer by the Navajo County Board of Supervisors.

Lost or destroyed Warrant # 2360038712 **Amount $** 70.00 **Dated** 10-25-23

Payee Jeanette Anita O'Brien

P.O. # _____ **Req #** _____ **Fund #** _____ **Voucher #** _____

3. The above warrant was either lost or destroyed prior to payment. After diligent search, it has not been located. There is no reasonable probability of it being found or presented. If it is located at any time, it will be immediately returned to the Navajo County Finance Office.

4. The Payee is entitled to a duplicate warrant in accordance with A.R.S. §11-632. If a duplicate warrant is issued, the Payee promises and agrees to hold Navajo County harmless and to reimburse Navajo County for any loss if the original warrant is ever presented and honored for payment.

Dated January 3, 2025.

SIGNATURE OF AFFIANT Jeanette O'Brien

PRINT NAME Jeanette O'BRIEN

TITLE (IF REPRESENTING A COMPANY PAYEE) _____

ADDRESS 14760 E 58th St Yuma, AZ 85367

SUBSCRIBED AND SWORN to before me on January 3, 2025 by Jeanette O'Brien.

Alodie L. Mondry
Notary Public
Yuma County, Arizona
My Comm. Expires 04-19-28
Commission No. 665662

Alodie L Mondry
NOTARY PUBLIC

My commission expires: 04-19-2028

Board of Supervisors Regular **1. g.**

Meeting Date: 01/28/2025

Title: Website Development, Hosting and Maintenance Contract #B22-08-016 Revised Amendment No. 1

Submitted For: Ken Dewitt, Information Technology Director

Submitted By: Kolton Root, Sr. Procurement Officer

Department: Information Technology

Motion before the Board:

Revised Amendment No. 1 to the Website Development, Hosting and Maintenance Contract #B22-08-016 correcting the Contract Term dates

Background:

On December 10, 2024, the Board of Supervisors approved Amendment No. 1 to the Website Development, Hosting and Maintenance Contract #B22-08-016. Amendment No. 1 has been revised to correct the Contract Term dates.

Attachments

Revised Amendment 1

Form Review

Inbox	Reviewed By	Date
Jeanine Carruthers	Jeanine Carruthers	01/15/2025 04:42 PM
Brandt Clark	Brandt Clark	01/16/2025 10:46 AM
Information Technology Director	Ken Dewitt	01/17/2025 11:57 AM
Form Started By: Kolton Root		Started On: 01/15/2025 03:38 PM
Final Approval Date: 01/17/2025		

NAVAJO COUNTY

"Proudly Serving, Continuously Improving"

CONTRACT AMENDMENT NO. 1 (REVISED)
WEBSITE DEVELOPMENT, HOSTING, AND MAINTENANCE
CONTRACT NO. B22-08-016

Tyler Martin, Client Success Manager
CivicPlus, LLC.
302 South 4th St., Suite 500
Manhattan, KS 66502

In accordance with the provisions of the above-referenced contract the terms and conditions are hereby amended as follows:

1. **CONTRACT EXTENSION**: The above contract is hereby mutually extended January 24, 2025 through January 23, 2026, unless terminated, cancelled or extended as otherwise provided in the contract.

2. **PRICING**: The contract price is hereby amended to include year 3 pricing as identified in Attachment A.

Except as expressly amended herein, the above-referenced contract is hereby ratified and reaffirmed.

Please signify your acceptance of this amendment by signing and returning to the address below, attention Kolton Root, as soon as possible.

Contractor hereby acknowledges receipt of and agreement with this amendment. A signed copy must be filed with the Navajo County. If you need to make changes to your address, correct the address above and initial. Signature Date Typed/Printed Name and Title	The above referenced Contract Amendment is hereby executed this 28th day of January 2025, at Holbrook, Arizona. Chairman, Board of Supervisors

Navajo County - For Official Use Only

ATTACHMENT A

CIVICPLUS
HELPING COMMUNITIES ENGAGE & INTERACT

RENEWAL ESTIMATE

DATE: November 20, 2024

REMITTANCE ADDRESS
(FOR PAYMENTS ONLY)
CivicPlus
PO Box 1572
Manhattan, KS 66505

Mailing Address:
CivicPlus
302 S 4th St
Manhattan, KS 66502

P 888-228-2233 ext 291
F 785-587-8951

This estimate is provided to you as a best faith approximation of the annual fees for your next renewal period. It is subject to change based on contract amendments and any activity that occurs before the start of your next renewal period. A formal invoice will be sent per contractual terms.

Description	Qty	Amount
48 Month Redesign Annual	1.00	$ 2,869.99
Annual - CivicEngage Central Renewal	1.00	$ 4,948.33
CivicEngage AudioEye Managed Annual Fee Renewal	1.00	$ 10,815.00
Website: Platform IdP Integration Annual Fee Renewal	1.00	$ 1,459.51
DNS Hosting for .GOV Annual Fee Renewal	1.00	$ 69.53
Hosting & Renewal Annual Fee	1.00	$ 925.15
CP Pay Annual Fee Renewal	1.00	$ 1,545.00
Website Platinum Hosting & Security Renewal	1.00	$ 4,866.75
Premium Department Header Annual Fee	1.00	$ 811.64
SSL Management CivicPlus Provided Renewal	1.00	$ 69.53
	TOTAL	**$ 28,380.41**

THANK YOU FOR YOUR BUSINESS!

ESTIMATE

Board of Supervisors Regular **1. h.**

Meeting Date: 01/28/2025

Title: Cancel the Election for DWID on March 2025

Submitted By: Rayleen Richards, Elections Director

Department: Elections

Motion before the Board:

Request approval to conduct a board member election for Timberland Acres Domestic Water Improvement District on March 12, 2025

Background:

Timberland Acres DWID – 1 board members

Attachments

COE for TADWID supporting doc

Form Review

Inbox	Reviewed By	Date
Jason Moore	Jason Moore	01/14/2025 12:54 PM
Elections Director	Rayleen Richards	01/21/2025 09:45 AM
Form Started By: Rayleen Richards		Started On: 01/14/2025 12:03 PM
Final Approval Date: 01/21/2025		

RESOLUTION NO _____ - 25

A RESOLUTION OF THE NAVAJO COUNTY BOARD OF SUPERVISORS, CANCELLING THE ELECTIONS FOR TIMBERLAND ACRES DWID; AND APPOINTING THE CANDIDATE(S) OR DEEMING THE POSITION VACANT, PURSUANT TO ARS § 48-1012 (E)

WHEREAS, ARS § 48-1012 (E) provides as follows with respect to Domestic Water Improvement District Board of Directors positions:

"If only one person files or no person files a nominating petition for election to fill a position on the board of directors of the district, the county board of supervisors, by resolution, may cancel the election for that office and appoint the person who filed the nominating petition to fill that position. If no person files a nominating petition for an election to fill a district board office, the county board of supervisors, by resolution, may cancel the election for those offices and those offices are deemed vacant and shall be filled as otherwise provided by law. A person who is appointed pursuant to this section is fully vested with the powers and duties of the office as if elected to that office."

and

WHEREAS, A.R.S. § 16-410 (A) authorizes the Board to take such action no earlier than one hundred and five (105) days before the election, and it is now less than one hundred and five (105) days before March 12th 2024 Special Election at which the Domestic Water Improvement Districts Board of Directors will be elected;

and

WHEREAS, the officer in charge of elections, has certified that the number of persons who filed nominating petitions to fill the Domestic Water Improvement Districts Board of Directors positions is less than or equal to the number of positions available, attached hereto and incorporated herein as "Exhibit A";

NOW, THEREFORE BE IT RESOLVED by the Board of Supervisors as follows:

That the elections for the Timberland Acres DWID board member positions, attached hereto and incorporated herein as "Exhibit A", are hereby cancelled and appointed by the Navajo County Board of Supervisors.

PASSED, APPROVED AND ADOPTED at Holbrook, Arizona on Jan 28, 2025.

NAVAJO COUNTY BOARD OF SUPERVISORS

By _____
Jason E. Whiting

Chairman of the Board

ATTEST:

_____
Melissa Buckley, Clerk of the Board of Supervisors

Exhibit A

Timberland Acres DWID	*(1 Position Available)*
Ray Brown	4-year term

Board of Supervisors Regular **1. i.**

Meeting Date: 01/28/2025

Title: 2025 Board Committee Appointments

Submitted By: Melissa Buckley, Clerk of the Board of Supervisors

Department: Board of Supervisors

Motion before the Board:

2025 Board of Supervisors Committee Appointments

Background:

Attached is the 2025 Board of Supervisors Committee appointments

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Attachments

2025 BOS Committee Appts

Form Review

Form Started By: Melissa Buckley Started On: 01/23/2025 08:18 AM

Final Approval Date: 01/23/2025

2025 BOARD COMMITTEE APPOINTMENTS - DRAFT

BOARD COMMITTEES	2025 BOARD APPOINTMENTS
Arizona/New Mexico Coalition of Counties	Jason Whiting
Arizona Public Safety Retirement System	Daryl Seymore
Corrections Officer Retirement Plan	Daryl Seymore
CSA Legislative Policy Committee (LPC)	Daryl Seymore
CSA Legislative Policy Committee (LPC) – Alternate	Jason Whiting
Eastern Arizona Counties (ECO) – Chairman	Jason Whiting
First Things First White Mountain Apache Tribe Regional Partnership Council (Vice-Chair)	Dawnafe Whitesinger
4-FRI Stakeholders	Jason Whiting
NACo Health Steering Committee (Subcommittee Chair)	Alberto Peshlakai
NACo Healthy Counties Advisory Board	Alberto Peshlakai
NACo Rural Action Caucus	Alberto Peshlakai/Fern Benally
NACo Human Services & Education Steering Committee	Dawnafe Whitesinger
NACo Public Lands Steering Committee	Jason Whiting
NACo Transportation Steering Committee	Fern Benally/Daryl Seymore
NACOG Economic Development Council (EDC)	Alberto Peshlakai
NACOG Regional Council	Dawnafe Whitesinger/Daryl Seymore
NACOG Regional Council (Executive Committee)	Daryl Seymore
NACOG Transportation Policy Advisory Council (TPAC)	Fern Benally
Natural Resources Working Group (NRWG)	Jason Whiting
Real AZ Corridor	Jason Whiting
White Mountain Regional Transportation Committee (WMRTC Chair)	Dawnafe Whitesinger

DRAFT

Board of Supervisors Regular **2. a. 1.**

Meeting Date: 01/28/2025

Title: Healthy Forest Initiative (HFI) 21-306 - Time extension

Submitted By: Catrina Jenkins, EMP Director

Department: NC Public Health Services District **Division:** Emergency Management

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Motion before the Board:

Amendment to the Healthy Forest Initiative (HFI) 21-306 for a time extension to an end date of April 30, 2025

Background:

Navajo County Emergency Management is working to complete our Healthy Forest Initiative project 21-306 and would request approval for an extension to complete a 20 acre project. The 20 acres are part of an especially dense area and the contractor just needs a little more time to complete his work and allow NCEM to request/receive reimbursement and close out project 21-306.

Attachments

HFI Amend No.2 21-306

Form Review

Inbox	Reviewed By	Date
Health Director	Melissa Buckley	01/23/2025 03:34 PM
Form Started By: Catrina Jenkins		Started On: 01/23/2025 10:26 AM
Final Approval Date: 01/23/2025		

	GRANT AMENDMENT	**Arizona Department of Forestry and Fire Management** 1110 W. Washington, Ste 500 Phoenix, Arizona 85007 (602) 771-1400
	Grant No: HFI 21-306	

Navajo County

Amendment No: 2

It is mutually agreed that the referenced grant agreement is amended as follows:

1. Pursuant to Page 1, Item 4, TERM OF AGREEMENT, per the email request dated January 23, 2025, the term of this agreement shall be extended to an end date of April 30, 2025.

   TOTAL project acres to be completed: 171 acres
   TOTAL project award amount: $269,110.00

All Other provisions shall remain in their entirety

Grantee hereby acknowledges receipt and acceptance of above amendment. Amendment only becomes effective once signed by both Grantee and Arizona Department of Forestry and Fire Management.	The above referenced Grant Amendment is hereby executed as of the final signature date below.
Grantee: **Navajo County** _____ _____ Signature Date _____ Authorized Signatory's Name and Title	Grantor: **Arizona Department of Forestry and Fire Management** _____ _____ Signature Date _____ State Forester

Board of Supervisors Regular **3. a.**

Meeting Date: 01/28/2025

Title: Presentation to Deanne Romo on her Retirement from Navajo County after 43+ Years of Service

Submitted By: Eric Scott, HR Director

Department: Administrative Services **Division:** Human Resources

Presented By: Eric Scott and Michael Sample

Subject:

Presentation to Deanne Romo on her Retirement from Navajo County after 43+ Years of Service

Background:

Presentation to Deanne Romo on her Retirement from Navajo County after 43+ Years of Service. Service dates 04/01/1981 - 01/31/2025

Form Review

Inbox	Reviewed By	Date
Clerk of the Board	Melissa Buckley	01/07/2025 08:44 AM
Form Started By: Eric Scott		Started On: 12/20/2024 08:14 AM
Final Approval Date: 01/07/2025		

Board of Supervisors Regular **4. a.**

Meeting Date: 01/28/2025
Title: White Mountain Apache Tribe Crosswalk Striping Partnership
Submitted By: Nicole Reske, Tribal Government Relations Liaison
Department: Administrative Services
Presented By: Nicole Reske

Motion before the Board:

Consideration of a Task Agreement between the White Mountain Apache Tribe Division of Transportation and Navajo County to reimburse for crosswalk re-striping.

Background:

The White Mountain Apache Tribe Division of Transportation requested Navajo County for assistance on the crosswalk re-striping project at the intersection of East Fatco Road and Fat County Road. This particular crosswalk was chosen due to safety concerns about the lack of visibility for the White Mountain Apache Timber Company employees who use it daily. WMAT DOT would like to restripe the crosswalk to increase visibility, as well as remove excessive soil and plant build-up on the asphalt's surface prior to sealing. This would be the first Task Agreement under the Memorandum of Agreement that went into effect on November 15th, 2024.

Recommendation:

Staff recommends approval.

Attachments

Task Agreement No1
WMAT DOT Memo
Fatco Road Map
Quotes Compilation

Form Review

Inbox	Reviewed By	Date
Clerk of the Board	Melissa Buckley	01/22/2025 09:01 AM
Public Works Director	Melissa Buckley	01/23/2025 09:15 AM
Public Works Director	Madhav Mundle	01/23/2025 09:45 AM
Brandt Clark	Brandt Clark	01/23/2025 02:04 PM
Clerk of the Board	Melissa Buckley	01/23/2025 02:27 PM
Form Started By: Nicole Reske		Started On: 01/14/2025 09:44 AM
Final Approval Date: 01/23/2025		

Task Agreement No. 1
White Mountain Apache Tribe – Division of Transportation
Fatco Road Crosswalk Striping Project

On January 28th, 2025, the Navajo County Board of Supervisors by motion, approved the expenditure of up to **$4,000.00** from the Highway User Revenue Fund (HURF) allocated to Navajo County District V for the expenditure on transportation related projects. Through the Memorandum of Agreement (MOA) with the White Mountain Apache Tribe, Division of Transportation (WMAT DOT) the County has agreed to reimburse, up to four thousand dollars for assistance in re-striping of two crosswalks and other related work at the intersection of East Fatco Road & Fat County Road. A detailed Scope of Work (SOW) is described in the attached Memorandum from WMAT DOT, dated January 13, 2025.

The WMAT DOT will follow their adopted policy(s) and process(es) to identify and hire a contractor to complete the work as outlined in the attached Memorandum. All work related to the project will be overseen and directed by the WMAT DOT. Upon satisfactory completion of the project and the invoice paid, the WMAT DOT will submit a receipt to the County for reimbursement. All funds approved by this Task Agreement shall be expended before June 30, 2025.

The WMAT DOT warrants and represents that the materials purchased with the Allocated Funds will be used for maintenance activities on roads within Navajo County, which are open to the public and eligible for the expenditure of HURF monies under the Arizona Constitution and related Arizona Revised Statutes. The WMAT DOT agree to fully cooperate in any audit of the Allocated Funds by the Arizona Auditor General. For any material acquired in whole or in part with the Allocated Funds, the acquiring party shall be solely responsible for all expenses of storing and installing the infrastructure. The County shall have no responsibility or liability whatsoever regarding such material. The Tribe shall be responsible for identifying, prioritizing, scheduling, and performing all activities for which the Allocated Funds are used in whole or in part. It is understood that the County's sole obligation hereunder is to make payment of the Allocated Funds.

The Allocated Funds under this agreement shall be paid by Navajo County directly to the invoicing party upon the County's receipts of invoices or billing statement that show the items have been purchased and approved by the Tribe. The total of all invoices shall not exceed the approved amount in this Agreement.

TERMINATION OF TASK AGREEMENT: This Task Agreement may be terminated at any time by mutual written consent, or by the County, with or without cause, upon giving thirty (30) days' written notice. The County, at its' convenience, by written notice, may terminate this Contract, in whole or in part. If this Contract is terminated, the County shall be liable only for payment under the payment provisions of this Contact for services rendered and accepted material received by the County before the effective date of termination.

The request for payment of invoices along with an approved invoice from Tribe will be sent to:

Jeanine Carruthers
Navajo County Public Works Department
PO Box 668
Holbrook AZ 86025

Supported by detail showing:

A. Letter of request from WMAT DOT Director
B. Map of Fatco Road Project
C. Material and labor acquisition quotes

ACCEPTED AND APPROVED:

NAVAJO COUNTY

By: _____ Date: _____
Chairman, Board of Supervisors

ATTEST

By: _____ Date: _____
Clerk of the Board

APPROVED AS TO FORM AND AUTHORITY

By: _____ Date: _____
County Attorney

WHITE MOUNTAIN APACHE TRIBE, DIVISION OF TRANSPORTATION

By: _____ Date: _____
WMAT DOT Director

WHITE MOUNTAIN APACHE TRIBE
DIVISION OF TRANSPORTATION
P.O. BOX 1710 | WHITERIVER, AZ 85941 | P: 928-338-5155

Memorandum

January 13, 2025

TO: Dawnafe Whitesinger, Navajo County District V Supervisor

FROM: LaReesa Sanchez, Transportation Director

RE: Request for Crosswalk Re-Striping Contribution

The White Mountain Apache Tribe Division of Transportation requests the Navajo County for assistance by contributing to re-stripe two crosswalks at the intersection of East Fatco Road and Fat County Road. The location requested is for the White Mountain Apache Timber Company employees who use these crosswalks daily. This is a safety concern for all employees when crossing the road.

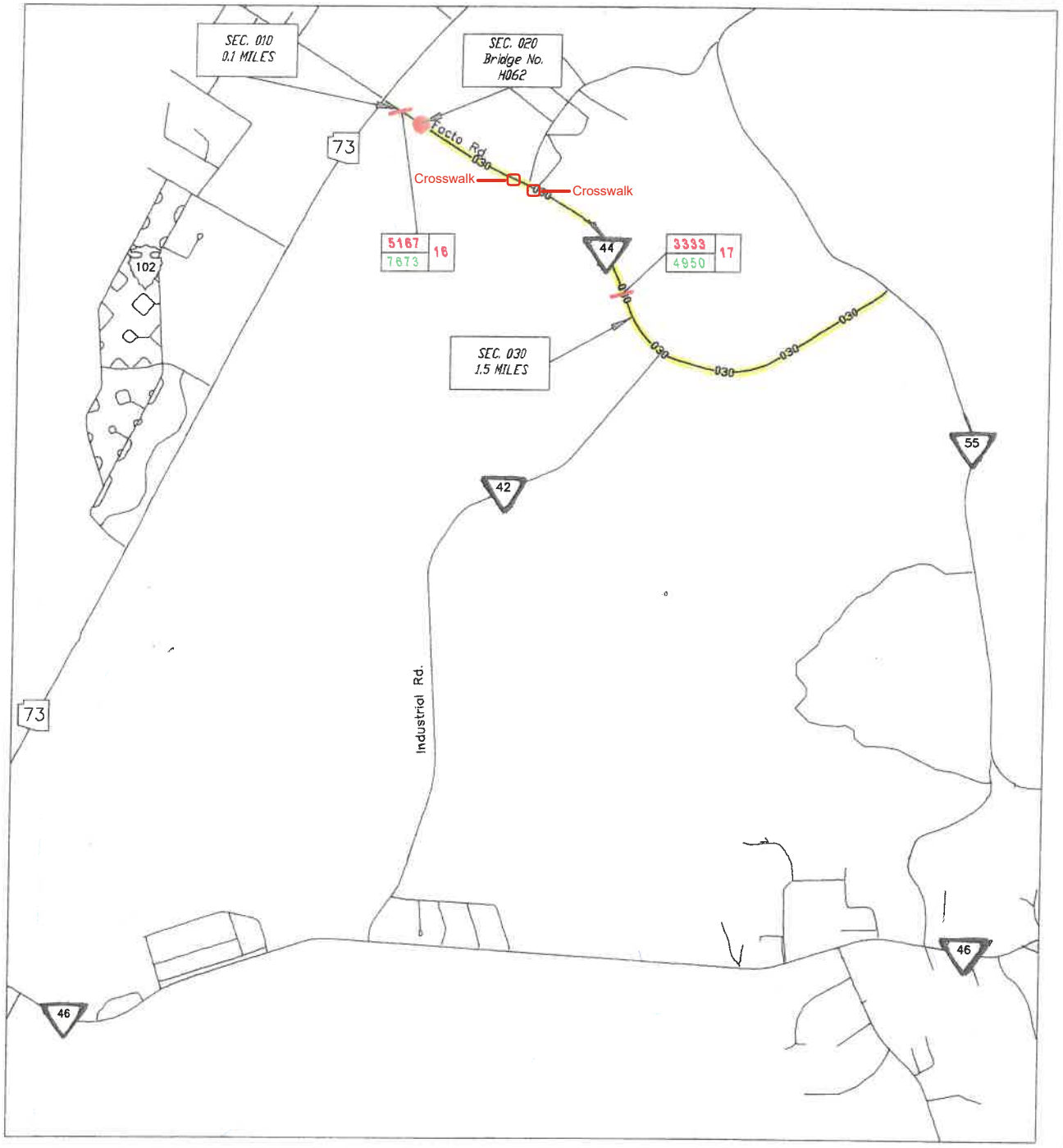
The scope of work to be completed is to repaint the crosswalks the same color they are currently visible as. Remove excessive soil and plant buildup on the asphalt's surface prior to sealing.

Estimate received from Hatch Industries:

Hatch Industries				
Whiteriver Crosswalk				
Item	Description	Qty	Rate	Amount
	Fatco Road/Old Sawmill, Whiteriver			
Crosswalk	Crosswalk freshly painted same color that is currently visible	2	750.00	1,500.00T
Cleaning	Remove excessive soil and plant buildup on asphalt's surface prior to sealing	1	125.00	125.00T
Mobilization	Mobilize equipment and laborers to job site	1	500.00	500.00
			Subtotal	$2,125.00
			Sales Tax (3.965%)	$64.43
			Total	$2,189.43

The total cost of contribution to re-stripe the crosswalks is $2,189.43.

If you have any questions, please feel free to contact me at (928) 338-5155.



Tribal Office 0044
SECTIONS 010-030

Route Name: E. Facto Rd.
Length: 1.6 Mi. Total
Functional Classification: 4
Location:

Congr. District 01, Navajo County, Arizona.
T5N/R22E/Sec.24;
T5N/R23E/Sec.19

Section, Township and Range Line source: USGS Quad Maps

*NOTE: If reservation boundary line is not present in drawing, it is assumed that road sections are located within reservation indicated and cannot be shown due to scale of drawing.

Fort Apache - White Mountain Reservation
Western Region - Fort Apache Agency
Navajo County, Arizona

Legend:

010	Road Section
	Reservation Boundary
	County Boundary
	Adjacent Roads
	Railroad Tracks
	River
	Lake
7047	BIA Route
D00	Tribal Route
80	US Interstate
70	US Highway
95	State Route
156	County Road
156	County Road (BIA Designation)
9001	Urban Road
	Bridge
Current ADT / Projected ADT 1	Traffic Count

N

GRAPHIC SCALE
0 3/16 3/8
1 inch = 3/8mile

Get a load of this

Fatco Road Cross Walk Striping at Lumber Mill
Proposal

1950 E. Adams, Suite C Show Low, AZ 85901
(928) 537-2008 Fax (928) 537-2912 Email: office@perkinscinders.com

Proposal Submitted to: ATTN: Marcus Baca	**Date:** 10/15/2024	**Bid #** B.24.549
Street: Fatco Road Cross Walk Striping at Lumber Mill	**Phone:** 928-242-7190	**Cell Phone:**
City, State, and Zip: Whiteriver, AZ	**Email:** Marcusbaca@wmat.us	
Job Location: Lumber Mill on Fatco Road		
We hereby submit specifications and estimates for:		

Item #	Description	Quantity	Unit	Unit Price	Total Price
1	Restripe Cross Walks at Fatco Road and the Lumber Yard	2	EACH		$ 3,800.00

Subtotal:	**$ 3,800.00**
4.1795% Sales Tax:	**Exempt**
Total:	**$ 3,800.00**

Exclusions and Conditions:
* Due to the volatility of fuel and oil, prices are subject to change.
* Price does not include any permits, engineering, compaction testing or survey.
* Any and all permits to be paid for and obtained by others.
* Not responsible for any cost or repairs to any unmarked underground utilities that may be damaged during construction.
* Pricing is for striping the 2 cross walks depicted in the picture below.



We propose hereby to furnish material and labor-completion in accordance with the above specifications for the sum of:

Three thousand eight hundred dollars and no cents $ 3,800.00

Payment to be made as follows: Per terms of credit with Perkins Cinders, Inc.
Payment due for work done on a monthly billing cycle.

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

Authorized Signature Brandon Parker

Note: This proposal may be withdrawn by us if not accepted within 30 days.

Acceptance of Proposal - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature:_____ Date of Acceptance:_____

HATCH INDUSTRIES

1776 W. Rutledge Dr.
Snowflake, AZ 85937

Estimate

Date 11/4/24

Estimate # 4055

Precast Concrete,
Asphalt Maintenance
& Paving

Asphalt Maintenanace & Paving:
928-457-8256
Kelly: 928-457-8283
Jarom: 928-243-4362
Office: 928-536-0000

Bill To

WMAT Tribal Division of Transportation
Marcusbaca@wmat.us

Project	Prepared By
White River Crosswalks	Kelly

Item	Description	Qty	Rate	Amount
	Fatco Rd. / Old Sawmill, White River			
Crosswalk	Crosswalk freshly painted same color that is currently visible	2	750.00	1,500.00T
Cleaning	Remove excessive soil and plant buildup on asphalt's surface prior to sealing.	1	125.00	125.00T
Mobilization	Mobilize equipment and laborers to job site.	1	500.00	500.00

We require 50% down before the start of any project.
Estimates are good for 30 days.
We look forward to working with you.

Subtotal	$2,125.00
Sales Tax (3.965%)	$64.43
Total	$2,189.43

Email: jaromhatch@yahoo.com
or hamindustries22@gmail.com

ROC# 320584

Outlook

Fwd: Traffic Safety Email

From marcus baca <mbaca_885@yahoo.com>
Date Tue 2024-12-10 8:28 AM
To Michael Naseyowma <MichaelNaseyowma@wmat.us>

Marcus R. Baca
928-242-7190

Begin forwarded message:

From: Marcus Baca <MarcusBaca@wmat.us>
Date: December 9, 2024 at 09:49:13 MST
To: mbaca_885@yahoo.com
Subject: Fw: Traffic Safety Email

Marcus R. Baca
Auto / Diesel Technician
WMAT Division of Transportation
P.O. Box 1710 Whiteriver Az 85941
928-338-5155

From: Marcus Baca <MarcusBaca@wmat.us>
Sent: Monday, December 9, 2024 9:44:58 AM
To: mbaca_885@yahoo.com <mbaca_885@yahoo.com>
Subject: Fw: Traffic Safety Email

Marcus R. Baca
Auto / Diesel Technician
WMAT Division of Transportation
P.O. Box 1710 Whiteriver Az 85941
928-338-5155

From: Marcus Baca <MarcusBaca@wmat.us>
Sent: Monday, November 25, 2024 2:53:44 PM
To: Traffic Safety <trafficsafetyarizona@gmail.com>
Subject: Re: Traffic Safety Email

Two crosswalks that need to be restriped, I have attached photos hopefully this will help with the quote. I'm working with a deadline I'm hoping to expedite a quote. Thank you.

Marcus R. Baca
Auto / Diesel Technician
WMAT Division of Transportation
P.O. Box 1710 Whiteriver Az 85941
928-338-5155

From: Marcus Baca <MarcusBaca@wmat.us>
Sent: Monday, November 25, 2024 11:27:10 AM
To: Traffic Safety <trafficsafetyarizona@gmail.com>
Subject: Re: Traffic Safety Email

Good morning, thank you for taking the time to reach out to me. I have received the correct email address and will be sending the info for the striping quote we discussed last week.

Marcus R. Baca
Auto / Diesel Technician
WMAT Division of Transportation
P.O. Box 1710 Whiteriver Az 85941
928-338-5155

From: Traffic Safety <trafficsafetyarizona@gmail.com>
Sent: Monday, November 25, 2024 11:12:15 AM
To: Marcus Baca <MarcusBaca@wmat.us>
Subject: Traffic Safety Email

Hi Marcus,

Hopefully you can respond to this email and send over the information and I will get it over to the owner, Russel, and have him get in contact with you.

Thank you,

--
New Email Address: trafficsafetyarizona@gmail.com

Marie Dunkel

Traffic Safety, Inc.
8901 E. Laredo Dr.
Prescott Valley, AZ 86314

Board of Supervisors Regular **4. b.**

Meeting Date: 01/28/2025

Title: MOA BIA Ft Apache and NC Road Related Activites

Submitted By: Melissa Buckley, Clerk of the Board of Supervisors

Department: Administrative Services

Presented By: Nicole Reske

Motion before the Board:

Consideration of a Memorandum of Agreement between the Bureau of Indian Affairs, Fort Apache Agency Transportation Department and Navajo County for road related maintenance activities.

Background:

The Fort Apache Bureau of Indian Affairs has helped support the White Mountain Apache Tribe with road maintenance while the Tribe works on further developing their own Division of Transportation to accommodate the needs on the reservation. The Fort Apache BIA had previously signed a Memorandum of Agreement with Navajo County in 2010, which has since expired. The Government Relations Team worked over the course of the past year to reaffirm the relationship with both our federal and tribal government partners to support our Navajo County residents. This MOA allows the County to assist the Fort Apache BIA through partnership in supplying or transporting materials for projects, providing project planning assistance, and assisting in road repair or maintenance activities if agreed upon by the Board of Supervisors. Additional projects may be written into an Agreement and added to this MOA by the authorized representatives of participating parties and shall be governed by the terms of this MOA.

Recommendation:

Staff recommends approval.

Attachments

MOA BIA Ft Apache Roads

Form Review

Inbox	Reviewed By	Date
Public Works Director	Madhav Mundle	01/23/2025 07:26 AM
Public Works Director	Madhav Mundle	01/23/2025 04:28 PM
Brandt Clark	Brandt Clark	01/24/2025 08:02 AM
Form Started By: Melissa Buckley		Started On: 01/16/2025 01:31 PM
Final Approval Date: 01/24/2025		

Agreement No._____

MEMORANDUM OF AGREEMENT
BETWEEN
BUREAU OF INDIAN AFFAIRS, FORT APACHE AGENCY
TRANSPORTATION DEPARTMENT
AND
NAVAJO COUNTY

THIS MEMORANDUM OF AGREEMENT ("MOA"), is entered into by and between NAVAJO COUNTY, a political subdivision of the State of Arizona (The "County") and the BUREAU OF INDIAN AFFAIRS, FORT APACHE AGENCY, TRANSPORTATION DEPARTMENT, an agency of the United States Department of the Interior (the "BIA").

Article I
Authority

1.1 The County is authorized by A.R.S §§11-251 and 11-952 to enter into intergovernmental agreements for cooperative action with agencies of the United States and/or Tribal governments.

1.2 A.R.S. § 11-251 (4) authorizes the County to maintain all public roads within its boundaries.

1.3 A.R.S. §11-251 (29) authorizes the Board of Supervisors of the County to enter into agreements for the maintenance of highways, including those which pass through Indian lands, with the government of the United States, acting through its duly authorized officers or agents pursuant to any act-of Congress.

1.4 The above statutes have been interpreted by the Arizona Attorney General in Opinion No. 186-029 to authorize the expenditure of funds for the maintenance of all public roads within Indian country (as defined in 18 U.S.C. §1151).

1.5 The Code of Federal Regulations provides in 25 C.F.R. §170.6 that "The administration and maintenance of Indian Reservation Roads and Bridges is basically a function of the local Government. Subject to availability of funds, the Commissioner (of Indian Affairs) shall maintain, or cause to be maintained, those approved roads on the Federal-Aid Indian Road System."

1.6 25 C.F.R. §170.7 provides that "The Commissioner may enter into an agreement with the State (which is defined to include political subdivisions such as county) for cooperation in the maintenance of certain Indian Reservation Roads and Bridges, especially at those locations where road projects serve non-Indian land as well as Indian land."

1.7 BIA may retain all funding received pursuant to this MOA without depositing the same in the Miscellaneous Receipts Account of the United States Treasury. BIA has the authority to retain these funds and use them for road maintenance that supplements but does not replace maintenance projects funded by appropriated funds. Pursuant to the broad authorities of the Secretary of Interior over Indian Affairs, the regulations in 25 C.F.R. Part 170, and the broad authorities in Title 23 U.S.C.A. (Federal-Aid and Federal Lands Highways Programs) governing Indian reservation roads and intergovernmental cooperation, BIA-State/County cooperation on road maintenance activities is permitted, including BIA's receipt of funding from the State or County for use in the maintenance of Indian reservation roads.

Article II
Purpose

2.1 Navajo County has agreed to provide funds to the BIA for the BIA's road-related activities on that portion of the Fort Apache Indian Reservation within the boundaries of Navajo County, Arizona. BIA affirms that it has the ability to perform such road - related activities and agrees to accept the funds granted by the County pursuant to this MOA.

2.2 The parties intend for this MOA to serve as the master agreement between them for road related maintenance activities and the funding thereof, each such activity to be described in a Task Agreement to be attached hereto. Task Agreements shall describe the effective date, term, amount of Allocated Funds, funding source(s), purpose(s), disbursement schedule and requirements, accounting requirements, and such other terms and conditions as the parties may mutually agree upon, and shall be attached hereto upon approval by both parties. Each Task Agreement shall be subject to the terms and conditions of this MOA.

Article III
Responsibilities

3.1 The Navajo County Board of Supervisors, by motion duly passed at the Board's regular meeting on the date shown in each Task Agreement, shall have approved the expenditure of specified funds (the "Allocated Funds") for specified road related activities within that portion of the Fort Apache Indian Reservation located within one or more Supervisorial Districts (this refers to the five districts into which the County is divided pursuant to the Arizona Revised Statutes).

3.2 The Allocated Funds shall be used by the BIA solely for the purpose(s) specified in each Task Agreement.

3.3 The Allocated Funds are intended to supplement other monies that are or may become available to the BIA for road-related activities within that portion of the Fort Apache Indian Reservation located within the Supervisorial District(s) indicated in each Task Agreement. The receipt of the Allocated Funds shall not cause other monies to be diverted or allocated to projects outside that portion of the Fort Apache Indian Reservation within the Supervisorial District(s) indicated in each Task Agreement.

3.4 The Allocated Funds shall be disbursed to the BIA as shown in each Task Agreement and shall be used solely for the purpose(s) specified therein. The procedure for

disbursing the Allocated Funds and accounting for their expenditure shall be mutually agreed upon by the respective financial officers of the parties and shall be indicated in each Task Agreement.

3.5 Any Allocated Funds that are unused by the date(s) or time frame(s) shown in each Task Agreement shall be refunded to the County within 30 days unless the Task Agreement has been extended or renewed by mutual written consent of the County and BIA. Upon the mutual written consent of the County and BIA, this MOA and/or each Task Agreement may be renewed for one or more additional periods.

3.6 The funding described in each Task Agreement is subject to the availability of funds to the County from the source(s) indicated in the Task Agreement.

3.7 Each party warrants that this MOA has been executed by a duly authorized official and that all requisite action has been taken for this MOA to be a valid and binding obligation of the party.

Article IV
Key Officials

4.1 The key officials for each party are as follows:

Navajo County
County Manager
Navajo County
P.O. Box 668
Holbrook, AZ 86025
(928) 524-4000
FAX: (928) 524-4239

BIA-Fort Apache Agency
BIA-Fort Apache Agency
Transportation Department
P.O. Box 560
Whiteriver, Arizona
(928) 338-5488
FAX: (928) 338-5484

Article V
Indemnity

5.1 To the fullest extent allowable by law, BIA shall defend, indemnify and hold harmless County and its representatives, officers, officials and employees (the "Indemnitees") from and against any and all claims, damages, losses and expenses (including but not limited to attorney fees, court costs, and the costs of appellate proceedings) relating to, arising out of or resulting from County's negligent acts, errors, mistakes or omissions in the performance of this Agreement. County's duty to defend, hold harmless and indemnify the BIA shall arise in connection with any claim, damage, loss or expense that is attributable to bodily injury, sickness, disease, death or injury to, impairment or destruction of property including loss of use resulting therefrom, caused in whole or in part by any negligent act, error, mistake or omission in the performance of this Agreement (including those by any person for whose negligent acts, errors, mistakes or omissions BIA may be liable) to the extent of BIA's negligence or fault.

Article VI
Reporting, Billing and Payment

6.1 Records and Reports: Records and reports will be maintained by both the County

and BIA for all activities, funding and expenditures related to this MOA and each Task Agreement. Upon request by either party, the other party shall provide access to or copies of all such records and reports.

6.2 Funding: Disbursement of Allocated Funds to the BIA and accounting for expenditures by the BIA shall be made in accordance with each Task Agreement.

Article VII
Term of MOA

7.1 This MOA becomes effective on the date of the last signature and shall remain in force and effect for five years. Either party may propose amendments to this MOA or any Task Agreement by submitting them in writing to the other party at least 30 days before the proposed implementation date. Amendments must be approved in writing by both parties.

7.2 In the event of any controversy which may arise out of this MOA or any Task Agreement, the County and BIA agree to select a procedure and forum mutually acceptable to them to informally resolve such dispute.

7.3 Appropriation (Anti-Deficiency Act, 31 U.S.C. § 1341): Nothing contained in this Agreement shall be construed as binding the BIA to expend in any one fiscal year any sum in excess of appropriations made by Congress, as augmented by funding pursuant to this MOA, for the purposes of this Agreement for that fiscal year, or other obligation for the further expenditure of money in excess of such appropriations.

7.4 Nothing in this MOA is intended to, nor shall it be interpreted to grant or alter any right-of-way easement over roads on the Fort Apache Indian Reservation or grant or alter the existing jurisdiction of any government over Indian reservation roads on the Fort Apache Indian Reservation.

7.5 Nothing in this MOA is intended to, nor shall it be interpreted to allocate or shift any current or future liability of a party to this MOA due to such party's acts or omissions to the other party to this MOA.

7.6 Nothing in this MOA is intended to, nor shall it be interpreted to – establish or enhance any rights by any person, government, or other entity not a party to this MOA. Nothing in this MOA shall prevent the BIA from consulting with representatives of the Fort Apache Indian Reservation and Navajo County, Arizona, concerning BIA's road maintenance activities pursuant to this MOA.

Article VIII
Authorized Signature

NAVAJO COUNTY

_____ _____

Chairwoman, Board of Supervisors — Date

APPROVE AS TO FORM AND AUTHORITY

_____ _____

Deputy County Attorney — Date

BUREAU OF INDIAN AFFAIRS

ACTING _____ 1/8/2024

Leon Ben Jr., Superintendent — Date
Fort Apache Agency

Board of Supervisors Regular **4. c.**

Meeting Date: 01/28/2025
Title: Navajo County Design & Construction Standards
Submitted For: William Flake, Assistant County Engineer
Submitted By: William Flake, Assistant County Engineer
Department: Public Works
Presented By: Will Flake

Motion before the Board:

Consideration and adoption of **Resolution Number 02-2025** approving the Navajo County Design & Construction Standards & Specifications Manual to provide standards, specifications, and guidelines that complement and support the County Ordinances and Regulations.

Background:

The Navajo County Design & Construction Standards & Specifications Manual (Manual) has been developed to establish a comprehensive set of standards, specifications, and guidelines that complement and support the County's existing ordinances and regulations. This Manual provides design professionals, developers, contractors, and County staff with the necessary technical direction for preparing construction documents involving the installation or construction of public and private infrastructure. It is intended to promote public safety and health while balancing affordability and supporting innovative design and construction practices. By offering clear and consistent guidance, the Manual aims to facilitate uniformity in the plan preparation process while accommodating sound engineering judgment and creative approaches that protect public welfare.

This Manual serves as a supplement to existing County plans, ordinances, and regulations, including the Comprehensive, Transportation, and Area Plans; Subdivision Regulations; Zoning Ordinances; Flood Plain Regulations; and more. It has been carefully crafted to satisfy the requirements of the Arizona Revised Statutes, ensuring proper regulation of land subdivision while providing a clear and user-friendly framework for property owners and developers. Governed by its principles, all projects within the unincorporated areas of Navajo County will benefit from improved clarity and consistency in design and construction processes, enhancing the quality and safety of development throughout the County.

Recommendation:

Staff recommends approval of the Resolution adopting the Navajo County Design & Construction Standards & Specifications Manual.

Attachments

Design & Construction Standards & Specifications Manual

Form Review

Inbox	Reviewed By	Date
Brandt Clark		11/27/2024 12:27 PM
Public Works Director	Madhav Mundle	11/27/2024 03:07 PM

Brandt Clark	Brandt Clark	01/21/2025 11:11 AM
Public Works Director	Madhav Mundle	01/21/2025 11:36 AM
Form Started By: William Flake		Started On: 11/25/2024 07:55 AM
Final Approval Date: 01/21/2025		

NAVAJO COUNTY

Design & Construction Standards & Specifications Manual

2025 Edition

RESOLUTION ___-2025

This page is intentionally left blank.

Foreword

The Navajo County Design and Construction Manual provides guidance to the public, developers, and design engineers on how new public roadways are to be designed and constructed within the County. This document is based on national and local experience and recommended practice. It represents a compilation of information and draws heavily from the Arizona Department of Transportation (ADOT) design manuals and guidelines; Maricopa County, Arizona Design Manuals; publications of the American Association of State Highway and Transportation Officials; the Institute of Transportation Engineers; and the American Society of Civil Engineers.

This Manual has been formatted so that changes and updates to individual procedures can be made without the need to reproduce the entire document. Recipients of this Manual should maintain their copy by inserting procedure updates and discarding dated material. Navajo County will provide updates to holders of this Manual on an as needed basis. Please contact the Navajo County Public Works Department at the following address to obtain additional copies of this Manual, or to subscribe to Manual Updates.

Contact: Navajo County Public Works Department
100 W Public Works Drive
Holbrook, AZ 86025
Telephone: (928) 524-4100

Website: Navajo County, AZ | Official Website (navajocountyaz.gov)

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100 General Conditions and Requirements

101 Purpose and Intent

The purpose of the Design & Construction Standards & Specifications (Manual) is to provide standards, specifications, and guidelines that complement and support the County Ordinances and Regulations. This Manual will provide both general information and specific design standards to design professionals who are preparing development construction documents that include or involve the installation or construction of public or private infrastructure.

The intent of this Manual is to promote public safety and health while, at the same time, assuring reasonable economy for affordable development. In addition, this Manual aims to present clear and concise direction regarding technical requirements, policies, and process to facilitate consistent uniform design during the plan preparation phase. However, the information presented is not intended to supersede sound engineering judgement. Accordingly, creative, innovative, or cost-reducing use of materials, system design or construction practices may be accepted by the County plan review personnel upon finding that public welfare is duly protected.

Proposed variances from this Manual must be submitted to the County and approved before the project design is finalized. In the event of differences between this Manual and the scope of work or provisions of an executed County design contract, the executed contract shall govern.

It is anticipated that the primary users of this Manual will be private parties, consulting engineers, developers, contractors, public utilities, and County staff.

102 Legal Authority

This Manual is not intended to interfere with, repeal or do away with law or right, or annul any other ordinance, rule or regulation, 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.

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102.1 County Code, Ordinances and Regulations

The purpose of this Manual is to satisfy the requirements of Arizona Revised Statutes, which requires the County to regulate the subdivision of all lands. This Manual is adopted as a guidance document that has been carefully crafted to clearly outline methods, procedures, and requirements for the use of property owners and subdividers in subdividing land within the County.

This Manual is a supplement to the requirements in the Comprehensive, Transportation and Area Plans; Subdivision Regulations; Building Information; Zoning Ordinances; Flood Plain Regulations and Ordinances; and other regulations for land development within the County.

This Manual shall govern all projects within the unincorporated County limits.

102.2 Applicability

This Manual is applicable to projects constructing public and private infrastructure (i.e. public streets and facilities or private facilities installed by a Public Utility or Franchisee, etc.) within dedicated public Right-of-Way (R/W) or easements.

This Manual applies to rural and urban roadways except for freeways and freeway-type improvements. In these latter cases, the current applicable standards of the Arizona Department of Transportation shall apply.

This Manual generally does not apply to resurfacing, restoration, or rehabilitation (3R) projects, minor improvement program (MIP) projects, or maintenance projects. These projects aim to extend the pavement structure's usable life or keep the facility operating in its as-built condition. Design standards have evolved over the years, and bringing previously constructed facilities into conformity with current standards is not always feasible. For clarification, consult with the County.

The County must review and approve all engineering plans, specifications, and documents for public works improvements and private improvements which require County authorization or permits.

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All work on property owned or controlled by the County shall require an Encroachment Permit. Private development work within the County's jurisdiction may be conveyed by the plat process. Inspections of the construction of public and private improvements by the County and written acceptance of the construction by the County is required for all County permitted work.

102.3 Severability

If any part of this Manual, as approved by the County Engineer, shall be found invalid, all other parts shall remain in effect.

The County Engineer may incorporate minor changes to this Manual as they become necessary.

103 County Road System

The County Road System includes approximately 720 miles of roads. These roads are maintained by preventing, reducing, and restoring deterioration of the roadway infrastructure through road surface and roadway structure maintenance and preservation activities.

Before the County accepts a road into the County Road System for maintenance, it shall meet the standards contained in this Manual. If field conditions change after plan approval, improvements shall be made, as necessary, to bring the transportation facilities up to these standards.

For the purposes of this Manual, the following definitions for maintenance, preservation, rehabilitation/reconstruction, and construction shall be used:

- **Roadway maintenance** is defined as any work that is performed to maintain the condition of the roadway or to respond to specific conditions or events that create a need to restore the roadway to a functional state of operation.
- **Roadway preservation** is defined as any work that is planned and performed to improve or sustain the condition of the roadway in a state of good repair. Preservation activities generally do not add capacity or structural value but do restore the overall condition of the roadway.
- **Roadway rehabilitation or reconstruction** is defined as any work that extends the service life of existing roadways either by restoring or reconstructing the pavement surface. Such work may include scarifying and mixing deteriorated pavement structure into a

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compacted sub-base or repair of age-related cracking of pavement surface with treatments like crack sealing, slurry seals, or micro-surfacing techniques.

- **Roadway construction** is defined as any work that changes the geometric prism or surface type of the roadway or completely removes and replaces the existing pavement structure. Such work may include roadway widening, overlays greater than two inches in thickness, major drainage improvements, safety improvements, and signing and marking.

New roads or other public improvements will only be considered for acceptance if they have direct access to another County-maintained Road or another road that is maintained by a government entity.

104 Project Classifications

A Guidance Flowchart for Applicability of this Manual to a proposed project is shown in Figure 104.1

104.1 Capital Improvement Projects

Capital Improvement Projects (CIP) are projects that are installed as part of a Capital Improvement Plan. CIP projects are typically County funded projects, usually inside the public Right-of-Way, that are managed by the County and designed by private engineering consultants. Ultimately, design services and construction of a CIP project are awarded by the County.

104.2 Development Projects

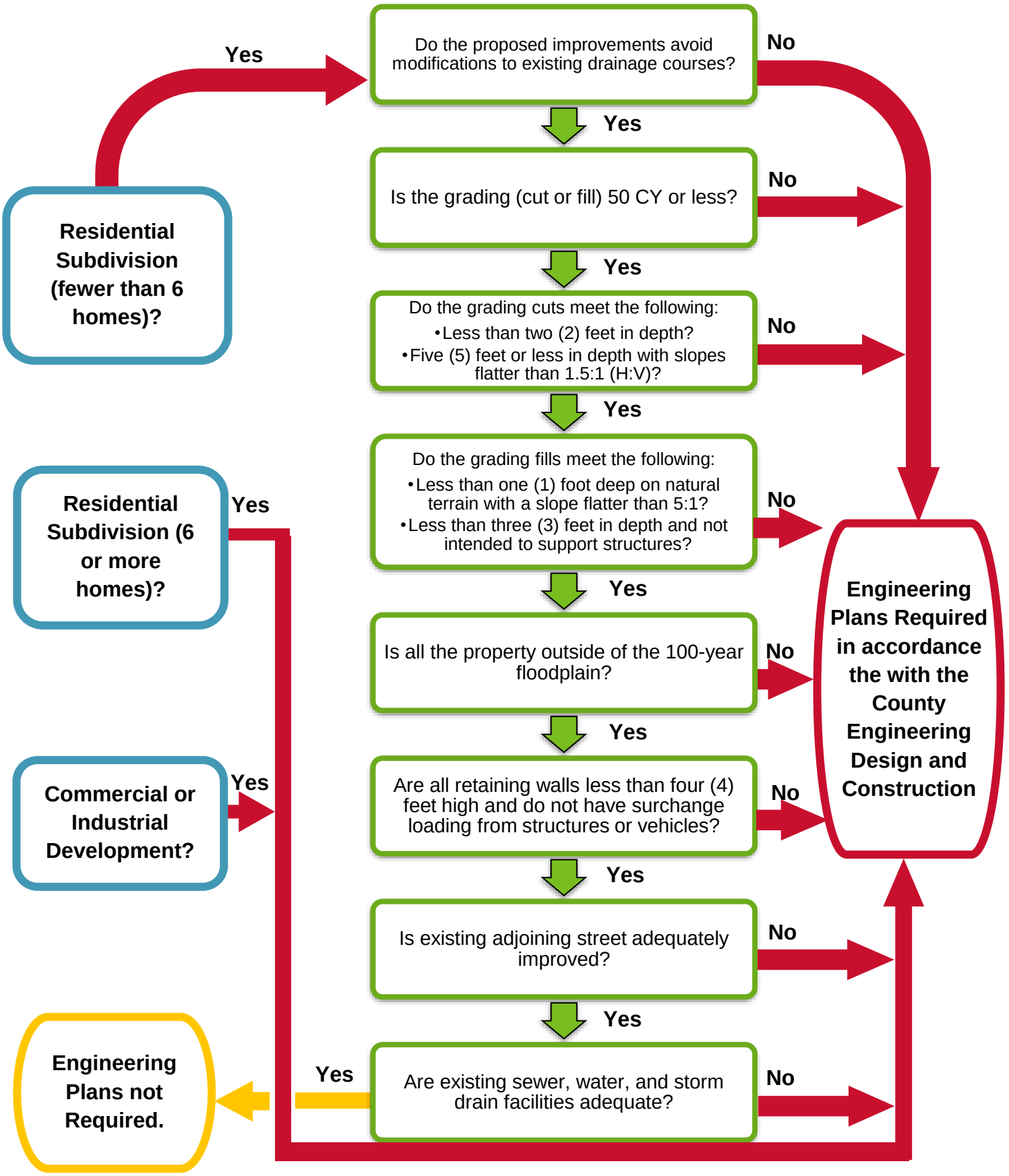
Development projects are projects with construction improvements that are to be installed as part of new land development. Requirements are outlined in this Manual as well as the County codes, ordinances, and regulations. Refer to the Planning & Development Services website for specific information regarding the processes. The website includes the applications, permits and checklists outlining each step in the process.

104.3 Utility Projects

This manual shall apply to every new placement of a utility and every planned, non-emergency replacement of existing utility poles, underground facilities, and other utility system structures within the County right-of-way. Every effort shall be made to meet the standards during emergency replacements.

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Figure 104.1 Guidance Flowchart for Applicability of the Manual



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105 References

All references in this Manual shall be to the editions or versions of documents in effect at the time a complete permit application is accepted by the County unless a Developer is otherwise vested by applicable law. When a publication is specified, it refers to the most recent date of issues, including interim publications, unless a specific date or year of issue is provided.

105.1 Comprehensive Plan

The purpose of a Comprehensive Plan is to guide and accomplish coordinated, adjusted, and harmonious development of the County, pursuant to the present and future needs of the County. The County's Comprehensive (Plan) has been developed to conserve the County's natural resources, ensure efficient expenditure of public monies, and promote the health, safety, convenience, and general welfare of the public.

Developers and Professional Engineers shall review the Comprehensive Plan to assure their proposed construction improvements reflect and implement the goals and policies outlined in the Comprehensive Plan.

105.2 Transportation Plan or Study

The purpose of a transportation plan or study is to develop multi-modal, multi-jurisdictional transportation plan that outlines the region's transportation priority projects and provides a plan for ultimate implementation. The County's Transportation (Study)Plan is focused around identifying regional mobility needs that can accommodate the anticipated future population and employment growth.

Developers and Professional Engineers shall review the Study Transportation Plan to assure their proposed construction improvements reflect and implement the goals and policies outlined therein.

See Chapter 400 for discussion on Federal Functional Classifications.

105.3 Area Plans

The purpose of an area plan is a stand-alone document that further defines the County's planning policies, objectives, and goals for specific areas within the County. An area plan builds on the overall goals presented in the Comprehensive Plan.

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105.4 Zoning Ordinances

The purpose of zoning ordinances is to implement the Comprehensive Plan.

105.5 Subdivision Regulations

The County Subdivision Regulations can be found on the County's Planning & Development Services website.

105.6 Permit Applications and Process

County Permit Applications and Process are a series of documents which are to be utilized through the planning process. The Developer/Engineer shall utilize these documents for guidance on submittal requirements and ensure that adequate information is provided for reviews.

105.6.1 Other Permits

Permits from controlling Federal, State, or County Agencies are required prior to the issuance of construction permits by the County.

Arizona permits are required prior to the issuance of construction permits by the County, including but not limited to:

- Arizona Department of Transportation (ADOT) for any work performed in State rights-of-way.
- Arizona Department of Environmental Quality (ADEQ), Arizona Pollutant Discharge Elimination System (AZPDES), Construction Activity General Permit (GCP) is required prior to approval of construction plans.
- Arizona Department of Environmental Quality (ADEQ) approval to construct both water and sewer systems must be obtained prior to approval of construction plans and prior to issuance of County permits.
- See the ADEQ website for additional information on permits that may be required.

U.S. Environmental Protection Agency (EPA) controls pollution (noise, air, water, sewage). Permits from controlling Federal Agencies are required prior to the issuance of construction permits by the County, including but not limited to:

- U.S. Army Corps of Engineers (USACE) controls all work affecting "The Waters of the United States".

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- National Pollutant Discharge Elimination System (NPDES) unless covered under the AZPDES.

105.7 Other References

Except where noted in this Manual, the design detail, construction workmanship, and materials shall comply with the current editions or version of the following publications, as amended by this Manual.

American Association of State Highway and Transportation Officials (AASHTO):

- A Policy on Geometric Design of Highways and Streets. This will be referred to as the “Green Book”.
- Guidelines for Geometric Design of Low-Volume Roads.

Arizona Department of Transportation (ADOT):

- Approved Products List. This will be referred to as the “APL”.
- Construction Manual.
- Construction Standard Drawings. This will be referred to as the “ADOT C-Stds”.
- Geotechnical Project Development Manual.
- Highway Drainage Design Manual, Hydraulics. This will be referred to as the “ADOT Hydraulics Manual”.
- Highway Drainage Design Manual, Volume 2, Hydrology. This will be referred to as the “ADOT Hydrology Manual”.
- Manual of Approved Signs. This will be referred to as the “MOAS”.
- Pavement Design Manual.
- Roadway Design Standards and Guidelines. This will be referred to as the “ADOT Roadway Design Standards”.
- Signals and Lighting Standard Drawings. This will be referred to as the “ADOT TS-Stds”.
- Standard Specifications for Road, Bridge and Highway Construction. These will be referred to as the “ADOT Standard Specifications”.
- Structure Detail Drawings. This will be referred to as the “ADOT SD-Stds”.
- Temporary Traffic Control Design Guidelines. This will be referred to as the “ADOT Traffic Control Design”.

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Federal Highway Administration (FHWA):

- Gravel Roads Construction & Maintenance Guide.
- Manual on Uniformed Traffic Control Devices, as adopted and supplemented by the State of Arizona. This will be referred to as the "MUTCD".

Maricopa Association of Governments (MAG):

- Uniform Standard Specifications for Public Works Construction. This will be referred to as "MAG Specifications".
- Standard Details for Public Works Constructions. This will be referred to as "MAG Details".

United States Access Board (USAB):

- Americans with Disabilities Act Guidelines. This will be referred to as the "ADA".
- Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way. This will be referred to as "PROWAG".

Miscellaneous:

- Latest adopted and amended building and fire codes.

106 Definitions

All words in this Manual shall be first defined as provided herein and, if not defined herein, shall be defined as in the Zoning Ordinances, Subdivision Regulations or according to the customary dictionary definition. Words used in the present tense include the future tense; words used in singular include plural, and words used in plural include the singular; the words "shall" and "must" are always mandatory; the word "person" includes a firm, association, organization, partnership, trust, corporation, company, and/or an individual.

Asphalt: A commonly utilized surface for roads and parking areas, known as Asphaltic Concrete Pavement, is a type of paved roadway.

Base Flood: The flood having a 1% chance of being equaled or exceeded in any given year i.e., the 100-year flood as defined by the Federal Emergency Management Agency (FEMA) or the effective Flood Insurance Study (FIS) for the County.

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Basin, Detention: A storm water storage facility that temporarily stores surface runoff and releases it at a controlled rate through a positive outlet. A detention basin and park may be joined to serve both recreational needs and as a water storage facility.

Basin, Drainage: A geographical area that contributes surface runoff to a particular concentration point. The terms “drainage basin,” “tributary area” and “watershed” are used interchangeably.

Basin, Retention: A storm water storage facility that stores surface runoff. Stored water is infiltrated into the subsurface or released to the downstream drainage system or watercourse (via gravity outlet or pump) or evaporated after the storm event. A retention basin and park may be joined to serve both recreational needs and as a water storage facility.

Berm: An earthen mound, either natural or man-made.

Bicycle Lane: A paved area located within a street right-of-way and between the curbs that is designated for bicycle or other non-motorized traffic.

Bicycle Path: A paved area located within a street right-of-way but not between curbs that is designated for bicycle or other non-motorized traffic.

Bicycle Trail: A paved or improved surfaced trail, located outside of a street right-of-way, utilized for bicycle, pedestrian or other non-motorized traffic. Public utility maintenance vehicles may be permitted use if joint access is allowed.

Board: The Board of Supervisors of Navajo County.

Board of Adjustment: The Board of Adjustment of Navajo County.

Building: Any structure having a roof and used or built for the shelter or enclosure of persons, animals, chattel or property of any kind, as defined in the Subdivision Regulations.

Code: The County code and ordinances adopted by the Board of Supervisors of the County.

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Commission: The Planning and Zoning Commission of Navajo County.

Comprehensive Plan: The statement of land development policies, which may include Plats, charts, graphs, and text which set forth objectives, principles and standards for growth and redevelopment enacted under the provisions of A.R.S.

County: Navajo County, Arizona

County Engineer: The person identified as the chief engineer for the County or designee duly appointed to act in their stead.

Cut: The land surface that is shaped and lowers the grade through the removal of soil, rock, or other materials.

Department: An organizational subdivision of the County directly responsible for review and approval of applications or submittals.

Design Review: Required review of architectural, engineering and landscape features of specific kinds of development and utilizing this Manual.

Development: Utilization of land. Development shall include any man-made changes to improve or alter real estate, including but not limited to establishment of uses, buildings or other structures, mining, dredging, filling, grading, paving, or excavations.

Director: The person responsible for the Planning and Zoning Services of the County.

Disturbed Area: means that area of natural ground, including the footprint of a building or road that has been or is proposed to be altered through grading, cut and fill, removal of natural vegetation, placement of material, trenching, or by any means that causes a change in the undisturbed natural surface of the land or natural vegetation.

Easement: A right granted to a governmental body, public, or persons over privately owned land for specific uses and purposes as so designated.

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Easement, Conservation: means a permanent open space easement granted to the County, a Homeowners Association, or to a public land trust to prohibit development of the property, including roads and utilities, and to protect archaeological sites, ecologically significant lands, scenic highways, hiking trails, biking trails, equestrian trails, and to preserve the land for the scenic enjoyment of the general public.

Easement, Drainage: An area designated and used for conveyance, retention or detention of runoff in which nothing can be placed, which will impede, divert or cause runoff to have an adverse effect on adjoining property.

Easement, Non-Vehicular Access: An easement prohibiting vehicular access from a street, or between inappropriate uses.

Easement, Roadway: A recorded conveyance to the public over a described area for roadway related uses.

Easement, Utility: An easement for the installation of facilities underground or overhead, furnished for the use of the public; including electricity, gas, communication, water, storm drainage, sewage, sidewalks, landscaping, traffic signals, streetlights, flood control, etc. Owned and operated by any person, firm, corporation, County department, board duly authorized by State or municipal regulations. Utility or utilities as used herein may also refer to such persons, firms, corporations, departments, or boards.

Engineering: a division of Navajo County Public Works.

Federal Functional Classification System: A part of the circulation element of the County that provides a system for identification of the hierarchy of major streets and highways, including the location and alignment of existing and proposed thoroughfares. The system is the County's guide for Right-of-Way and dedication requirements for individual streets.

Fill: Placement of natural materials such as soil, rock or other materials by equipment or other manmade device or tactic on the ground surface that raises the grade at that location.

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Final Approval: County approval of the final plat or improvement plans as evidenced by County certification of the plat or plans. Final approval constitutes authorization to record or construct.

Finish Grade: The final grade and elevation of the ground surface after grading is completed and in conformance with the approved grading plans.

Flood Hazard Zone: Any land area partially or wholly within a delineated floodplain susceptible to flood related damage as designated on the Flood Management Plans. Such flood hazard zones may include, but not be limited to, areas highly susceptible to erosion, stream meander sensitivity, moveable bed, scour, wave action, shallow ponding, and subsidence.

Flood Insurance Study: A collection and presentation of flood risk information pertaining to designated watercourses, lakes, and coastal flood hazard zones within the County. Upon the completion of a flood study for the National Flood Insurance Program (NFIP), the gathered information and maps are compiled into a Flood Insurance Study (FIS). The FIS report includes comprehensive flood elevation data presented in flood profiles and data tables.

Floodplain: Lowlands adjoining the channel of a river, stream or watercourse, lake or other body of water, which have been or may be inundated by floodwater, and those other areas subject to flooding. A floodplain may be that area further defined by the Drainage Policy of Navajo County and as shown on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Plats (FIRM) or an approved flood control study.

Flood Prone Area: Any area within a floodplain.

Floodway: The channel of a wash or other watercourse and the adjacent land areas that must be reserved in order to discharge the 100-year flood without cumulatively increasing the water surface elevation more than one (1) foot.

Freeway: A major highway that provides for the expeditious movement of large volumes of through traffic and has full access control via

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interchanges only. All roadways classified as Freeways or Highways are under the jurisdiction of the Arizona Department of Transportation.

Grading: Any cut or placement of fill material, or combination thereof on a ground surface. Grading may include the conditions resulting from any cut, excavation or fill, any alteration of the natural drainage pattern or the removal or rearrangement of surface soil.

Hillside Development Area: All land, in all zoning districts, which has a natural terrain with a slope of 10% or greater, computed in accordance with the method set forth in this Manual.

Improvement Plans: A set of plans setting forth the profiles, cross-sections, details, specifications, instructions and procedures to be followed in the construction of public or private improvements in the County that are prepared and bear the seal of an Arizona - Registered Land Surveyor, Engineer, Architect or Landscape Architect in accordance with the approved plat or plan, and zoning stipulations, and in compliance with standards of design and construction that are to be approved by the County Engineer, other County Departments, and all applicable utilities.

Improvement Standards: A set of regulations and exhibits setting forth the details, specifications and instructions to be followed in the design and construction of required improvements.

Irrigation Facilities: includes laterals, ditches, conduits, pipes, gates, pumps, and allied equipment necessary for the supply, delivery and drainage of irrigation water and the construction, operation, and maintenance of such.

Legal Access: Access provided to real property connecting the property to the public street system. Access may include a public or private street or access easement as approved by the County.

Map of Dedication: A form of plat that dedicates Right-of-Way, and/or easements.

Natural Features, Significant: includes washes, significant vegetation, and significant rock outcroppings provided these features are in their undisturbed natural state.

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Natural Grade: The current elevation of the ground at the time of application submission must be documented, including any modifications or changes that have affected the initial grade, unless such alterations were caused by natural events. The application must provide certified and dated topographic maps, aerial photographs depicting topography, or equivalent evidence of the original grade. The County will assess whether the provided information sufficiently documents the original grade. Engineering evidence of the original grade, such as original topographic maps or certified aerial photographs with topographical details, must be submitted, along with any other acceptable documentation recognized by the County.

Off Site: Not located within the area of the property to be developed.

Pedestrian Way: A public walk dedicated entirely through a block from street to street and/or providing access to a school, park, recreation area, or shopping center.

Plat: See Subdivision Regulations.

Preliminary Approval: Affirmative action on a tentative plat or improvement plan, noted upon the prints, indicating that approval of a final plat or plan will be forthcoming upon satisfaction of specified stipulations; and which constitutes authorization to submit final plat or engineering plans.

Recorder: The Recorder of Navajo County.

Request for Waiver: A request submitted on a form supplied by the County by the Design Engineer/Developer for waiver from specified standards found in this Manual.

Right-of-Way: Any public or private access way required for ingress or egress, including any area required for public use pursuant to any official plan; rights-of-way may consist of fee title dedications or easements.

Sidewalk: An ADA compliant pedestrian way constructed of Portland cement concrete.

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Slope: The vertical rise in feet measured over a horizontal distance of 100 feet, expressed as a percentage, measured generally at right angles to contour lines but which shall not extend across significant changes in grade. A portion of the 100-foot line shall extend across property lines if necessary to obtain the 100-foot measurement at a property line so long as not more than 50 feet shall so extend.

Special Area of Special Flood Hazard Area: Land within a floodplain that is subject to inundation by the Base Flood.

Street: Any thoroughfare, avenue, boulevard, road, lane, parkway, place, viaduct, easement for access, or other way that is an existing state, county, or municipal roadway; or a street or way shown in a plat heretofore approved pursuant to law or approved by official action; or a street or way in a plat duly filed and recorded in the County Recorder's office. A street includes the land between the Right-of-Way lines whether improved or unimproved and may comprise pavement, shoulders, curbs, gutters, sidewalks, parking areas, landscaping, and above and below ground utilities.

Street, Arterial: A roadway that is of regional importance and is intended to serve high volumes of traffic traveling relatively long distances. An arterial is primarily intended to serve through traffic. Service to abutting land is limited and access is controlled. Opposing traffic flows are often separated by a raised medium. Arterials typically have up to three lanes in each direction.

Street, Collector: A roadway that provides for traffic movement between arterials and local streets and carries moderate traffic volumes over moderate distances (less than 3-miles). Provides direct access to abutting land and has some access control through spacing and location of driveways and intersections. Opposing traffic flows are generally separated by a continuous left turn lane. Collectors typically have 2 lanes in each direction.

Street, Cul-de-sac: A short local street having one end permanently terminated in a vehicular turnaround or an equally convenient form of turning, with backing areas as may be recommended by the County Engineer.

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Street, Frontage: A local street parallel to an arterial or collector street or road which intercepts the residential traffic and controls access to the arterial and collector roads.

Street, Local: A roadway that is intended to provide access to abutting properties, tends to accommodate lower traffic volumes at lower speeds, serves short trips, and provides connection to streets with higher classifications.

Street, Private: Any road or street that is not publicly owned and maintained providing access to lots or units over a common parcel, primarily by the owners or occupants of the common parcel, and necessary service and emergency vehicles, but from which the public may be excluded.

Structure: Any constructed or erected material or combination of materials the use of which requires location on, above or below the ground or attachment to something located on, above or below the ground, including buildings, radio towers, sheds, storage bins, fences, bridges and box culverts.

Subdivision: Improved or unimproved land or lands divided for the purpose of financing, sale, lease, or conveyance; see Subdivision Regulations.

Supplemental Standard Details: The County Supplement to the MAG Details have has been prepared and approved by the County Engineer, as a supplement to Uniform Standard Details for Public Works Construction (MAG Details) as sponsored and distributed by the Maricopa Association of Governments.

Technical Review: The detailed review of proposed Master Development Plans, Site Plans, Preliminary Plats, Improvement Plans and Final Plats by the County, for compliance with County Codes, Ordinances, Standards, or conditions of approval by the Commission or Board. Other utilities and public agencies are invited to review the plat or plan as it relates to their conditions of service or need.

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Trail, Multi-Use: A hard surfaced trail designed for all types of non-motorized use. These trails should be constructed of either concrete or an all-weather surface such as rubberized asphalt, or similar material.

Trail, Unpaved: A designated trail designed to accommodate primarily equestrians, off-road bicycles, and pedestrian users.

Trailhead: A trailhead that serves as the beginning point of a trail and must include parking, trail information and may also include trash receptacles, water, sanitary facilities, and shade structures/armadas.

Utilities: Underground or overhead facilities used for provision of public electricity, gas, communications, water, drainage, sewage disposal, or flood control, owned and operated by any person, firm, corporation, municipal department, or board, duly authorized by state or county regulations. Utility or utilities as used herein may also refer to such persons, firms, corporations, departments, or boards involved in supplying these services.

Vegetation, Significant: Considered to be a stand of trees having a height greater than fifteen (15) feet or three (3) or more trees, located within a radius of fifteen (15) feet, each having a height greater than fifteen (15) feet.

Watercourse: Any lake, river, stream, creek, wash, arroyo, or other body of water or channel having banks and bed through which waters flow at least periodically.

Zone: means a district classification established by the Zoning Ordinances of Navajo County that limits or permits various and specific uses.

Zoning Clearance: means the approval by the Director of a plan that is in conformance with the Zoning Ordinances of Navajo County.

Zoning District: means a zone area in which the same zoning ordinances apply throughout the district.

Zoning Ordinances: means the most recent version of the Zoning Ordinance of Navajo County.

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107 Abbreviations

Whenever the following abbreviations are used in this Manual, standard details or on the plat or plans, they are to be construed the same as the respective expressions represented.

Table 107.1 List of Abbreviations

Abbreviation	Description
AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AASHTO LRFD	American Association of State Highway and Transportation Officials Load and Resistance Factor Design
ABC	Aggregate Base Course
ABSMS	Arizona Boundary Survey Minimum Standards
AC	Asphaltic Concrete Pavement
ACI	Arizona Concrete Institute
ACP	Asbestos Cement Pipe
ADA	Americans with Disabilities Act
ADEQ	Arizona Department of Environmental Quality
ADMP	Area Drainage Master Plan
ADMS	Area Drainage Master Study
ADOSH	Arizona Division of Occupational Safety and Health
ADOT	Arizona Department of Transportation
ADT	Average Daily Traffic
ADWR	Arizona Department of Water Resources
AEC	Arizona Electric Code
AGA	American Gas Association
AGC	Associated General Contractors of America, Inc.
ALTA	American Land Title Association
ANSI	American National Standards Institute
AOC	Certificate of Approval of Construction
APLS	Arizona Profession Land Surveyors
ARS	Arizona Revised Statue
ASPH	Asphalt
ASTM	American Society for Testing and Materials
ATC	Approval to Construct
ATSSA	American Traffic Safety Services Association
AUCC	Arizona Utility Coordinating Committee
AWG	American Wire Gauge
AWM	Appliance Wiring Material
AWS	American Welding Society
AWWA	American Water Works Association

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Abbreviation	Description
AZPDES	Arizona Pollutant Discharge Elimination System
BFE	Base Flood Elevation
BLM	Bureau of Land Management
BMP	Best Management Practices
BOD	Basis of Design
CAD	Computer-aided Design (and Drafting)
CGP	Construction General Permit
CIP	Capital Improvement Project
CLSM	Controlled Low Strength Material
COO	Certificate of Occupancy
CWA	Clean Water Act
EGL	Energy Grade Line
EPA	U.S. Environmental Protection Agency
ESAL	Equivalent Single Axle Load
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FFC	Federal Functional Classification
FFE or FFF	Finished Floor Elevation
FHWA	Federal Highway Administration
FIS	Flood Insurance Study
FIRM	Flood Insurance Rate Map
fps	Feet per Second
FRP	Fiber-Reinforced Polymer
ft	Foot/Feet
G & D	Grading and Drainage
GDACS	Geodetic Densification and Control Survey
GIS	Geographic Information System
GLO	Government Land Office
GP	General Plan
H:V	Horizontal to Vertical Slope Rate, such as 3:1=3 units horizontal to 1 unit vertical.
HGL	Hydraulic Grade Line
HOA	Homeowner's Association
HWE	High Water Elevation
IBC	International Building Code
ID	Inside Diameter
IEEE	Institute of Electrical and Electronics Engineers
in	Inch/Inches
ITE	Institute of Transportation Engineers
Lat	Latitude
LOMA	Letter of Map Amendment
LOMC	Letter of Map Change
LOMR	Letter of Map Revision

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Abbreviation	Description
LOS	Level of Service
MAG	Maricopa Association of Governments
MPH	Miles per Hour
MUTCD	Manual on Uniform Traffic Control Devices
NASSCO	National Association of Sewer Service Companies
NCHRP	National Cooperative Highway Research Program
NCPW	Navajo County Public Works
NCR	Navajo County Records
NESHAP	National Emission Standard for Hazardous Pollutants
NGS	National Geodetic Survey
NICET	National Institute for Certification in Engineering Technology
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	Nation Pollution Discharge Elimination System
NSF	National Sanitation Foundation
NSPS	National Society of Professional Surveyors
NVAE	Non-Vehicle Access Easement
OD	Outside Diameter
OSHA	Occupational Safety and Health Administration
P & D	Planning & Development Services
PCC	Portland Cement Concrete
P.E.	Professional Engineer
PROWAG	Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way
PUE	Public Utility Easement
PW	Public Works
RFE	Regulatory Flood Elevation
RFI	Request for Information
RLS	Registered Land Surveyor
R/W	Right-of-Way
SD	Structure Detail
SFHA	Special Flood Hazard Area
SPCS	State Plane Coordinate System
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TCP	Traffic Control Plan
TIA	Traffic Impact Analysis
TIS	Traffic Impact Statement
TRB	Transportation Research Board
UL	Underwriters Laboratories
UPC	Uniform Plumbing Code
USACE or COE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture

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Abbreviation	Description
VNAE	Vehicular Non-Access Easement
VPD	Vehicles per Day

Additional abbreviations are included in the latest Maricopa Associations of Governments Uniform Standard Specifications and Details for Public Works Construction.

108 Waivers

Technical provisions of this Manual may only be waived by the County. Any proposed departure from these standards will be judged on if the requested waiver is in the public interest and does not compromise public safety or the County's infrastructure investment. All known deviations must be approved prior to approval of the Plans for construction.

Developers and their engineering consultants, project designers, and others interested in preparing a design exception request are encouraged to discuss their potential waiver requests with the County prior to initiating the analysis and documentation effort. This is to enable discussion and determination of the technical and alternatives analysis and associated documentation requirements and to open communications between the County and the developer or consultant. Such communication will help to ensure the proposed design will be in the community's best interests.

108.1 Types of Waivers

108.1.1 Administrative Waiver

An Administrative Waiver is for minor deviations that:

1. Do not involve safety or offsite impacts,
2. Involve minimal review,
3. Do not involve the broad public interest,
4. Are similar to other approved modifications and
5. Occur routinely.

Examples of an Administrative Waiver include:

- Minor access spacing changes when no alternative is feasible.
- Minor increase in the maximum number of lots served by driveways.
- Reduced cross sectional requirements, in order to match existing roadway and curbs.

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108.1.2 Technical Waiver

A Technical Waiver is for moderate deviations that:

1. Require limited engineering analysis and County review,
2. Have minimal expected safety impacts,
3. Have minimal potential offsite impacts, and
4. General minimal public interest.

Examples of a Design Waiver include:

- Use of attached sidewalk in lieu of detached sidewalks based on site conditions.
- Use of roll curb and gutter in lieu of vertical curb and gutter.
- Removal of on-street parking.
- Modification to medians, access locations or lane channelization when no offsite impacts result.

108.1.3 Design Waiver

A Design Waiver is for major deviations that:

1. Have unique characteristics that have the potential for significant impacts to the public or County, and
2. Require extensive analysis and documentation.

Examples of a Design Waiver include:

- Alternative roadway pavement design.
- Reduced left turn or right turn pocket storage.
- Cross circulation or roadway spacing changes when the obligation may be passed on to other properties.
- Design changes concerning traffic or pedestrian safety.
- Access changes with potential material impacts to other parties.
- Pre-development versus post-development detention or retention requirements.

108.2 Waiver Requirements

A request for a waiver must be made in writing and include the following:

1. Appropriate waiver request form.
2. Narrative that describes the project and proposed deviation. The narrative shall include the following:
    a. Section of this Manual, Technical Specification, or Standard Detail which relates to the proposed deviation.
    b. Justification for the proposed deviation – specifically a detailed explanation stating the extraordinary factors that do

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not allow for strict adherence to this Manual, standards, ordinances, regulations, or code justifying approval according to the approval criteria.

c. Addressing the potential impact on the public infrastructure system (safety, functionality, maintainability).
d. Any additional documentation and background information that is required to support the request.

Documentation and exhibits to support the request must be included. Additional information, studies, reports, and/or alternative design, sealed by a civil engineer licensed to practice in Arizona, may be requested by the County prior to issuing a decision on the waiver request.

108.3 Waiver Determination

The initial ruling will be made by Planning and Development Services. The initial ruling will include a verification that the applicant has appropriately classified the waiver type (i.e. Administrative, Technical, or Design). Appeals can be made to County by including a copy of the waiver request and all supporting documents and calculations, along with a letter describing in detail the reasons for the appeal.

Failure to comply with the approved or conditionally approved waiver will be cause for:

1. Denial or revocation of engineering plan approvals and permits.
2. Withholding or release of financial assurances.
3. Removal and reconstruction.
4. Delay of final inspection.
5. Delay or denial of final approval.
6. Denial of occupancy certificates (temporary and permanent).
7. Notice to surety or other financial institution and/or legal action for forfeiture of financial assurances.
8. Code enforcement.
9. Any other applicable penalties as provided by law.

See Appendix A for Waiver forms, checklists and approval criteria.

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109 Time Limitation of Construct Plan Approval

The approval of road construction plans shall be valid for a period of two (2) years from the date of final design approval by the County. Improvements not under construction within this period must be resubmitted and reapproved by the County unless a longer time period has been specifically authorized by the County with the County's original approval.

Requests for extensions must be submitted in writing with appropriate justification warranting such an extension. Road construction plans may be required to be revised to meet with updated standards if changes have occurred since the date of original approval.

A written decision will be conveyed within 20 business days of receipt of complete submittal.

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200 Land Division

This Chapter describes the County's processes for all types of land divisions: minor land divisions (MLDs), Final Plats, condominium plats, and re-plats. The Developer of each land division is expected to construct the public improvements necessary to serve the lots created by the land division, and to assure construction of the public improvements.

201 Purpose

All minor land divisions, Final Plats, condominium plats, and re-plats are processed, reviewed, and approved through the steps described in this Manual. The main purpose of these platting processes is to provide for the land division and associated dedications necessary for orderly development.

202 Applicability

This Chapter identifies processes and minimum criteria for platting purposes per the County's Subdivision Regulations.

203 General Information

The Owner is responsible for planning, constructing, and financing all public improvements associated with land divisions (dividing, assembling, and platting property) and land development. Standard public improvements such as streets, sidewalks, streetlights, water, sewer, and drainage facilities may be required for a subdivision. Additional public improvements, such as trails, irrigation, parking, recreation areas and amenities are expected where the subdivision warrants the enhanced level of services. These public improvements must be completed and accepted before the County will issue a certificate of occupancy.

Improvement plans, as prepared by a Professional Engineer registered in the State of Arizona, shall be subject to County approval prior to recordation of the Final Plat. The final plat may not be recorded until it and the improvement plans have been approved nor until an approved covenant to construct and assurance have been secured.

203.1 Pre-Application Conference

A pre-application conference is required for all subdivisions and land developments that require public hearings. The pre-application conference between County and the applicant to discuss a proposed development application typically lasts 30 to 60 minutes. The County will

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usually contact the applicant to schedule the pre-application conference within 1-week of receipt of the pre-application request. In general, the pre-application conference is scheduled within 2 to 3 weeks of the receipt of the pre-application request.

Information exchanged at the pre-application conference allows the County and the applicant to come to a more complete understanding of the size, scope, and feasibility of the proposal. Based on the discussion at the conference, the proposal will be processed in 1 of 3 ways:

1. Determine if the application may be processed administratively or require a public meeting/hearing to obtain a decision on the application once submitted.
2. Provide the applicant with the appropriate development application checklist(s) and any related information; or
3. Require additional information to be submitted, and a subsequent pre-application conference to be conducted for further review.

204 Minor Land Division (MLD)

The Minor Land Division map process is an administrative process with map approval granted by the Planning & Development Services. The review/approval process is generally intended to ensure that the proposed division or future division of land will result in lots which meet minimum area and width requirements of the Zoning Ordinance, produce legally recognized land division (in which the parent parcel has been divided less than 4 times). The required right-of-way(s), easement(s), and dedication(s) are to be made by separate instrument that will be reviewed by Planning & Development Services, Public Works, and then recorded through the County Recorder's Office. The dedication recording number(s) will need to be added to the MLD prior to recordation of the MLD. A land division resulting in greater than 5 parcels requires the preparation of a plat map. All rights-of-way and/or easement dedications shall be in accordance with this Manual. The preparation, submittal, review, and approval of all MLDs located inside the limits of the County shall proceed through the following progressive stages and by following the MLD Process. Additional information may be obtained from the County's Comprehensive Plan, Zoning Ordinances and other policies, regulations, and standards (including the State Subdivision Statute).

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205 Subdivision Design & Submittal Standards for Preliminary & Final Plats

205.1 Preliminary Plat Application and Submittal
Refer to the County's Subdivision Regulations.

205.2 Final Plat Application and Submittal
Refer to the County's Subdivision Regulations

205.3 Final Approval
Refer to the County's Subdivision Regulations

206 Condominium Plats
Reserved for Future Use

207 Hillside Development Subdivisions
Hillside Development Areas contain slopes in excess of 10% and special requirements in these areas. Preliminary plat applications may require additional information for development located in these sensitive areas. Where possible and appropriate, the combining of submittals and maps may be acceptable on less complex lots and site conditions.

Please contact the Planning & Development Services for more information regarding Hillside Development Areas and submittal requirements and processes.

208 Changes to a Recorded Land Division
An Owner/Developer may want to make changes to an approved, recorded land division. Different kinds of changes require different kinds of procedures. The nature and complexity of the change will dictate which procedure applies and is generally related to the number, size, location, zoning, recordation, and history of the affected lots. The general parameters of each kind of change are set forth below. However, each change is unique in its effects, so the general rules may not apply in every case. Changes to recorded plats are subject to the County's approval. The County will meet with the applicant to review the extent and effect of the changes and advise the applicant which procedure is appropriate to make the changes.

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The change may be subject to revisions in applicable ordinances, codes, plans, regulations, and policies enacted since the original recorded plat.

209 Amended Plats or "Re-Plats"

A re-plat must be in substantial conformance with the approved preliminary plat and all applicable County Codes, Ordinances, and Regulations. The applicant is responsible to obtain and fulfill the requirements of County Codes, Ordinances, and Regulations whether or not they are referenced or stated in this Manual. The re-plat is subject to Board of Supervisors approval and shall be recorded in the County Recorder's Office. Submittal requirements for a re-plat are the same as for a Final Plat. Once a property has been previously platted, all subsequent changes must be through a re-plat.

210 Administrative Changes to a Recorded Plat (Affidavit of Correction)

Minor corrections of errors may be accomplished without re-recording the subdivision plat through the Corrective Replat administrative process. Allowable corrections under this process are engineering errors and name changes, typographical errors, misspellings, etc. Administration changes to the recorded plat must be reviewed by Planning & Development Services, prior to recording.

If the proposed change is an obvious engineering error and not a design error; and the correction does not change or relocate any parcel or easement boundary or line or change the legal description or the land area included in the subdivision, it can be classified as an engineering error.

210.1 Procedure

1. The Subdivider shall file an application for Corrective Replat with all necessary back-up information.
2. The application shall contain a form with the following information:
    - The corrections and/or changes requested.
    - The date that the plat was recorded.
    - The docket and/or page number of the plat that is to be modified.
    - Written consent to the correction or change by the current owners of record of all of the property affected by the correction or change (as shown by a title report furnished by

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the Owner and prepared within thirty days prior to the filing of the Certificate of Correction or change).

- Signature line for approval by the Planning & Development Services Director.

3. The County Engineer shall review and approve the application as appropriate. The Subdivider shall have the Corrective Replat recorded with the County Recorder with copies of the recorded Corrective Replat forwarded to Planning & Development Services.

211 Maintenance Improvement District (MID)

Each subdivision is subject to the formation of a Maintenance Improvement District for the maintenance of the landscape, irrigation system and drainage facilities located within the rights-of-way, tracts and easements dedicated as part of the Final Plat. The Developer is required to submit all information required to form the maintenance improvement prior to recordation of the Final Plat.

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Chapter 300
Survey Standards and Improvement Plans

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300 Survey Standards and Improvement Plans

The following sections outline the County's infrastructure requirements associated with the development process. They are by nature general in scope. Reference should be made to the appropriate Chapters within the balance of this Manual for specific details.

301 Purpose

The purpose of this Chapter is to present information, minimum specific guidelines, and provide minimum design criteria and guidance regarding the preparation of all types of improvement plans. This includes related work such as land surveying, use of GIS Data, preparation of Record Drawings, deliverable format, and the general process for plan submittal review to the County.

302 Applicability

Improvement Plans for all public and private projects shall be prepared and submitted to Planning & Development Services Department. The striping and signage plans shall include signage stating that the streets are privately maintained and shall provide guards, gates, or other means of denying access to the general public, and other street signs as required.

303 General Information

It is not intended by these guidelines to repeal, abrogate, annul, or in any way impair or interfere with existing provisions of other laws or ordinances except those specifically repealed with private agreement, restrictive covenants running with the land to which the County is a party. Where these guidelines impose a greater restriction on land, buildings, or structures than is imposed or required by such existing provision law, contract, ordinance, or deed, the provisions of these guidelines shall prevail.

Most work involving construction and/or design will fall under the regulations and authority of the Arizona State Board of Technical Registration. Plans, drawings, specifications, estimates, legal descriptions, and other work produced by non-registrants will not be accepted or reviewed by the County. All work must bear the seal and signature of the registrant and conform to the code and rules of the Board of Technical Registration.

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304 Survey Standards

304.1 Codes, Regulations and Standards

All surveying and mapping activities associated with projects which will be reviewed and permitted by the County shall comply with the rules and specifications of State Statutes, this Chapter, the Arizona Boundary Survey Minimum Standards (ABSMS), the Federal Bureau of Land Management (BLM) Manual of Surveying Instructions, the National Geodetic Survey (NGS) Standards and Specifications for Geodetic Control Networks, and MAG Specifications pertaining to all land and property monuments. In general, this means that these activities must be performed by or under the responsible charge of an Arizona Registered Land Surveyor or registrant in a category appropriate to the activity.

The perpetuation of survey monuments is required and intended to protect both public and private property rights in accordance with federal and state law.

Refer to Federal Survey Standards for projects adjacent to Federal lands.

304.1.1 Definitions

Benchmarks: A point of reference by which something can be measured. A benchmark is usually a permanent mark established at a known elevation that is used as the basis for measuring the elevation of other topographical points. In the County, section corners, quarter-section corners, and National Geodetic Survey (NGS) control points are used as benchmarks.

Grid: Use a combined scale factor to convert the horizontal control point values (grid) to ground measurements. The responsible survey registrant for each project shall provide the combined scale factor, adjustments, rotations, and other pertinent meta-data used to obtain ground coordinates, as part of the project deliverable.

Ground: The surface of the earth and in relation to surveying, a modification of the grid coordinate system obtained by applying the combined scale-factor and a rotation at a particular point on the grid with the intention of obtaining near accurate ground distances as would be measured with conventional survey equipment.

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Monuments: In relation to surveying, an object used to define a property corner or survey control point. These would typically be brass caps found flush on pavement or in hand holes at section corners or street intersections and capped rebar and PK nails found at property corners. When set by a Registered Land Surveyor, they must bear the registrant's license number.

305 Types of Surveys

305.1 Boundary Survey

Perform all land survey work per the guidelines of the Arizona Boundary Survey Minimum Standards. These standards may be obtained from the State of Arizona Board of Technical Registration's website or in person at 1110 West Washington Street, Suite 240, Phoenix, Arizona, 85007.

305.1.1 ALTA Surveys

ALTA surveys will be based on the latest revision of the American Land Title Association, and National Society of Professional Surveyors Minimum Standard Detail Requirements for ALTA/ NSPS Land Title Surveys.

305.2 Coordinate System, Datum and Units

Place all projects on a ground datum based on the Arizona State Plane Coordinate System (SPCS).

Use of another coordinate system requires review and approval by the County.

305.2.1 Horizontal Datum

Use the SPCS 1983, East Zone utilizing the appropriate Grid Adjustment Factor (G.A.F) until the SPCS of 2022 is adopted and implemented by the State of Arizona and ADOT.

Refer to the National Geodetic Survey and Arizona Revised Statutes for additional information on SPCS 2022.

Control monument data used shall be documented, described, and referenced by name, position, elevation and date on the plans.

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305.2.2 Vertical Datum

The vertical datum shall be North American Vertical Datum of 1988 (NAVD 88) or the current datum as defined by the National Geodetic Survey (NGS).

Augment GPS surveys with level and continual survey work as necessary to obtain the desired accuracy for design.

305.2.3 Units

Use International feet for all projects. One foot is exactly 0.3048 meters.

305.2.4 Modified Ground Coordinate Systems

The use of modified coordinate systems to achieve accurate ground distances must be accompanied by a control statement provided on the plans or survey drawings to which they apply. Information included in the control statement should include but not be limited to: base point or base points used and their coordinates in both the grid and ground systems, scale factor, rotation, and calibration or localization parameters used. The use of a ground system does not override other provisions of this Manual and the modified coordinate system used must tie directly back into the Horizontal Datum as specified in this Section.

Include metadata that defines the coordinate system used. Note the epoch date such as NAD 83(2011). When a projection system is used other than Arizona State Plane such as a Low Distortion Projection (LDP) provides necessary information to re-create that projection. Define the projection such that grid distances are equivalent to “ground” distances within the project area.

305.3 Monuments and Benchmarks

Perform monument perpetuation with every project, all work performed by the County, contractors and every private land development project or Right-of-Way permit within the County.

All CIP contracts that may disturb monuments shall include monument perpetuation in the scope of work.

Upon completion of construction of the project, a Registered Land Surveyor shall verify existing monuments (protected in-place) and any new monuments installed by the Contractor. Punch and stamp the

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monument by a Registered Land Surveyor according to Arizona Boundary Survey Minimum Standards.

305.3.1 Existing Monuments

When monuments exist that control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide horizontal or vertical survey control, the monuments shall be located and referenced by or under the direction of a Registered Land Surveyor prior to the time when any streets, highways, other rights-of-way, or easements are improved, constructed, reconstructed, maintained, resurfaced, or relocated. A Registered Land Surveyor shall make a diligent search for, and locate monuments lying within the streets, highways, other rights-of-way, or easements, and any monuments that may be disturbed by construction lying outside the streets, highways, other rights-of-way, or easements.

Identify any monuments to be re-monumented by the RLS as a part of the work on the Plans, Record of Survey and/or Final Plat and shall be paid for as a part of the work.

Disturbed or displaced monuments by construction shall be reset by the RLS at Contractor's cost and not charged to the County or the Owner.

Monuments uncovered or found during construction shall not disturbed or removed until observed, located, and referenced by a Registered Land Surveyor.

305.3.2 New Monuments

Install MAG Detail 120, Type A with a ½" recess frame and cover monuments at all section corners, quarter corners, and center of sections and at all centerline intersections, P.C.'s, P.T.'s of each curve for arterial and major collector streets. Use MAG Detail 120, Type B monuments on all other streets and shall also include centers of cul-de-sacs.

Surveyors shall comply with the requirements of Arizona Boundary Survey Minimum Standards or Arizona Revised Statutes, as it relates to filing a Record of Survey, Results of Survey, or Corner Record with the County Recorder.

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305.3.3 Temporary Benchmarks

Temporary Benchmarks may be required for construction or other survey work.

306 GIS Requirements

The County Geographic Information Systems (GIS) is using GIS technology for capturing, managing, analyzing, and displaying all forms of geographically referenced data and information. GIS data submitted to the County shall comply with the Arizona Spatial Data Accuracy and Geo-Referencing Standards available from the Arizona Professional Land Surveyors (APLS). Submit GIS information in a geodatabase (.dbo) file for raw data and when appropriate a map package (.mpkx) file.

The goals of GIS are:

1. Coordinate the GIS activities for County departments,
2. Provide shared services for municipalities,
3. Promote data standards for the GIS user community in Navajo County.

See the County GIS Quick Link for additional information.

307 Improvement Plans

307.1 General

All improvement plans must comply with the following requirements:

1. All design must be in accordance with this Manual, Subdivision Regulations, Standard Specifications, Standard Details and General Notes.
2. All plans must follow the current Navajo County CAD Standards.
3. Coordinate new street right-of-way or utility easements with the Public Works Department; except if they are in conjunction with a subdivision plat in which case, they shall be coordinated through Planning & Development Services as part of the subdivision plat process.
4. All water and sewer utility design must be per the latest ADEQ requirements and submitted to them for approval.
5. Design and construct all improvements in accordance with County policies, standards, regulations, ordinances, and details.

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6. Clearly delineate and identify all relevant jurisdictions and boundaries on the plans, including Federal, State, County, City and Tribal authorities.
7. Differentiate between the existing and proposed improvements and show all existing germane facilities on the plans.
8. Show all utilities identified by a current Arizona 811, certified Record Drawing Plans, utility company data and/or location testing on the plans complete with line sizes, types (i.e., water, sewer, gas, electrical, telecommunication, etc.) and locations. Create a distinct line type for each type of utility that notes the size of the utility and type of line. Show all pothole information on the plans.
9. Hard copy plan sheets shall be 22” x 34” in size on good quality white paper and in reproducible black ink.
10. Include an engineer scale and scale bar with horizontal scale of 1” = 40’ and vertical of 1” = 4’, or larger unless otherwise approved by the County.
11. A Professional Engineer licensed and in good standing with the State of Arizona shall prepare the improvement plans. The improvement plans must be signed and stamped by the responsible Professional Engineer, or clearly marked “PRELIMINARY NOT FOR CONSTRUCTION” per Arizona State Board of Technical Registration requirements prior to submittal.
12. Locate the improvement plans’ title block in the lower right corner or along the right margin of the drawing and include the project name, permit number, Consultant/Developer’s name, and the name, address, seal, date and signature of the responsible Professional Engineer.
13. All final improvement plans submitted to the County shall be high resolution bond paper drawings and shall be clear, legible, contain a north arrow, and be drawn to scale. Provide electronic copies of the final approved Engineering Plans to the County in PDF format. Where modifications to existing streets and utilities are to be constructed, existing features shall be “screened or ghost lined.” Indicate new construction and/or improvements with heavy bold lines using standard CAD symbols and layers. Submit final real property documents in hard copy or an electronic copy which is non- alterable.
14. Include right-of-way information including existing and proposed survey monuments on the plans. Reference street centerline, easements, and other pertinent data to existing monuments.

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15. The County may require other plan elements in addition to those described above.

307.2 Subdivisions

All Subdivision construction plans must comply with the following requirements:

1. Incorporate all comments made during the submittal review process and conditions imposed as part of the Preliminary and Final Plat approval onto plans.
2. All design must be in accordance with the current Navajo County Subdivision Regulations, this Manual, Standard Specifications, Standard Details and General Notes.
3. The improvement plans must include a general master utility layout for the subdivision as one of the sheets in the total set of plans.
4. Comply with the County Storm Water Regulations and the Environmental Protection Agency (EPA) Guidelines for storm water discharge.
5. Small scale subdivision sheet index map (north to top or to right side of sheet).

307.3 Cover Sheet

A Cover Sheet is required for all construction plans submitted. The cover sheet includes the following when applicable.

1. Vicinity Map (including a north arrow).
2. Project title, Address, and any applicable Navajo Project information.
3. Consultant/Developer names and addresses.
4. Professional Engineer's seal and signature. Proper use of electronic signature for digital submittals is required.
5. Signature Block Requirements:
    - Public Improvements: Navajo County Engineer
6. Block for Arizona Department of Environmental Quality approval (file number and date), if applicable.
7. Completed signature blocks for representatives from all potentially affected utility companies.
8. Applicable Notes.
9. Index of the sheets.
10. List of all regulatory agencies which have been notified and/or have issued permits.

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11. List the benchmark(s) used on the project, including any County benchmark.
12. A note: “Call the Arizona 811, Blue Stake Center 1-800-782-5348 (1-800-STAKE-IT), 48 hours before you dig for location of all underground utilities.”
13. Revision dates with descriptions of the revision.

307.4 General Notes, Quantity, and Index Sheet

General Notes Sheet shall contain the latest applicable County notes for the improvements proposed. See the County Standard Details, 200 Series.

Quantities Sheet provides a detailed list of quantities broken down by sheet. If the project is to be phased, separate quantities must be provided for each phase. If the project includes both public and private improvements, separate quantities shall be provided accordingly.

Key Index Sheet for improvement plans with more than two (2) sheets, a separate key index sheet is required. This sheet shall provide a graphical index referencing for all improvement sheets included with the project (i.e., paving, storm drain, etc.).

307.5 Horizontal and Vertical Control Sheet

Horizontal Control Sheet shall include the following:

1. The origination point of all horizontal position systems shall be based on physical survey points or monuments and identified on the plans.
2. Design alignments to proceed from south to north, west to east, left to right.
3. Station all plan sheets in 100-foot intervals at a minimum.
4. Clearly identify bearing and distance on all horizontal control on each sheet. Identify bearing and distances for each change in bearing.
5. Projects will require Temporary Benchmarks (TBM) established by a surveyor when it is necessary to maintain vertical control. Vertical control shall be per Section 305.2.2. For site plans, establish at least three (3) temporary benchmarks (TBM) and shown on the plans. For alignment plans (e.g., Roadways, Waterlines, Drainage Channels), establish a TBM near the beginning of the project, near the end of the project and at least every 600 linear feet along the

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project alignment and show on the plans. All TBM's shall be per latest approved County datum.

6. Show existing monuments and include the following general note (unless included in the specifications) on all plans:

"THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONUMENTATION AND/OR BENCHMARKS WHICH WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A LICENSED LAND SURVEYOR OR A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILED BY THE LICENSED LAND SURVEYOR OR THE REGISTERED CIVIL ENGINEER AS REQUIRED BY THE ARIZONA REVISED STATUTES."

307.6 Plan and Profile Sheets

Plan and Profile Sheets shall include the following:

1. Standard single plan and profile will be required. The County will not accept double plan and profile unless approved by the County.
2. Plans must show sizes, types and locations of all existing and new utilities, including services, paving, curb, sidewalk, fire hydrants, valves, manholes and all miscellaneous items of construction, such as street sign posts, driveways, etc.
3. Clearly differentiate between new and old improvements (existing 6-inch pipe versus proposed 6-inch pipe) per the most recent County CAD Standards.
4. Station plans from left to right with north being towards the top or right side of the sheet, whenever possible. Station storm Drain, channel and sewer plans from downstream to upstream, whenever possible.
5. Plan view and profile view must align.

307.7 Detail Sheets

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

Do not include County, ADOT, or MAG Standard Details on detail sheets unless the detail is modified. Clearly identify modifications to those details and include the following text "Modified Navajo County, ADOT, or MAG Detail" and include the detail reference number.

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308 Plan Notes

The latest version of the County's General Notes, Paving Notes, Sewer and Water Notes can be found in the 300 Series of the County Standard Details. These notes may be periodically updated by the County.

309 Construction and Improvement Plan Submittal

309.1 Plan Review

Prior to issuance of any permit for construction, plans review and approval by the County is required. The review is to assure general compliance with County Standards, Details and Specifications.

Upon completion of the review, the Professional Engineer will be notified by email when to pick up their submittal.

309.2 Plan Review Comments

Address project plan review comments (including redlines) via correction or a clarification response. If there is a discrepancy concerning a redline comment, contact the County. Return the redline set of plans with the next improvement plan submittal.

Include a separate tabulation of review comments addressing each comment and the correction measure provided. The tabulated review comments shall depict the comment, comment originator, sheet number of the comment, and disposition to the comment. Upon completion, forward the table to County for review prior to the comment resolution meeting. During the comment resolution meeting, final disposition will be determined. Subsequent submittals shall then reflect all necessary changes as outlined by the direction in the disposition table. The subsequent submittal shall include a copy of the comment disposing table and final disposition with a set of the revised documents.

Failure to identify all the changes may result in the return of the plans with an additional review required and may require additional review fees based on the approved fee schedule.

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309.3 General Submittal Requirements

All submittals should be made via the County's MaintStar Permitting Center; see Quick Links. Private developers should submit all required documents through the MaintStar Permitting Center.

The Consultant/Developer must comply with the following County submittal requirements:

1. A Letter of Transmittal, in duplicate and signed by the Professional Engineer, shall accompany all improvement plan submittals. The letter of transmittal shall indicate the following:
    - Date of delivery of submittal
    - The review number (1st review, 2nd review, etc.)
    - The number and type of plans which are being submitted
    - The number and type of all required standard forms being submitted
    - Engineering permit number
2. The "red lined" checked prints and checklists from the previous review shall accompany all succeeding reviews (no exceptions). Likewise, a copy of the preliminary reports and/or studies shall accompany submittals of all subsequent reports and/or studies.
3. The submittal is to include a copy of the project's Geotechnical/Soils Report for County review. Any areas of expansive soil may require special treatment during project construction. The Professional Engineer shall include any special requirements on the plans.
4. Submit all Private Development plans to Planning & Development Services; do not hand-carry any plans to Department Directors or Plan Reviewers. Without a copy of the transmittal letter stamped "received," plans are not in the review process. Pay all review fees at the time of submittal.
5. All Private Development projects must include approved Preliminary Plat/Site Plan, Drainage Study, a copy of conditions or stipulations, Title Report, Schedule B items, Vesting Deed, and other required documents prior to improvement plan submittal.

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309.4 Utility Company Approvals

Local Utility Companies shall sign the cover sheet of construction or improvement plans. By signing this sheet, the utility confirms that they have seen the plans, are aware of the scope of the project, and have identified existing and proposed utilities and their potential conflicts in relation to the project.

The County shall not approve construction plans until all potentially affected utilities have signed or the Professional Engineer has written correspondence from each utility confirming no conflicts or resolution of conflicts. Utilities which will commonly be contacted are cable TV, gas, electric power, telephone, sewer, and water.

A full set of improvement plans with the "Utility Location and Conflict Notice" shall be submitted to each appropriate utility company in parallel with each submittal.

309.5 Submittal Deliverables

309.5.1 First Submittal

Submit all deliverables in PDF format through the MaintStar Permitting Center.

- Construction Plans (Grading, Drainage, Paving, Water, Sewer, Streetlight, Traffic Signal/Interconnect, Signing and Striping, Landscape, Erosion and Sediment Control, etc.)
- Final Drainage Report (a complete report, not an addendum to the Preliminary Drainage Report).
- Traffic Impact Analysis or Statement
- Final Geotechnical/Soils Report
- Sewer and Water Report
- Approved Stormwater Pollution Prevention Plan (SWPPP) – Professional Engineer to use standard BMP detail sheet. Contractor or Developer will be responsible for obtaining NOI and Permit.
- Engineer's Opinion of Probable Cost, if applicable
- Project Specifications
- Water Provider "Will Serve" letter for private development or subdivisions

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All deliverables must be signed and sealed by the responsible Professional Engineer.

First reviews that are incomplete and do not contain all the above itemized plans, reports, studies and required forms will not be accepted.

309.5.2 Second Submittal

The second review and all subsequent reviews shall be in PDF format and submitted using the MaintStar Permitting Center.

- Construction Plans (Grading, Drainage, Paving, Water, Sewer, Streetlight, Traffic Signal/Interconnect, Signing and Striping, Landscape, Erosion and Sediment Control, etc.)
- Final Drainage Report (a complete report, not an addendum to the Preliminary Drainage Report).
- Traffic Impact Analysis or Statement
- Final Geotechnical/Soils Report
- Sewer and Water Report
- Approved Stormwater Pollution Prevention Plan (SWPPP) – Professional Engineer to use standard BMP detail sheet. Contractor or Developer will be responsible for obtaining NOI and Permit.
- Signed Utility Conflict Notices from all Utilities
- Engineer's Opinion of Probable Cost
- Project Specifications
- Water Provider "Will Serve" letter for private development or subdivisions
- Previous redline set and checklists

309.5.3 Final Submittal

Upon approval of the improvement plans, but prior to the issuance of a permit for construction, submit PDFs to the County for digital signatures. A digitally signed PDF will be returned to the Professional Engineer for their records.

It may be possible to combine the various types of plans (i.e. grading plans, ROW plans, street plans, etc.) on some projects; however, the Professional Engineer shall obtain written approval from the County prior to generating plans.

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309.5.4 Revisions to Final Submittal

1. All original plan approvals, signatures, and seals are to remain on the revised plans.
2. All plans revised after the original approval shall be resubmitted for review and approval. Identify the nature of the revisions on the cover sheet and on the sheet(s) which have been revised. The revision number itself shall consist of a numeral within a triangle next to each revision. Δ Changes on each plan sheet shall be specifically outlined with "clouding."
3. All revised sheets, including the cover sheet are to be re-sealed, signed and dated.

310 Subdivision Process

Refer to the County's Subdivision Regulations for all subdivision requirements including but not limited to Preliminary Plats and Final Plats.

311 Plan Review Checklist

311.1 Street Improvement Plans (Plan View)

- Engineer's seal
- North arrow
- Scale
- Street alignment
    - Stationing
    - Monuments and center lines
    - Tangent bearings
    - Curve data
    - Curb (radii, elevations at beginning curb returns and end curb returns)
- Dimensions
    - Streets
    - Hammerheads
    - Cul-de-sacs
    - Temporary turnaround
    - Driveways
    - Typical cross sections
- Right-of-way and easement lines (existing and proposed)
- Lot lines
- Driveway locations

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- Show, label, and dimension sight distance triangle easements
- Verify sight stopping distance
- Sidewalks
    - Connectivity (future stubs at minimum need concrete ramp to street)
    - Pedestrian ramps (check opposite ramp alignment)
- Curb returns and elevations
- Pavement markings
- Side road driveway match scheme
- Turning Lanes
- Street Lights
- Traffic Signals and Signs
- Saw cut shown on plans (3’ minimum)
- Relevant Topography (contours and elevations)
- Utility Locations (existing and proposed)
- Drainage Structures (existing, proposed, conflicts, easements)
- Multi-modal and Transit Facilities
- Street Names
- Construction Notes
- Bid Item Quantities

311.2 Street Improvement Plans (Profile View)

- Scale
- Existing ground lines
- Proposed grades and slopes
- Grade lines
- Vertical curve data
- Superelevation
- Extend profile minimum 200’ in each direction into existing/future streets
- Grade breaks and elevations
- Curb returns and elevations
- Utility locations, including culverts, pipes and drainage structures

312 Record Drawings

Record Drawings (formally known as As-Builts) are the official record of the final engineering plans for all construction projects. They are the field redlines and changes made during construction which are recorded on

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the original plan set showing any changes or modifications made to the project during construction.

A Civil Engineer or a Registered Land Surveyor must sign and stamp the as-built certification on the cover sheet and seal each additional sheet of the record drawing. New elevations should be shown by boldly striking through the proposed number and placing the new number with AB beside it. All as-built record drawings shall be done in black ink and submitted as an electronic as-built on the latest approved set of plans.

Record drawing information must be on the latest approved set of plans.

The following records are required for County owned facilities or facilities that will be transferred to the County, including, but not limited to, test results, permits, certifications, registrations, and reports such as:

- Property legal descriptions, survey, registration, and certification
- Well abandonment registration and certification.
- Acknowledgement of completion to satisfaction of other jurisdiction or agency requirements (water, sewer, cable, etc.)

Required As-Built Information for Improvements in County Right-of-Way or Easements

312.1.1 Cover Sheet

1. Show benchmark(s) locations(s) and elevation(s) on the cover sheet. Only Arizona State Plane Coordinates (NAD83/East Zone) or most current coordinate State Plane Coordinate system is acceptable. See Section 305.2.
2. The as-built record drawing must include all department approvals.
3. The cover sheet must show the name, address phone number and seal of the Design Engineer and the engineer that certifies the as-built record drawing with the following statement:
   "I hereby certify that the record drawing measurements shown here were made under my supervision or as noted and are correct to the best of my knowledge and belief."

   _____
   Registered Professional Engineer (Civil) Reg No. Date

   Note: Each additional plan sheet must contain the signature and seal of an Arizona registrant.

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4. The following must be shown on the cover sheet.
    - Name of the contractor
    - Date of final acceptance by County inspector or representative
    - Name of County inspector or representative who witnessed the construction.

312.1.2 General Information

1. Show a complete list of all materials installed and abandoned. Show the specific size and material type of each pipeline installed at every construction reference to that pipe. Show any changes to the record drawing on the quantities materials list.
2. On recorded plat or map of Dedication, show easements and rights-of- way from the plans. Easements dedicated by separate instruments and described by metes and bounds must be recorded.
3. Prints must be blacklines on white background, having dark, clean, crisp, clear line work, symbols, and annotation. These items must be sufficient boldness and size and be free from background obscuring, to be legible and easily read. No shading or tinting is acceptable.
4. Minimum acceptable height for all as-built record drawing lettering is 1/8 inch. Larger lettering is preferred, especially for dimensioning, stationing, size, material, slope, and elevation callouts. Standard bold block lettering is required.
5. All items changed or unchanged must have a bold (AB) lettered next to them. Clearly show required minor as-built changes to the approved plans by boldly striking through the item changed and placing the as-built information next to or as near as possible to it. All as-built annotation changes must be larger and bolder than the original and free from background obscuring.
    - Note: This includes abandoned pipe. Abandoned pipe must be notated that it is slurry filled, crushed, remained in place, or physically removed.
6. On phased projects, clearly show the phase lines on the key map and on the plan and profile sheets and their locations clearly identifiable. Show actual pipe end locations relative to phasing lines by dimensioning or stationing.

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312.1.3 Water Information

1. The record drawing must indicate the locations of the beginning(s) and end(s) of the construction and all valves, fire hydrants, pipe fittings and service connections. Show their locations by stationing and dimensioning from appropriate monument lines or in their absence appropriate lot lines, property lines or easement line references. No dimensioning from points of curvature or tangency is acceptable for as-built record drawing purposes. The drawings must clearly indicate the specific points of reference.
    - Note: In all cases where the pipeline is constructed within or parallel, in proximity, with the right-of-way, all stationing and dimensioning must be from the nearest appropriate monument line and monument line intersection.
2. The water service stationing shown must be the locations of the taps at the main. Measure their locations perpendicular or radial relative to the appropriate right-of-way monument line, easement centerline, or property line intersection. Indicate service tap by using the following method throughout the plan set.
    - Stationing in the same general direction along a straight or curvilinear pipe run starting with the nearest appropriate monument line or monument line intersection, or in their absence, appropriate easement line references as noted in Section 312.1.2, Note 1, as Station 0+00. Show the relative stationing of all monument line intersections occurs along the pipe runs. When a monument line intersection occurs along the pipe run, the service tap stationing should again begin with Station 0+00 at the intersection and the process repeated to the end of the pipe run. Do not locate 0+00 at the closed end of a cul-de-sac or similar type street.
    - Note: When water services are not installed perpendicular to the water main, both the location of the tap at the main and the distance of the meter set from the nearest side property line of the lot must be shown.

312.1.4 Sewer Information

1. For purposes of the record drawing, every manhole, cleanout, pipe plug and building connection tap must be located by stationing based upon the nearest downstream manhole always being designated as Station 0+00. Cumulative stationing along the length of the pipe run is not acceptable. In addition, the building

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connection station must give the location of the tap at the mainline measured perpendicular or radial to the sewer main centerline. Where the building connection service line is not constructed perpendicular to the sewer main, both the tap station and the distance of the service line from the nearest side lot line of the lot (or area) it serves must be given.

2. New manholes built on existing lines require showing its station from the nearest existing downstream manhole and its distance to the nearest existing upstream manhole.
3. Where construction begins with removal of an existing pipe plug or cleanout, 0+00 stationing always begins at the nearest existing downstream manhole. Pipe length measurement and stationing is always from the centerline of the downstream manhole to the centerline of the upstream manhole or cleanout. Do not give partial pipe lengths in plan or profile at match lines. Always indicate the distance between manholes or to cleanouts or pipe ends.
4. All as-built adjustments to manhole, cleanout and pipe information must be shown in both plan and profile and repeated on every sheet in every instance that refers to the same information.

312.1.5 Cathodic Protection

Cathodic protection features may appear on either Water or Sewer plans. These features include conduit lines, test stations, anodes, and rectifiers. Cathodic protection stationing is the same as water stationing when they appear on a water plan and the same as sewer stationing when they appear on a sewer plan as described above.

312.1.6 Asset Management Coordination

The County requires a CSV file with coordinates ‘X’ (Easting) and ‘Y’ (Northing) values which represent the location of certain asset types. Coordinates shall comply with Section 312.1.1. For a water system, these asset types are fire hydrants, valves, and service lines. For sanitary system, these asset types are manholes, cleanouts, and tap laterals. The depth from existing or finished grade to top of the asset is required for valves, service lines, and tap laterals.

The County may provide an asset management coordination spreadsheet during the design phase (stage) that may be used to capture the asset coordinate locations as part of the asset management coordination process.

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312.1.7 Retaining Walls and Footings

Show the top of footings and top of retaining walls on record drawings.

312.1.8 Grading, Drainage and Pavement Information

If applicable, record drawings shall include:

- Drilling logs, slope stability reports, percolation tests, etc.
- Finish floor elevations
- Grate, and invert elevations for catch basins and other drainage devices, retention volumes, retention bottoms and top of slopes, basin outfall elevations, extreme storm outfall
- Stationing and elevations at grade breaks, P.C.'s and P.T.'s and flow line elevations at all catch basins and other drainage devices to show direction of the flow.
- Offsets to the back of curb, sidewalks, easements and utilities.
- Approved field changes made should also be noted.

312.2 Record Drawing Submittal

Include a Letter of Transmittal to document who is submitting Record Drawings. This is necessary in order to process the plans and for contact information when the review is complete. Plans will not be reviewed if transmittal documentation is missing.

Record Drawings submitted for review shall consist of two (2) electronic copies in appropriate digital format as requested by the County, containing all the original signatures.

One (1) set will be reviewed and returned if there are County comments. All comments must be addressed. Two revised plan sets will be required with each resubmittal along with the previous redlined review set until final County approval is obtained.

If the project is developed in phases, Record Drawings for each phase shall be submitted once the work is complete in that phase. Letters of Completion and Acceptance or Certificates of Occupancy will not be issued until all items out of tolerance as noted in the walk-through punch-list have been corrected and all final Record Drawings have been submitted and approved by the County.

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312.2.1 Record Drawing Disclaimer

The County assumes no responsibility for the accuracy of Record Drawing information provided as a public record.

312.2.2 Record Drawing Certification

The County will accept applicable improvements following final inspection, approval, and receipt of approved Record Drawings. It is the responsibility of the developer, Professional Engineer and contractor to coordinate timely submittals of the Record Drawings in order to affect a Final Letter of Completion.

Furthermore, a Final Letter of Completion or Certificate of Occupancy shall not be issued to the developer of the project until all affected roadways are restored to their previous condition or better and all applicable signing and pavement markings have been installed and inspected by the County. All survey monuments shall be installed or replaced, if destroyed, before a Final Letter of Completion.

312.3 Results of Survey

A Registered Land Surveyor shall provide to the County a sealed, Post-Construction Results of Survey drawing relating to the new, re-established or replacement monuments. The Results of Survey shall be recorded with the County.

In addition, the surveyor shall complete:

- Once recorded, submit copies of the documents to Planning & Development Services.
- The survey notes showing these referenced monuments and elevations certifications shall be reflected on the as-built documents and submitted for approval to the County before the project will be accepted as completed or bonds released.
- Submit all monument information, as referenced above, within 60 days of County acceptance or Certificates of Occupancies will be withheld.

313 Letter of Completion

A Letter of Completion for improvements will be issued when all the following conditions have been met.

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313.1 Paving

1. All concrete and asphalt work is complete and approved.
2. Manhole rings, covers and water valve boxes are adjusted to ¼" below finished grade and approved.
3. Record Drawings are submitted and approved.
4. Pavement striping is complete, and all street, regulatory, and warning signs are in place.
5. All monuments are in place, and all destroyed monuments are re-established.

313.2 Drainage Facilities

1. As facilities are complete and functional.

313.3 Punchlist Items

1. All other items deemed necessary by the County have been addressed.
2. All Record Drawing measurements and data are to be taken and collected by the Professional Engineer of Record, their designee or land surveyor.

314 Two Year Warranty Bond

For all roads that are to be submitted for acceptance into the County Maintenance System, the contractor or developer prior to acceptance shall provide a warranty bond, in a form approved by the County, warranting that the roads shall be in a condition acceptable to the County for a period of two (2) years after acceptance by the County into the County Maintenance System.

The Contractor shall guarantee the work against defective workmanship and materials for a period of one year from the date of its final acceptance under the contract. Ordinary wear and tear and unusual abuse or neglect is excepted.

Other forms of financial assurance may be provided as approved by the County.

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400 Street Transportation Planning

The intent of this Chapter is to give the references and guidelines for the layout of transportation facilities with the County. The designer shall utilize the information in the Chapter in conjunction with the other Chapters in this Manual.

401 Codes, Standards and Transportation Plans

The County has the following related transportation planning documents available on the Planning & Development Services website:

- Comprehensive Plan
- Transportation Plan
- Area Plans

The County has adopted the Comprehensive Plan, which addresses the County's long-range plans for local and regional transportation requirements. The County and a current traffic impact analysis or study shall be used to determine the specific roadway requirements.

All street improvements shall be in accordance with the County's adopted Comprehensive Plan and satisfy all required development fees.

402 Federal Functional Classification

The Federal Functional Classification (FFC) defines the role that a particular roadway segment plays in serving the flow of traffic. Functional classes help planners and engineers properly channel transportation movements efficiently and cost effectively. Federal funding for road development, improvement, or maintenance is tied to functional class.

Use the desired Level of Service (LOS) designations for each roadway section in the traffic analysis to support federal function classifications, sizing of interim and ultimate roads and determining the number of intersection auxiliary lanes. See Table 402.1 for Roadway Section Level of Service (LOS) definitions.

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Table 402.1 Roadway Section Level of Service (LOS)

LOS	Description
A	Free flow, with low volumes and high speeds.
B	Reasonably free flow, speeds beginning to be restricted by traffic conditions.
C	Stable flow zone, most drivers restricted in freedom to select their own speed.
D	Approaching unstable flow, drivers have little freedom to maneuver.
E	Unstable flow, may be short stoppages.
F	Forced or breakdown flow

These following categories comprise the hierarchy of functional classification of roadways in the County and related directly to the different types and lengths of generated trips as well as access needs. Travel demand determines these characteristics.

Arterials are designed for mobility and allow motorists to travel to their destinations at high speeds and with as little delay as possible. Arterials are typically used for long distance trips, either across states, counties, or large cities and may have up to 3-lanes in each direction of travel. The types of arterial functional classes include:

- Principal Arterial - Interstate (FFC 1)
- Principal Arterial - Freeways (FFC 2)
- Principal Arterial - Other Principal Arterial (FFC 3)
- Minor Arterial (FFC 4)

Collectors are designed for access and "collect" motorists from local roads and connect them to other neighborhoods, businesses, and arterial roads. Have at least 1-lane in each direction of travel. The types of collector functional classes include:

- Major Collector (FFC 5)
- Minor Collector (FFC 6)

Local Roads (FFC 7) are design to provide the most access to neighborhoods but with the least amount of mobility.

Primitive Roads are non-FFC roads and are designed to provide limited access with minimal impacts to the surrounding environment.

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Subdivision Roads are non-FFC roads and are designed to provide access within neighborhoods.

402.1 Federal Aid Network

The Federal Aid Network includes the roads where federal funding is available. Funding varies for urban and rural areas.

402.2 Road Classification Considerations

Mobility versus Access is the most important factor considered when classifying a road.

Mobility refers to roads with few opportunities to enter or exit. With limited road access, traffic is able to flow with little friction (i.e. slow down). Interstates and freeways, which have ramps controlling access to the roads, are the most mobile of the functional classes.

Accessibility refers to roads that have many opportunities to enter or exit the road. Accessible roads make it easier to navigate around neighborhoods or business districts. However, with more motorists able to enter or exit the road, traffic friction increases, which increases the chances of traffic jams. Local roads, which allow homeowners to enter roads directly from their driveways, are the most accessible functional class.

While most roadways offer both “access to property” and “travel mobility” services, it is the roadway’s primary purpose that defines the classification category to which a given roadway belongs.

Connectivity: With rare exceptions, any road classified above local must start and stop with a road that is the same or higher functional class. For example, a minor arterial must terminate with another minor arterial or a principle arterial but not end with a major collector.

Annual Average Daily Traffic (AADT): Measures the traffic volume of a road over the course of a year. This value is typically calculated using traffic measurement devices, like pneumatic road tubes or piezoelectric sensors. If a road is on-the-fence between two functional classes, AADT can be useful to decide which functional class is best.

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Average Daily Trips (ADT): Measures the number of vehicle trips in both directions, measured on a 24-hour basis divided by the number of days in the measurement period. ADT may be used when AADT is unavailable in deciding which functional class is best.

Major Community Development Changes: Changes due to recent construction of major activity centers (e.g. malls, universities, sport venues, hospitals, amusement parks, military bases, other) that would create more traffic in an area.

Context: Whether a road is in an urban or rural area may influence its functional classification.

Census Data: The 2020 U.S. Census provides the following criteria for defining urban and rural areas:

- **Urban Context Areas:** Encompass at least 2,000 housing units or at least 5,000 people. Urban areas are typically densely developed and include residential, commercial, and non-residential land uses.
- **Rural Context Areas:** Encompass all population, housing, and land not included within any urban areas.

The following Navajo County communities are classified as urban per the “List of 2020 Census Urban Areas”: Heber-Overgaard, Pinetop-Lakeside, Show Low, Snowflake and Winslow.

It is important to know that, for federal functional classification, local agencies may have their own interpretation on whether a road is urban or rural, FHWA, ADOT and Navajo County use U.S. Census data to determine a road's urban classification. Figure 402.1 shows typical symbology used on maps, in GIS and this Chapter for Federal Functional Classification.

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Figure 402.1 Federal Functional Classification Symbology

Federal Functional Classification (FFC)		Symbology	See Sub-Section
Interstate	FFC 1		Not Included
Principal Arterial	FFC 2		Not Included
Other Principal Arterial	FFC 3		402.3
Minor Arterial	FFC 4		402.4
Major Collector	FFC 5		402.5
Minor Collector	FFC 6		402.6
Local Road	FFC 7		402.7

Figure 402.2 provides the definitions and symbology utilized in this chapter regarding typical road users.

Figure 402.2 Road Classification Definitions

Motorized	Operate motorcycles, cars, buses and other transit vehicles, light trucks, agricultural equipment, or recreational vehicles. Are continuously present and interact with nonmotorized users traveling along or across the roadway. Freight, farm equipment, and special vehicles are present in some contexts; their specialized needs should be attended to throughout project development.
Bicyclists	Typically present in all contexts, although numbers vary. Regardless of volumes or location on the facility, the safety of bicyclists must remain a high priority. Volumes and speeds of motorized vehicles affect the quality of service and experience for bicyclists.
Pedestrians	Pedestrians use roadways in all contexts. Even if pedestrians are not present throughout the facility or volumes are low, their safety and quality of experience should remain a high priority. The volumes and speeds of motorized vehicles affect pedestrian quality of service.
Transit	Common feature of suburban, urban, and urban core contexts. Coordination with local agencies is imperative to discern the potential impacts of transit and ensure transit needs are integrated.
Freight	Vehicles include trucks, oversize/overweight vehicles, and farm implements or equipment. Trip lengths and destinations vary for these users. Freight vehicles may pass through a context as part of long-distance service or access local commercial, light industrial, or warehousing sites requiring truck deliveries.

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The symbols and colors in Figure 402.3 are used to identify the user density associated with each roadway classification. User density is categorized as low (green), medium (blue), and high (red). For example, arterial roads typically have high mobility between key destinations, such as communities. Access to these roads is typically high for motor vehicles and may have limited access for pedestrians and bicycles depending on the context, urban or rural. Connectivity to the road is typically limited to either at-grade intersections or permitted driveways.

Figure 402.3 Road User Symbology

User	Low	Medium	High
Pedestrians			
Bicycles			
Motor Vehicles			

Navajo County does not own or maintain any roads classified as FFC 1, FFC 2 or FFC 3. All roads classified as FFC 1, FFC2, and FFC 3 roads within Navajo County are owned and maintained by ADOT. FFC 1 and FFC 2 roads are excluded from the following sections that discuss each Federal Functional Classification.

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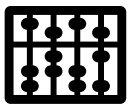
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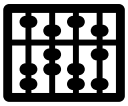
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402.3 Other Principal Arterials (FFC 3)

		**Mobility:** Connects major activity centers within metropolitan areas as well as large cities in rural areas. Typically has higher traffic volumes than minor arterials.
		**Accessibility:** Pedestrian and bicycle opportunities are usually present in urban contexts and may be limited or missing in rural contexts.
		**Connectivity:** Serves specific land parcels directly, has at-grade intersections at dispersed locations and may have stoplights.
		**Approximate AADT (Urban):** 7,000 to 27,000 **Approximate AADT (Rural):** 2,000 to 8,500
45+ MPH		**Speed:** Posted speed limits usually range between 45 mph and 65 mph.
	**Context**	**Urban:** Serves as a high-traffic corridor between outlying residential neighborhoods and major activity centers, including central business districts; entertainment districts and venues; air, rail, and bus terminals; important recreational areas; regional shopping centers; military bases; and more… Typically, do not penetrate neighborhoods & are more spaced apart than Minor Arterials. Desired LOS D.
		**Rural:** Provides high-speed corridors between large cities that have 25,000 people or more. Typically, do not penetrate neighborhoods. Roads are continuous without dead ends. Desired LOS C.

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402.4 Minor Arterials (FFC 4)

		**Mobility:** Trips are of moderate distance and serve a smaller geographical area.
		**Accessibility:** Pedestrian and bicycle opportunities are usually present in urban contexts and may be limited or missing in rural contexts.
		**Connectivity:** Connects smaller rural cities and towns to each other or to another arterial and may connect rural destinations, such as resorts. Do not typically penetrate neighborhoods.
		**Approximate AADT (Urban):** 3,000 to 14,000 **Approximate AADT (Rural):** 1,500 to 6,000
35+ MPH		**Speed:** Posted speed limits usually range between 35 mph and 55 mph.
	**Context**	**Urban:** Spaced closer together than Principal Arterials. Usually have 4 lanes or 2 lanes with a middle third lane. Desired LOS C.
		**Rural:** Are usually two or more undivided lanes and do not have curb and gutter. Desired LOS C.

The following image is an example of a minor arterial (FFC 4) in Navajo County.

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Figure 402.4 Navajo County, FFC 4, White Mountain Lake Road (Google Earth)



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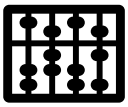
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402.5 Major Collectors (FFC 5)

		**Mobility:** "Collects" traffic from local roads and steers them to arterial roads. Trips are typically shorter distances. Serves smaller-scaled activity and economic centers as well as important community traffic generators like schools and specialty retail. Provides linkages within the County.
		**Accessibility:** Direct access is available from neighborhood roads. Pedestrian and bicycle opportunities are usually present in urban contexts and may be limited or missing in rural contexts.
		**Connectivity:** Don't provide statewide travel and don't typically cross county lines. Residential driveways don't typically attach directly to them in urban contexts.
		**Approximate AADT (Urban):** 1,100 to 6,300 **Approximate AADT (Rural):** 300 to 2,600 **ADT:** Carries more than 400 vehicles
35+ MPH		**Speed:** Posted speed limits usually range between 35 mph and 50 mph.
	**Context**	**Urban:** Spaced closer together than arterials. Usually extend ¾ of a mile or more and may have intersections controlled by traffic signals. Roads don't typically terminate in neighborhoods. Desired LOS C.
		**Rural:** Lower traffic volumes than arterials. Traffic is generally between cities and towns or between populated areas and arterial roads. Are usually undivided lanes and do not have curb and gutter. Desired LOS C.

The following image is an example of a major collector (FFC 5) in Navajo County.

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Figure 402.5 Navajo County, FFC 5, Bourdon Ranch Rd



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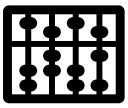
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402.6 Minor Collectors (FFC 6)

		**Mobility:** Connects neighborhoods to arterial or major collector roads. Trips are typically short distances. Serves residential traffic and provides access to local businesses. May see little or no through traffic movement
		**Accessibility:** Direct access is available from neighborhood roads and to adjacent land. Pedestrian and bicycle opportunities are usually present in urban contexts and may be limited or missing in rural contexts.
		**Connectivity:** Residential driveways may attach directly to them. Less likely to cross county boundaries.
		**Approximate AADT (Urban):** 1,100 to 6,300 **Approximate AADT (Rural):** 150 to 1,100 **ADT:** Carries more than 100 but less than 400 vehicles See Table 402.2 Minor Collector Categories based on AADT
30+ MPH		**Speed:** Posted speed limits usually range between 30 mph and 45 mph.
	**Context**	**Urban:** Spaced closer together than major collectors. May be less than ¾ of a mile and have intersections controlled by traffic signals or stop signs. May terminate (dead-end) in a neighborhood. Desired LOS B.
		**Rural:** Lower traffic volumes than arterials. Traffic is generally between cities and towns or between populated areas and arterial roads. May terminate (dead-end) in a neighborhood. Are usually undivided and do not have curb and gutter. Desired LOS B.

The following image is an example of a minor collector (FFC 6) in Navajo County.

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Figure 402.6 Navajo County, FFC 6, Buckskin Canyon Road (Google Earth)



Table 402.2 Minor Collector Categories based on AADT

Federal Functional Sub-Classification	AADT is More Than (>)	AADT is Less Than (<)	Description
FFC 6.1	400	6,300	Serve through traffic within local areas, provide connection to local roads and link major collectors and arterials.
FFC 6.2	250	400	Serve through traffic within local areas and may provide connection to local roads and streets.
FFC 6.3	100	250	
FFC 6.4	--	100	

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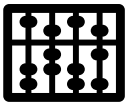
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402.7 Local Roads (FFC 7)

		**Mobility:** A neighborhood road that provides connectivity to a collector or arterial. Discourage through traffic.
		**Accessibility:** Direct access is available from adjacent land, businesses, residences and farms. Pedestrians and bicycles may have specific facilities, such as sidewalks, but may also share the road with vehicles.
		**Connectivity:** Residential driveways attach directly to them. There may be stop sign controlled or uncontrolled intersections. Typically, shorter than higher classified roads.
		**Approximate AADT (Urban):** 1,100 to 6,300 **Approximate AADT (Rural):** 15 to 400 **ADT:** Carries less than 250 vehicles
25+ MPH		**Speed:** Posted speed limits usually range between 25 mph and 35 mph.
	**Context**	**Urban:** Typically, a network of residential streets, avenues, and alleys for a neighborhood. Roads may be closely spaced together. May terminate (dead-end). Typically paved but may have other surface treatments. Desired LOS A.
		**Rural:** May be a part of a neighborhood or serve just a few properties. May be widely spaced or close together. May terminate (dead-end). May be paved, unpaved, or have other surface treatments. Usually do not have curb and gutter. Desired LOS A.

The majority of the roads in the County are classified as Local Roads (FFC 7). The following images are examples of local roads (FFC 7) in Navajo County.

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Figure 402.7 Navajo County, FFC 7, Greenleaf Drive (Google Earth)



Figure 402.8 Navajo County, FFC 7, Apache Cove Road (Google Earth)



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Table 402.3 Local Road Categories based on AADT

Federal Functional Classification	AADT is More Than (>)	AADT is Less Than (<)	Description
FFC 7.1	100	250	A neighborhood road that provides connectivity to a collector or arterial.
FFC 7.2		100	Serves various functions but carry very low traffic volumes.

402.8 Roads without Federal Function Classifications

402.8.1 Primitive Roads (NFFC 8.1)

Per Arizona Revised Statutes (A.R.S.), the Board of Supervisors may designate roads meeting specific criteria, set forth in the statutes. Signs warning the traveling public must be posted; see Chapter 500.

Primitive roads have the following service characteristics:

1. Defined by State Statute and established per Resolution.
2. Limited maintenance is allowed under State Statutes.
3. Must be reclassified from this designation by the Board of Supervisors and brought into the County's declared roadway system before expending public funds for improvements.

402.8.1.1 Eligibility

Primitive road classification shall apply to public roads meeting all the following criteria.

1. Opened before June 13, 1990
2. Not constructed in accordance with County standards.
3. Not a County or State Highway.
4. Shall have adequate easements dedicated to the public. See Table 622.1.
5. Shall be in a condition that the County can grade with minimum cost and risk.
6. Paved roads are not eligible for Primitive Road designation.

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402.8.1.2 Functional Classification

Primitive roads are not classified by functional classification, but by use by high-clearance or four-wheel drive vehicles and typically have very low traffic volume. The location and design of primitive roads are governed by environmental compatibility, expected uses, and minimizing County costs with minimal consideration for user comfort or travel time. Typical users include dispersed recreation, local access, government, farm, or ranch, or administrative.

402.8.1.3 Primitive Road Designation Application Guidelines

The following items shall accompany any request to designate a road as a Primitive Road prior to consideration by the Board of Supervisors. Submit all items to the County for review.

1. An application letter and petition outlining the request for the road to be designated as County maintained Primitive Road.
2. Documentation that the road was opened prior to June 13, 1990.
3. A map showing the existing location of the road and all properties that it traverses.
4. An easement dedicating the roadway to the public shall be signed off by all affected property owners on a form provided by the County.
5. After review of items 1 through 4 above, the County will prepare a recommendation for action to the Board of Supervisors.
6. Upon adoption of the Resolution accepting the grant of the Primitive Road easement by the Board of Supervisions, the road will be designated as a Primitive Road.

402.8.2 Subdivisions (NFFC 8.2)

These are typically local roads built to County standards in accordance with the subdivision approval process. No ADT requirement is set.

402.8.3 Cul-de-Sacs and Turnarounds

These are roads where traffic enters and exits at only one end of the road and require traffic to turnaround.

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403 Street Layout and Planning

The primary layout for streets is a grid intending to provide public access to all legitimate land parcels. The secondary layout for streets is the conformance to topographic features and constraints in concert with land division boundaries intending to provide public access to legitimate land parcels. Streets, lots, tracts, and easement planning and layout shall be in accordance with the Subdivision Regulations, Zoning Ordinances, and Approved Site Plan.

403.1 Continuation

Street layouts shall provide for the continuation of existing streets in adjacent areas, and such other streets as required by the County.

403.2 Future Street Extensions

Certain proposed streets, as designated by the County, shall be extended to the development boundary to provide future connection with adjoining unplatted lands.

403.3 Local Street Arrangement

Arrange local streets to discourage their use by traffic originating outside the immediate neighborhood.

403.4 Topography

Arrange streets in relation to topography as to produce desirable lots of maximum utility and streets of reasonable gradient, safe ingress-egress and to facilitate adequate surface drainage.

404 Transportation Planning Criteria

404.1 Design Year

The Design Year for future traffic volumes will be 20 years from the start of the design process. The Design Engineer will confirm the design year for a project before starting the design process.

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404.2 Adjustments to Design Year ADT Volumes

Adjustments may be required in anticipation of major land developments or significant changes to nearby roadways that will affect future traffic volumes expected on the roadway under design. Adjustments in traffic volumes for major land developments will follow the Traffic Impact Procedures. Adjustments for other impacts shall be approved by the County before being undertaken by the Design Engineer.

404.3 Design Hour Volume

The Design Hour Volume (DHV) is the traffic volume used to determine the number of traffic lanes needed on the roadway. The DHV is from the Design Year, which requires County approval.

The number of lanes for each direction of traffic for an interim roadway is determined by the traffic impact analysis. Design the interim roadway for conversion to the ultimate section determined by classification.

For special activity centers such as recreational areas, factories, sports arenas, etc., other values of the above factors will be used. It is also recognized that special traffic conditions may or will exist that require modification of the above factors. In these two sets of cases, document the different factors that are approved for use by the County.

404.4 Turning Movements

At major intersections and at driveways leading to major activity centers, the design hour turning volumes are important in determining the intersection capacity, resulting number of lanes, and the storage length for exclusive turning lanes required for each approach. For intersections being reconstructed and that are in fully developed areas, existing turning movement percentages will be collected in the field and are assumed to be the same for the future design year. For new intersections or for those significantly impacted by new land developments or major changes to nearby roadways, existing and projected traffic data along with engineering judgment will be used to reassign vehicle trips on nearby street networks to derive the turning movements at project intersections.

Analyze turning movements for both a.m. and p.m. peak hours at project intersections so that the maximum turning or through volumes can be determined for each approach. In the absence of other data, it can be assumed that the ‘background’ street network intersection turning

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movements will be opposite and equal for the a.m. and p.m. peak hours. In certain areas of the County such as large retirement communities, the peak hours may in fact occur around midday rather than at typical morning and evening rush hour periods. Therefore, it is important for the Design Engineer to obtain sufficient existing traffic counts by hourly variation to accurately identify and quantify project intersection turning movement volumes for the design year.

404.5 Other Traffic Volume Reduction Factors

Vehicle trip (traffic volume) reductions for future transit ridership or other transportation modes are not permitted. Reductions for "passer-by or' diverted' trips are allowed as per the Institute of Transportation Engineers (ITE) Trip Generation Manual (latest revision) but must first be approved by the County. Trip reductions for special land uses utilizing travel demand management strategies will be considered on a case-by-case basis. However, the factors used must be fully and accurately documented to the County's satisfaction.

404.6 Capacity Analysis

Use software based on the current Highway Capacity Manual (HCM) procedures to determine the capacity and the resulting number of lanes for roadway design project street sections and intersections. For rural street sections with existing or planned traffic signals more than a mile apart, use the appropriate section of the HCM. For urban or suburban areas where traffic signals are at or less than a mile apart, assume that the signalized intersection capacity will control the design of the roadway segments.

The number of through lanes on street sections must be consistent with the number of through lanes at adjacent intersections. For capacity and lane determination, assume major intersections are to be signalized for the design year. Use the signalized intersection section of the HCM for the analysis. Use the default values of the peak hour factor (PHF), percentage of trucks, and saturation flow rate. Other input criteria will be those equal to existing or future traffic conditions and approved by County.

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404.7 Future Traffic Volumes

Use future traffic volumes to ensure that the road has enough traffic-carrying capacity. The general unit of measure for traffic on a road is the ADT, the total volume of traffic in a given time period divided by the number of days in that time period. Use engineering judgement to derive the future ADT of growth patterns in the area with concurrence from the County.

The traffic volume during a period of time shorter than a day shall be used for design purposes, reflecting peak hour periods. For roads with unusual or highly seasonal fluctuation in traffic volumes, use the 30th-highest hour of the design year.

The directional design hour volume is the traffic volume for the rush hour period in the peak direction of flow. Use directional distribution factors based on existing traffic counts. If this information is not available, assume that 60% of the traffic is going in one direction. For a more detailed analysis of intersection and road capacity, use the procedures as described in the intersection portion of this manual and the of the HCM.

405 Traffic Impact Procedures

One of Navajo County's key objectives is to operate and maintain a safe and efficient roadway system. The review and management of development-generated traffic is an integral part of reaching this goal. The Traffic Impact Procedures as outlined in this document have been established to meet this objective. These Traffic Impact Procedures establish a range of traffic impact study categories based on the characteristics of the development and the estimated peak hour traffic volumes. The procedures also outline the analysis approach and methods.

The purpose of this document is to provide criteria for the preparation of Traffic Impact Analysis (TIA) or a Traffic Impact Statement (TIS) for new land developments or additions to existing developments and to establish the report format for these studies.

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These procedures are intended to:

- assist developers through the approval process by outlining the requirements and level of detail of traffic analysis that will be required of them during the approval process
- standardize the types and details of analysis required in the assessment of traffic impacts for developments with similar levels of size and intensity
- ensure consistency in the preparation and review of a TIA through standardization of the reports

A TIA identifies existing traffic volumes and conditions, development traffic volumes, and conditions and their combined impacts on the existing and future roadway system. Additionally, a TIA analyzes traffic circulation both on- and off-site. This is a useful tool for early identification of potential traffic problems and can play an important part in the success of a development. Assess the need for a TIA as early as possible in the development process when there is maximum flexibility to mitigate traffic-related impacts. The results of the TIA can also affect the Site Plan or development proposal, so it is important to begin the traffic analysis early and incorporate the TIA recommendations into the development plans during design.

The procedures are to assist developers through the approval process by outlining the requirements and level of detail of traffic analysis required of them during the approval process. Additionally, these procedures standardize the types and details of analysis required in the assessment of traffic impacts to ensure consistency in the preparation and review of a TIA.

405.1 Traffic Impact Analysis (TIA) Categories

Most developments require a TIA prepared by a Registered Professional Engineer in the State of Arizona. The County Engineer may waive the requirement for a TIA for developments generating fewer than 100 peak hour trips. Estimate the peak hour trips utilizing the most recent edition of the Institute of Transportation Engineers' (ITE) Trip Generation Manual or other relevant data as approved by the County Engineer. The developer should initially identify the land use, intensity, and estimated number of daily, AM, and PM peak hour vehicle trips generated by the proposed development to determine the level of analysis. The developer may schedule a pre-TIA scoping meeting immediately following the pre-

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application to discuss the methodology and limits of study area and analysis. In addition to the existing conditions, the study must analyze the horizon year(s) and study area.

The developer shall first estimate the number of vehicle trips generated by the development to determine the applicable TIA category and shall obtain concurrence from the County Engineer on the number of trips generated by the development.

The specific analysis requirements and level of detail are summarized in Table 406.1 and are determined by the following categories.

405.1.1 Category I

Developments which generate 100 or more peak hour trips but fewer than 500 trips during the morning or afternoon peak hour. A Category I TIA may be required for sites less than 100 trips during the highest peak hour for any of the following reasons:

1. The existence of any current traffic problems or concerns in the local area such as an offset intersection, a high number of traffic accidents, etc.
2. The sensitivity of the adjacent neighborhoods or other areas where the County Engineer may perceive an adverse impact based on public or other input.
3. The proximity of proposed site driveways to existing driveways or intersections.
4. Other specific problems or safety related concerns that may be aggravated by the proposed development.

Should any of these conditions arise the County Engineer will evaluate the need for a TIA based on the issues.

405.1.2 Category II

Developments which generate 500 or more peak hour trips but fewer than 1000 trips during the highest peak hour.

405.1.3 Category III

Developments which generate 1000 or more peak hour trips but fewer than 1500 trips during the highest peak hour.

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405.1.4 Category IV

Developments which generate more than 1,500 peak hour trips during the highest peak hour.

The estimated number of vehicle trips generated by the proposed development during the peak hours is based on the latest edition of the ITE Trip Generation Manual.

405.2 Traffic Impact Statement (TIS)

A development or revisions to an existing develop site that generates less than 100 peak hour trips should submit a TIS. The TIS is a scaled down and simplified version of the TIA and is intended for very small projects that will have minimal impacts on existing traffic as compared to the larger type developments. It shall address pertinent features of the proposed development which may impact traffic on the existing roadways adjacent to the site.

The TIS shall include but not be limited to:

1. Description of Existing Conditions
    a. Roadways, including existing street cross-section, functional classification, posted speed limit, daily traffic volume, and the 85th percentile speed (if available).
    b. Intersections, including existing lane configuration and traffic control, including stop signs and signals.
    c. Nearby driveways (adjacent, opposite and off-set), including locations and spacing.
    d. Sight distance deficiencies.
    e. Surrounding Land Use.
    f. Transit, Pedestrian, and Bicycle facilities and access.
2. Description of Proposed development
    a. Location.
    b. Vicinity map and/or site plan, including spacing of driveways and distance from nearest intersection and other driveways, including opposite and off-set.
    c. Land Use & Project Size. Use the appropriate ITE Land Use code when feasible. Provide an opening year and/or buildout date if known.
    d. Hours of operation, if known
    e. Access, including location, type (full partial, right-in/right-out), spacing and alignment with existing/future driveways

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(must foll the standards established in this Manual or describe justification for exception).

f. On-site circulation and queuing (if appropriate).
g. Transit, pedestrian, and bicycle facilities and access to and from the site.

3. Trip Generation
   a. Daily, AM, and PM peak hour traffic. For developments with peak hours different than the adjacent street peak, such as churches, schools, shift work, sports complex, movie theater, etc., the peak hour of the generator shall be calculated.
   b. Usually opening year peak hour trips will be adequate, but for some projects, if the total peak hour trips are approaching the 100-trip threshold, then a horizon year of 5 years after opening may be required.
   c. Trip distribution for both AM and PM peak hour site generated traffic entering and exiting the site.
   d. Percent of site truck/passenger vehicles expected and site design vehicle.
      Identify whether a significant number of peak hour trips will be heavy trucks, either during construction or standard operation of the project. If heavy construction traffic, discuss any mitigation measures that will be taken to accommodate that traffic.
4. Level of Service
   a. LOS for one or more movements at site access drives, if requested. Typically, this is requested to determine if left or right turns into or out of the project site will be required or allowed.
5. Street Classification and Circulation Map.
   a. Discuss the functional classification and circulation map related to the County road system.
6. Additional Site-Specific Analyses
   a. Additional site-specific analyses may be required at the request of the County Engineer.
   b. Discuss any other features of the project which could have an adverse impact on existing traffic. These could include seasonal or off-peak operations, etc.
   c. Include recommendations for roadway improvements needed due to site generated traffic.

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d. When an auxiliary lane analysis is required, a distribution and assignment of site traffic is required to evaluate location and storage lengths.

406 TIA Analysis Approach and Methodology

Prior to beginning any analysis, the developer, or his authorized representative, should schedule a Pre-TIA Scoping Meeting with the County to discuss the project scope and required/expected level of analysis to be performed by the engineer completing the TIA. Study intersections, time periods, horizon year(s), required traffic counts, intersections needing traffic signal warrant analysis, and future adjacent developments will be identified. Larger developments may require additional discussion concerning Collector and Arterial streets. Applicants should contact the County to request a pre-TIA Scoping Meeting to determine the analysis requirements of the TIA.

406.1 Project Description

The TIA shall discuss the proposed project including type (residential, commercial), size (number of lots, building square footage) along with expected opening dates. The description should include the number of acres and a general description of the surrounding area (agricultural, suburban). This section should also include a discussion of jurisdictional boundaries. Which jurisdictions besides Navajo County may be affected by the project and which other jurisdictions may need to approve the traffic study or issue construction permits.

406.2 Study Area

The minimum study area shall be determined by development's size and overall trip generation in accordance with the criteria in Table 406.1. The County Engineer may adjust the limits of the study area.

Analyze the roadways and intersections within the study area with and without the proposed development to identify any projected impacts regarding level of service and safety.

The applicant should reference the County's Capital Improvement Program (CIP), Comprehensive Plan, Area and Transportation Plans, Character Area Maps, and expected modal levels of service for the area and place type as they appear in the latest regional plan. Existing

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multimodal facilities and any other pedestrian facilities, including crosswalks, shall be discussed and illustrated in this section.

Table 406.1 Criteria for Determining Study Requirements

	Development Characteristics	Study Horizons[1]	Minimum Study Area[2]
I	Small Development 100 – 499 Peak Hour Trips (AM or PM)	1. Opening year 2. 5 years after opening	1. Site access driveways 2. Adjacent signalized intersections within ½ mile and/or major street intersections without signal control and driveways within 500 feet
II	Moderate Development 500 – 999 Peak Hour Trips (AM or PM)	1. Opening year 2. 10 years after opening	1. Site access driveways 2. All signal-controlled intersections within 1 mile and/or major street intersections without signal control and driveways within ½ mile
III	Large Development 1,000 – 1,500 Peak Hour Trips (AM or PM)	1. Opening year 2. 15 years after opening	1. Site access driveways 2. All signal-controlled intersections within 1 mile and/or major street intersections without signal control and driveways within 1 mile
IV	Regional Development: >1,500 Peak Hour Trips (AM or PM)	1. Opening year 2. Significant Phases 3. 20 years after opening	1. Site access driveways 2. Key signal controlled and major street intersections without signal control within 3 miles

[1] Assume full occupancy and build-out for single phase developments. Multi-phase development may require assessment of up to the horizon year corresponding to key phases as directed by the County Engineer.

[2] An enlarged study area may be required when the minimum study areas identified above do not provide sufficient information to meet the intent of the TIA guidelines.

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406.3 Study Horizon Years

The study horizon years will be determined by project type and size of development in accordance with the criteria in Table 406.1. Identify and discuss any known, approved, or planned significant developments within the study area and the specified horizon year. At a minimum, evaluate opening year. Evaluate buildout year when it is different from opening year. Unless otherwise specified by the County, evaluate a minimum of five years after buildout.

406.3.1 Project Phasing

State whether the project will be one or multiple phases. Multiple phasing shall identify each phase and state the roadway improvements constructed with each phase to maintain an acceptable level of service (LOS). Phasing must relate to the horizon year. Include the number of trips generated and timeline for each phase if known. Indicate if traffic studies for large and multiple phased projects will be submitted for future phases.

406.4 Analysis Time Period

The TIA shall analyze the impact of traffic generated by the development for the typical traffic peak hours. Peak hours generally occur during both the morning and afternoon weekday peak hours, typically between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. respectively. Normal peak hours may vary under certain conditions as described below:

1. If the proposed project is expected to generate no trips or a very low number of trips during either the morning or evening peak periods, the requirement to analyze one or both periods may be waived by County.
2. Analyze peak hours where the peak traffic hour in the study area occurs during midday weekday (schools require an analysis of the peak period during the school start-up and school let-out), or occurs on a weekend (park events, shopping centers, church facilities), or if the proposed project has unusual peak hour characteristics (such as retirement areas).

Conduct roadway segment analysis for average daily traffic (ADT) and peak hours. The County may require additional time periods if the development has unusual peaking characteristics such as a church, school, shift work, sports complex, movie theater, etc. or if the adjacent

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non-site traffic conditions warrant an analysis of other peak traffic time periods.

406.5 Seasonal Adjustments

Adjust traffic volumes for the analysis hours for the peak season if determined appropriate by the County. County approval is required for use of seasonal adjustment. The intent is not to assess maximum peak hourly volumes, such as the day after Christmas for a retail development, but to address peak seasonal volumes. For example, traffic counts collected in January, and the peak traffic period occurs during the summer months, then adjust the counts to summer months.

Under the condition whereby the majority of the development's trips are anticipated to travel to external locations (e.g., Phoenix, etc.) along State highways, the author should obtain seasonal adjustment factors from ADOT and determine the applicability of such factors to any collected daily traffic counts.

406.6 Data Collection

Collect all data in accordance with the latest edition of the *Institute of Transportation Engineers Manual of Transportation Engineering Studies* or as directed by the County if not specifically covered in the ITE manual.

Include the following existing and proposed conditions within the study area.

406.7 Existing Conditions

406.7.1 Roadway Configuration

Discuss roadway configuration and geometry, including roadway classification, lane and shoulder width, number of lanes, turning lanes, including elevation or grade differences. Discuss the location of nearby driveways, lane configuration at intersections and any striping configurations such as extra wide lanes, carrots, etc.

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406.7.2 Traffic Volumes

Discuss both existing ADT's and turning movement counts in this section. Present the current and projected daily traffic volumes in the report.

1. Obtain both AM and PM turning movement counts for all existing intersections directly adjacent to or within proximity where the proposed site traffic will have a direct impact on the intersection. The exact need for turning movement counts will depend on the size and type of project and should be determined by the traffic engineer preparing the TIA as to what benefit they would be to the analysis. Extrapolate available turning movement counts a maximum of two years with concurrence of the County.
2. Present the current and projected daily traffic volumes in the report. Obtain available daily count data from previous transportation and traffic studies and extrapolated a maximum of two years with the concurrence of the County Engineer.
3. Traffic volume estimates from other approved developments within the study area which are expected to occur during the study horizon years should be obtained directly from those respective developments and included within the study report.
4. Mechanical counts are required where daily count data are not available, or such counts are over two-years old.

406.7.3 Crash Data

1. Obtain crash data for a 5-year period from the County Sheriff's Office, Local Police Departments, ADOT or other sources as approved by the County.
2. Obtain data for the most current 5-year period available.
3. Present any collected records in the report.

406.7.4 Traffic Control Devices

1. Identify the location and type of traffic controls, including pavement markings, signs, and signals.
2. Identify all traffic signals within the study area along with phasing, timing, and coordination programs.

406.7.5 Existing Level of Service Analysis

In this section, show and discuss the existing Level of Service (LOS) for all adjacent or nearby intersections. Identify and show both the AM and PM LOS for all existing turning movements. Further discuss any specific movement that has a LOS of E or F.

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406.7.6 Other

Obtain and include any current or planned County transportation improvement projects expected to occur during the study horizon years within the study area.

406.8 Project Conditions

406.8.1 Trip Generation

1. Use the latest edition of ITE's *Trip Generation Manual* for selecting trip generation rates for the proposed development. Use the guidelines contained in the *Trip Generation Manual* to determine whether the average trip generation rate or equation is appropriate.
2. Refer to the land use categories in the ITE's *Trip Generation Manual* and use the appropriate category for the proposed project. Refer to this traffic as site traffic. If the proposed project does fall into one of the ITE land use categories, then clearly explain which trip generation category is the most appropriate and why.
3. Use other rates if ITE's *Trip Generation Manual* does not include rates for the specific land use, or the available data is limited, or where local trip rates (if available) differ from the ITE rates. Obtain the County Engineer's approval before using other rates.
4. Use trip reduction factors due to internal capture and/or pass-by trips. If an internal capture rate greater than 15% is proposed, then clearly indicate and refer to other studies of comparable projects to justify the higher rate. For some projects, such as large commercial retail projects, both internal capture rate and pass-by trip reductions may be appropriate. Any internal capture rate or pass by trip reduction used shall follow the ITE calculation mythology and be clearly shown in a trip generation type summary table.

406.8.2 Traffic Volumes/Distribution/Site Access

Show ADT and AM/PM peak hour volumes using figures/exhibits that clearly indicate the year and for which movement the volumes apply. Show all movements for all access/driveways that will access the site, existing and proposed. Trip distribution is the percentage or number of trips entering and leaving the site from each direction. Indicate the percent of trips (both AM/PM) in each direction for all driveways. Document and reference assumptions and/or data sources used in deriving trip distribution and assignment.

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406.8.3 Background (Non-Site) Traffic

Background traffic is defined as the volume of traffic on the roadway network surrounding and adjacent to the proposed development, but unrelated to the proposed development. Clearly identify background traffic, both average daily ADT and peak hour volumes for existing conditions, opening year, and the predefined horizon year(s).

406.8.4 Site Traffic

Site traffic is the traffic generated by the proposed development. Indicate site traffic for average daily ADT and peak hour volumes. Include the opening year, buildout year (if different), and the horizon year(s) for the proposed site traffic. Projects that include multiple phases, discuss the future phase traffic or if appropriate also shown in an exhibit or figure.

406.8.5 Total Traffic

Total traffic is the combination of the background traffic and site traffic. Indicate and show total traffic by the average daily ADT, peak hour volumes, buildout, and horizon year(s) or future phases.

406.9 Capacity Analysis

Perform capacity analysis on each of the major street and site intersections/driveways (signalized and stop controlled) in the study area and for the proposed site. The County accepts Level of Service (LOS) analysis performed using software such as Synchro and Highway Capacity Software (HCS) and may accept other analysis if first approved by the County.

1. Compute the level of service using the latest edition of the *Highway Capacity Manual* or the latest version of HCS software. Calculate the LOS for each study area intersection directly impacted by the proposed site. Evaluate all movements at those intersections for both the AM and PM peak hours. Evaluate the LOS at each proposed driveway for all movements in both AM and PM peak hour.
2. Perform operational analyses for signal-controlled intersections for opening year, project buildout, and for time horizons up to 5 years after buildout.
3. For urban roadways, and rural highways where signal-controlled intersections are at or less than 1 mile apart, the capacity of the roadway is generally dominated by the capacity of the adjacent

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signal-controlled intersections. Do not compute roadway levels of service for these facilities.

4. For rural highways where the signal-controlled intersections are more than 1 mile apart, estimate the level of service on the highway in accordance with the latest edition of the *Highway Capacity Manual* or HCS software.
5. The County does not accept any driveway or site access point where the overall intersection LOS for either the AM or PM peak hour is less than LOS D. If any movement is shown with a LOS of E or F, mitigation measures should be discussed that will increase the LOS. If mitigation measures will not increase the LOS, then that specific movement may result in a restricted type of access.
6. Peak Hour Factors (PHF) used for future capacity conditions are generally derived from traffic counts, however in the absence of field measurements, the *Highway Capacity Manual* advises the following reasonable approximations may be used.

Table 406.2 Peak Hour Factors

PHF =	0.95	For Congested Condition
PHF =	0.92	For Urban Areas
PHF =	0.88	For Rural Areas

406.10 Traffic Signal Needs

Conduct a traffic signal needs study per the ADOT *Traffic Manual* section on the *Traffic Signal Needs Study* for all new proposed signals for the base year. If warrants are not met for the base year, they should be evaluated for each year in the five-year horizon.

Identify steps taken to mitigate any adverse effects of the traffic generated by the development on the street network within the study area. This shall include, but not be limited to:

1. Improvements to existing signalized and unsignalized intersections.
2. Future signalization of unsignalized intersections.
3. Maintenance of street capacity at site driveways.

Install traffic signals only when they meet needs per the ADOT Traffic Manual and as determined by the County.

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Evaluate existing signals adjacent to the development's access to the County transportation network for continued signal warrants, impacts of the site generated traffic on the signal including phasing, timing, and coordination for each year in the five-year horizon.

406.10.1 Future Signals

Signal warrants for a new roadway or driveway may be met when the estimated ADT on the major street and on the higher volume minor street or driveway approach to the intersection equals or exceeds the values in Table 406.3.

Table 406.3 General Guidelines for Determining if a Signal may be Warranted

Lane for Moving Traffic on Each Approach		Estimate ADT*	
Major Street	**Minor Street**	**Major Street**	**Minor Street**
1	1	10,000	3,000
2 or more	1	12,000	3,000
2 or more	2 or more	12,000	4,000
1	2 or more	10,000	4,000
1	1	15,000	1,500
2 or more	1	18,000	1,500
2 or more	2 or more	18,000	2,000
1	2 or more	15,000	2,000

* Based on the volumes to be present within 5-years of the completion of the roadway project, commercial development, or 5-year horizon for Category, II, III and IV developments.

406.11 Queuing Analysis

Conduct a queuing analysis to identify appropriate vehicle storage at all turn lanes under stop or signal control within the study area. Calculate storage lengths for all recommended right and/or left turn lanes at all proposed site driveways. Various methods for computing queue lengths may be used. Storage for left turn lanes into new developments shall be adequate to accommodate the left turn movements with no queuing or spillover into the through lanes for opening year and buildout.

Round all results up to the nearest 25-foot interval.

The Highway Capacity Manual (HCM) has a procedure for estimating intersection queue lengths. Use the HCM procedures, or other pre-

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approved methodologies to estimate the storage lane requirements. Use professional judgement in conjunction with the results of the queuing and operational analysis to verify final storage lengths to use for design.

406.11.1 Signal-Controlled Intersections

For signal-controlled intersections, find the number of vehicles arriving at the intersection:

Vehicles / cycle (for random arrivals) = 2 x (vehicles / hour) / (cycles / hour)

Storage Length = Vehicles / cycles x 25 feet

Example: *Find the storage length required for 150 vph turning left if the signal cycle is 90 seconds.*

Vehicles / cycle = 2 x (150 veh / hr)(1 cycle @ 90 sec) / (3600 sec / hr) = 7.5 veh / cycle

Storage length = 7.5 veh / cycle x 25 feet = 187.5 feet USE 200 feet

406.11.2 Non-Signal/Stop-Controlled Intersections

For non-signal-controlled intersections, find the number of vehicles per average 2-minute period: (from AASHTO)

Vehicles / 2 min period = (vehicles / hour) / (30 periods / hour)

Storage Length = Vehicles / 2 min period x 25 feet

Example: *Find the storage length required for 150 peak hour vehicles turning left at a non-signal controlled intersection.*

Vehicles/2 min period = (150 veh / 1 hr) / (30 periods/hr) = 5 vehicles

Storage Length = 5 veh x 25 feet = 125 feet USE 125 feet

All results should be rounded up to the nearest 25-foot interval.

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406.12 Special Considerations

1. Provide proper intersection sight distance at all development driveways/access points. The County uses AASHTO for determining sight distances.
2. Consider vehicle type in the traffic study. If a proposed project is industrial or heavy commercial with a high percentage of large trucks (WB-40 or larger), evaluate auxiliary lane storage and return radii.
3. For highways and/or roadways where the vehicle speed is higher than the posted speed limit, use a speed of 5 MPH over the posted speed limit or the 85-percentile speed, as directed by the County, should be to estimate the safe stopping and intersection sight distances for highways and roadways with posted speeds of 35 MPH or greater.

406.13 Improvement Analysis

Analyze impacts from the proposed development to the level of service and safety of roadways and intersections within the study area. Evaluate all proposed driveways for LOS for all movements both AM and PM.

Where roadways, intersections, intersection approaches, or lane groups operate in the horizon year(s) at level of service C or better without the development, mitigate the traffic impacts of the development on the roadway in the horizon year to a minimum level of service C.

Where roadways, intersections, intersection approaches, or lane groups will operate below level of service C and greater than level of service of F in the horizon year(s) without the development, mitigate the traffic impact of the development to provide the same level of service at the horizon year(s).

If roadways, intersections, intersection approaches, or lane groups operate at a level of service of F without the development – mitigation is required to maintain the same degree of level of service F (i.e. same duration of delay and queue length) which would occur without the development.

Evaluate need for auxiliary lanes. See Chapter 600 for right and left turn lanes criteria. Analyze all proposed development driveways. If the development is proposing a full access driveway onto an arterial, and no

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left turn lane exists on that arterial, a left turn lane may be required to be constructed by the proposed development. Evaluate turn lanes at intersections when developments are on the corner of two arterials.

Address site and public safety, as determined by the County, prior to approval of the TIA.

406.14 Golf Cart/Bicycle Facilities

When applicable, consider the impacts of Golf Carts/Neighborhood Electric Vehicles (NEV) on the roadway system, especially if the development or project is within a retirement community or near a golf course. Provide a circulation plan where there is a high usage of these vehicles. Per state law, golf carts are allowed to travel on roadways posted at 35 mph or less in retirement communities.

The County's arterial and collector roadway cross sections provide for bicycle lanes. If applicable, provide an analysis of the bicycle facilities in the area of the development and an analysis of future bicycle needs. Discuss recommendations for bicycle signing and striping in the conclusion and recommendations section.

406.15 Traffic Calming

Evaluate the impacts of the proposed development buildout traffic when the proposed development will access collector or local county roadways with significant residential driveway access. A County review of all proposed traffic calming features is required.

406.16 Conclusions/Recommendations

Discuss the results and findings of the overall study and then discuss recommended and required improvements to the surrounding roadways to accommodate the proposed site traffic. Separate sections for the conclusions and then recommendations may be necessary for larger projects. Discuss the findings for the following:

- Overall and peak hour LOS at all proposed driveways (all movements) for opening year, buildout year and horizon year. Discuss any potential conflicts with surrounding accesses (existing or planned).
- Right and left turn lanes required with all storage shown. Discuss any roadway widening (arterials) required to accommodate left turn movements.

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- Driveway/intersection sight distance analysis
- New signal warrants met or adjustment of timing to nearby existing signals
- Impacts of any known future roadway improvements whether by developers, the County or other jurisdictions

Discuss the recommendations and specific improvements needed to mitigate the development generated traffic. Include the timing of all improvements whether at opening year or buildout. Describe improvements required for each phase, if applicable. This section should be referred to and used by the civil engineers and designers preparing the offsite roadway and traffic plans.

406.17 Certification

The TIA as well as the TIS shall be prepared under the supervision of a registered Professional Engineer (Civil) registered in the State of Arizona. When submitted to the County, the Final TIA or TIS shall be sealed and signed by the professional engineer preparing the study.

407 Study and Report Format

Below is a suggested format or outline for a TIA and as applicable for a TIS. As all developments and projects are unique, all sections listed below may not be applicable to every project and the report preparer should use their judgement to decide which sections are applicable.

Include the Planning & Development Services tracking number on the cover sheet. If a number is not available, then the author should state such on the cover (Navajo County Tracking No. N/A).

407.1 Introduction and Summary

407.1.1 Introduction

State the purpose of report, describe the proposed project and define the study objectives.

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407.1.2 Executive Summary

Include the following information:

1. Site location and study area
2. Development description
3. Principal findings
4. Conclusions/Recommendations

407.2 Proposed Development (Site and Surroundings)

Describe the proposed development, including the following:

1. Site location
2. Lane use and intensity (use ITE Land Use code)
3. Site plan with access geometrics
4. Number of trips and type of traffic (passenger vehicle, truck) the site will generate
5. Development phasing with opening and buildout dates if known.

407.3 Study Area Conditions

407.3.1 Study Area

1. Area of significant traffic impact, including road segments, intersection and driveways.

407.3.2 Land Use

1. Existing surrounding land use
2. Any known or planned future development.

407.4 Existing Conditions

407.4.1 Physical Characteristics

1. Roadways, including classification/characteristics/posted speed limits
2. Traffic control devices
3. Pedestrian/bicycle facilities
4. Location and alignment of adjacent and opposite driveway

407.4.2 Traffic Volumes

1. Current ADT and AM and PM peak hour volumes adjacent to the site.

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407.4.3 Level of Service

1. Existing LOS for all movements for both AM and PM peak hours.

407.4.4 Safety and Related Deficiencies

1. Note any traffic deficiencies, such as pedestrian and bicycle safety concern that may exist near the site.

407.4.5 Data Sources

1. Reference any known or planned development or roadway improvement projects.

407.5 Project Conditions

407.5.1 Background Traffic (Each Horizon Year)

Designers should check with Northern Arizona Council of Governments (NACOG) to see if traffic volumes are available in their project area.

407.5.2 Site Traffic (Each Horizon Year)

1. Trip generation table (use ITE trip generation factors), include AM and PM peak hour.
2. Mode split (if applicable)
3. Pass-by traffic (if applicable)
4. Internal Capture Rate (if applicable)
5. Trip distribution
6. Predominant site vehicle type/design vehicle, include truck percentage if applicable
7. Include opening year and buildout year
8. Discuss any future phases with expected traffic generated (if applicable).

407.5.3 Total Traffic (Each Horizon Year)

1. Site plus background. Include opening year and buildout year, discuss phasing, if applicable.

407.5.4 Site Accessibility

1. Number and location of each proposed access/driveway
2. Driveways/site circulation

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407.6 Traffic and Improvement Analysis

407.6.1 Level of Service Analysis

1. Indicate LOS with/without project for each horizon year
2. Indicate LOS analysis for all movements at all proposed accesses

407.6.2 Queuing Analysis

1. Required queue length at all intersections and access points within the study area controlled by stop signs, traffic signals, or roundabouts.
2. Required queue length for left and right-turns.

407.6.3 Site Access

1. Full access versus restricted access (based on LOS analysis)
2. Turn Lane Evaluation

407.6.4 Roadway improvements

1. Improvements required by development to mitigate site generated traffic
2. Known future roadway projects, public and private

407.6.5 Pedestrian and bicyclist considerations (if applicable)

407.6.6 Traffic signal needs (Buildout plus 3-5-year horizon)

1. Evaluate traffic signal needs at major driveways or intersections near the site.

407.7 Conclusion/Recommendations

Summarize findings of the overall study including at opening and at buildout year. Discuss future horizon years or phasing.

List all necessary roadway improvements to accommodate/mitigate site generated traffic.

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407.8 Appendices

Locate appendices in the back of the report. Appendices may include, but are not limited to, the following:

1. Existing Traffic Counts and Turning Movement Counts
2. Capacity Analyses Worksheets (separate based on the following) Existing Conditions
3. Background Conditions (for each Horizon Year) Background plus Adjacent Traffic (for each Horizon Year) Total Traffic (for each Horizon Year)
4. Traffic Signal Needs/Warrants
5. LOS Analysis (Synchro and HCS)
6. Queuing/storage analysis (if not in the main report)
7. All other pertinent supporting data (crash data, future project plans, etc.)
8. Navajo County Meeting Minutes and Review Comments

407.9 Figures and Tables

It is recommended that the following information is shown in tables or figures/exhibits:

1. Vicinity Map
2. A Street Map
3. Site Layout Map/Jurisdictional Boundaries
4. Existing ADT and Peak Hour Turning Volumes
5. Estimated Site Traffic Generation
6. Directional Distribution of Site Traffic (daily and peak period)
7. Site Traffic Assignment
8. Projected Background Traffic
9. Adjacent Traffic
10. Total Traffic
11. Future Traffic Assignment
12. Level of Service
13. Recommended Improvements

Document Category I figures and tables within the text. Include separate figures and/or tables for Categories II, III and IV. All figures and tables must be legible.

407.10 Design Standard Reference

List all references used to prepare the study, such as ITE, ADOT, MUTCD, AASHTO or any other reference source used to prepare the study.

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408 TIA or TIS Approval

Submit the TIA or TIS to the County for approval. The County shall approve, comment on and return for update, or disapprove the TIA/TIS. A TIA/TIS is required based on Table 406.1 for any item which is heard in front of the Planning and Zoning Commission or Board of Supervisors. Approval of the final TIA/TIS is required prior to any construction or development related to the approved hearing item.

An approved TIA/TIS is required prior to issuance of grading, building, and encroachment permits when a TIA/TIS is required by the project.

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Chapter 500
Environmental Analysis, Clearance and Mitigation

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500 Environmental Analysis, Clearance, and Mitigation

501 Federally Funded Projects

Federally funded projects may involve the Arizona Department of Transportation (ADOT) and be subject to ADOT's Environmental Planning process.

502 Federal, State and County Regulations

502.1 Environmental Analysis and Mitigation

The County requires projects to comply with all requirements of the National Environmental Policy Act (NEPA), as well as all other Federal, State, and local regulations. The County requires compliance of all parties, both public and private.

For private development, the Developer is to obtain any required environmental permits or clearances.

502.2 Arizona Department of Environmental Quality (ADEQ)

ADEQ regulates water quality and the quality of storm water discharges. All improvements whether Public Works or Planning & Development Services shall adhere to ADEQ regulations.

All utility design falling under the auspices of ADEQ shall be designed per the latest ADEQ requirements and submitted to them for approval prior to the issuance of the County permit.

502.3 Section 404 Permit / Section 401 Water Quality Certification

All projects that will require construction activity within a "water of the United States" must be reviewed in accordance with Section 404 of the Clean Water Act. Waters of the United States include all rivers, washes, drainages, ponds, etc., whether they have permanent water or not. The primary concern regarding waters of the United States is that if any "fill material" will be placed or "dredging activity" will occur (permanent or temporary) in an area under jurisdiction of the U.S. Army Corps of Engineers, then a Section 404 permit will be needed prior to construction.

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Two types of Section 404 permits are available to meet the criteria of the Clean Water Act: nationwide permits and individual permits. A series of nationwide permits are used for smaller projects and require less time and effort to obtain. These permits can generally be acquired in 2 to 6 months. Individual permits are required for all projects where none of the nationwide permits are applicable; individual permits typically require 9 to 12 months to acquire.

In conjunction with the Section 404 permit, Section 401 Water Quality Certification must be coordinated with the Arizona Department of Environmental Quality. This coordination addresses water pollution prevention relative to project construction activities.

502.4 Storm Water Quality

Projects disturbing 1 acre, or more are subject to the National Pollution Discharge Elimination System (NPDES) requirements for construction sites under the Environmental Protection Agency (EPA) general permit for Arizona. Owners, developers, engineers, and/or contractors are required to prepare all documents required by this regulation, including but not limited to Stormwater Pollution Prevention Plan (SWPPP), Notice of Intent (NOI) and Notice of Termination (NOT).

As prescribed by the Arizona Pollutant Discharge Elimination System (AZPDES) General Permit for Discharge from Construction Activities to the Waters of the U.S., any development project in the County which will disturb 1 contiguous acres or greater, shall complete a Notice of Intent (NOI). See AZPDES for details.

Stormwater runoff from construction sites cannot include pollutants such as phosphorous and nitrogen, pesticides, petroleum derivatives, construction chemicals, solid wastes, and sediment that adversely affect water quality.

502.5 Hazardous Materials Investigations

As part of the environmental clearance process potentially hazardous materials and/or underground storage tanks in the project area should be identified. If the project has the potential to encounter contamination or would acquire new right-of-way at the suspect site(s), a regulatory records review and preparation of a Preliminary Initial Site Assessment (PISA) is required. The results shall be documented in the proper environmental

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document (EID, EDR, CE, EA, or EIS) and shall include any necessary mitigation measures.

If hazardous materials are identified, or the potential for hazardous materials is perceived, then surface and subsurface investigations may be needed to determine the extent of contamination. The need for further investigation and/or mitigation will be determined through consultation between the County, the party performing the survey/investigation, and the developer.

In compliance with the Occupational Safety and Health Act (OSHA) (29 U.S. Code 651), the developer will investigate whether asbestos-containing materials are present in structures subject to removal or modification. Additionally, painted surfaces, including but not limited to bridge structures, railings, poles, and pavement markings will be tested for the presence of lead-based paint if the features are to be demolished or modified or if pavement markings are to be removed. If the testing results in positive readings, the appropriate mitigation measures for workplace and public safety will be incorporated.

502.6 Biological Resources

All projects with the potential to affect natural biological resources or projects that may encounter protected or endangered plant or animal species must be reviewed. The Arizona Game and Fish Department On-Line Environmental Review Tool will be accessed to determine the potential presence of protected, candidate, or species of concern and their habitat. If protected species are likely to be present, then a Biological Evaluation to determine the likelihood of impacts will be needed and will recommend avoidance or mitigation measures. If impacts to Endangered Species Act species cannot be avoided, consultation with the U.S. Fish and Wildlife Service is required whether or not the project is federally funded or has a federal nexus.

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502.7 Cultural Resources

All projects with potential impacts to cultural resources are required to conduct a Cultural Resources Study in accordance with Federal, Tribal, and State laws and regulations. Submit the Study to the County for review and evaluation of the project's impact(s) on archeological and cultural resources. If archaeological or cultural resources are present, then the State Historic Preservation Office will be consulted to assist in the review and determination of options to prevent and mitigate damage to these resources including:

- Altering the design to avoid archaeological and cultural resources.
- Protecting the resources by utilizing methods to obscure them from view.
- Mitigating the cultural resource, this involves removal and thorough documentation of the items by a professional archeologist. The documentation of the resource may then be interpreted as part of the design.

503 Other Requirements

503.1 Forest Service

All projects within Forest Service areas shall follow the Forest Service NEPA Procedures and Guidance.

503.2 Bureau of Land Management

All projects on BLM land shall follow the Bureau of Land Management NEPA Procedures.

503.3 Arizona State Land Department

All projects on Arizona State Land Department (ASLD) shall follow ASLD Applications & Permits, including Right of Way and Cultural Resources requirements.

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600 General Information

The purpose of this Chapter is to provide standards and geometric requirements for the design and construction of transportation improvements within the County. Transportation facilities may include roadways, traffic signals, street signing, pavement markings, pedestrian facilities, bicycle paths, and other facilities. The minimum requirements described herein are primarily based on safety considerations; therefore, under most circumstances, standards that provide a greater degree of safety may be used.

601 Design Standards

The use of widely accepted industry standards typically reduces design and review timeframes. Reference documents are cited in this section and are also listed in Chapter 200. Note that these documents are revised periodically; therefore, users should use the most recent version of the document specified.

County minimum design standards are described in AASHTO's *A Policy on Geometric Design of Highways and Streets,* commonly referred to as the *Green Book*.

See the Navajo County Standard Details, 600 series, for typical road cross-sections. For roadways which may be annexed in the near future by a city or town, the County may require elements of the adjacent city's or town's standards to be incorporated into the design.

602 New Roads Accessing a County Maintained Road

A new access road is any vehicular travel way that serves two or more lots or parcels. New public and private roads accessing a County maintained road shall require an approved Right-of-Way permit prior to construction.

See Chapter 1200 and Chapter 1300.

Consider using exclusive right-turn or left-turn lanes at major intersections and at locations where safety is significantly improved by providing a deceleration lane for vehicles turning out of the major roadway through lanes to make left or right turning movements onto a crossroad or driveway. Turn lane design shall be per ADOT's *Traffic Engineering*

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Guidelines & Processes 430, Turn Lanes Design. Specific design values and markings for turn lanes are as described by ADOT or MUTCD in reference manuals or as modified in these Design Standards.

603 Survey and Road Monuments

Install permanent survey monuments in accordance with Chapter 300.

604 Federal Functional Classification

Federal Functional Classifications are defined in Chapter 400.

605 Design Speed

The design of roadway geometrics, such as horizontal and vertical curves, depends upon the design speed selected for the roadway. The choice of the design speed is primarily determined by the Federal Functional Classification. The design speed is the maximum speed for the safe operation of a vehicle that can be maintained over a specific section of a street when conditions are favorable so that the design features of the street govern.

Design speeds for the various classifications of streets may be found in Table 605.1. The use of design speeds other than those outlined in Table 605.1 must be approved by the County through a Waiver Request; see Appendix A.

Design speeds are typically 5 to 10 mph over the anticipated operating speed.

Table 605.1 Design Speed Requirements

Federal Functional Classification (FFC)	Minimum Design Speed (mph)	Maximum Design Speed (mph)
Other Principal Arterial (FFC 3)	55	65*
Minor Arterial (FFC 4)	45	65*
Major Collector (FFC 5)	45	60*
Minor Collector (FFC 6)	40	55*
Local Road (FFC 7)	30	40
Subdivision Roads (Non-FFC)	See Subdivision Regulations	

* Design speed requires County approval

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Design speeds may be increased or decreased based upon the road classification or as deemed necessary by the County.

606 Design Vehicle

The design vehicle is the largest vehicle likely to use the road with considerable frequency.

Table 606.1 Design Vehicle

Description	Minimum Design Vehicle
Arterials (FFC 3 & FFC 4)	WB-50
Collectors (FFC 5 & FFC 6)	S-BUS-40
Local (FFC 7)	SU
Commercial/Industrial (Non-FFC)	WB-50

All streets and roadway access aprons shall accommodate emergency vehicles.

607 Alignments

Design of the alignment must consider safety, profile, access, and intersection location(s). The combined effect of vertical and horizontal alignments along a given section of roadway is an important factor to consider. Although there are no specific design values or specific criteria, the following considerations should be addressed:

1. Crest vertical curves should not be coincident with or immediately precede sharp horizontal curves.
2. Avoid sharp horizontal curvature near the low point of a sag vertical curve.
3. Horizontal and vertical curvature should be as flat as possible at intersections where vehicles have to decelerate, stop or accelerate.

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607.1 Horizontal

Table 607.1 Intersecting Alignments

	Arterial (FFC 3 & FFC 4)	**Major Collector** (FFC 5)	**Minor Collector** (FFC 6)	**Local** (FFC 7)
Intersecting Road Angle	90°	90°	90° ± 15°	90° ± 15°
Min. Centerline Offset [1, 3, 4]	300-ft	300-ft	200-ft	200-ft
Min. Centerline Tangent Length [2]	300-ft	200-ft	150-ft	50-ft [5]

[1] Intersecting roads that do not directly align to the common roadway shall have the minimum centerline offsets shown.
[2] Centerline tangents, prior to a horizontal curve, shall have the minimum length shown, as measured from the intersected roadway's Right-of-Way line.
[3] Street jogs: centerline offsets less than 125-ft are prohibited unless a Design Waiver is approved by the County.
[4] 400-ft minimum centerline offsets may be required by the County in special circumstances.
[5] Local streets intersecting a collector street or arterial street shall have a tangent section of centerline at least 150 feet in length, as measured from the right-of-way line of the major street, except that a tangent is not required when a local street curve has a centerline radius greater than 400 feet with the center located on the major street right-of-way line.

Intersections with more than four alignments (four legs of an intersection) and Y-type intersections are prohibited.

Any intersecting alignment that varies from the above requirements must be approved by the County through a Waiver Request.

607.1.1 Horizontal Curves

The nature of the surrounding development and topography, and the FFC will establish the factors that determine the radius of a horizontal curve. Values for design elements, including minimum curve radii, design speed, and superelevation, are in the *AASHTO Green Book* and the *Guidelines*

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for Geometric Design of Very Low-Volume Local Roads. When designing the horizontal alignment of new or improved roadways, consider the following:

1. Coordinate the design of horizontal and vertical alignments to avoid undesirable driver reactions. For more information on this topic, refer to the AASHTO *Green Book*.
2. Avoid differences in design speed between successive horizontal curves.
3. For small deflection angles, horizontal curves should be sufficiently long to avoid the appearance of a kink.
    a. Curve arc lengths should be at least 500 feet for a central angle of 5 degrees and increase the minimum length by 100 feet for each 1-degree decrease in the central angle (AASHTO *Green Book*).
4. An angle point is acceptable for breaks in tangent alignments of less than 1°
5. Avoid horizontal curves, meeting minimum radii as defined by the latest edition of the AASHTO *Green Book*, at points where driver expectation is low, such as at the ends of long horizontal and vertical tangent sections.
6. Median openings along horizontal curves are generally discouraged.
7. Avoid the use of broken-back curves (i.e., two horizontal curves in the same direction separated by short tangent sections). Minimum distances are shown in Table 607.2.
8. Sharp horizontal curves must not begin near the top of pronounced crest vertical curves or near the low point of pronounced sag vertical curves.

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Table 607.2 Minimum Distance between Curves

	Arterial (FFC 3 & FFC 4)	**Major Collector** (FFC 5)	**Minor Collector** (FFC 6)	**Local** (FFC 7)
Min. Length of Tangent between Reversing Curves	300-ft	100-ft	100-ft	100-ft
Min. Length of Tangent between Curves in Same Direction	550-ft	100-ft	100-ft	100-ft

607.1.2 Compound and Reverse Curves

Avoid the use of compound circular curves.

In special cases, where topography or right-of-way constraints require the use of compound curves, the radius of the flatter curve should not exceed 1.5 times the radius of the sharper curve.

Where topographic or Right-of-Way constraints require the use of reverse simple curves, a minimum tangent separation between the curves shall be at least 100-ft or equal to at least 2/3 the super-elevation runoff length, whichever is greatest. When using reverse curves, special attention must be given to the roadway's drainage requirements. An angle point is acceptable for breaks in tangent horizontal alignments of less than 1 degree.

607.2 Superelevation

Superelevation refers to cross slope introduced into the cross section of a roadway to compensate for the centrifugal forces created by horizontal curves.

Table 607.3 Maximum Superelevation Rates

Elevation	**Maximum Superelevation Rate (e_{max})**
< 4000 ft	0.100 ft/ft
4000 ft – 6000 ft	0.080 ft/ft
> 6000 ft	0.060 ft/ft

ADOT *Roadway Design Guidelines, Table 202.1A*

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Examples of design superelevation rates based on the design speed, the radius of curve, and the superelevation rate can be found in AASHTO's *Green Book*.

When superelevation is introduced to account for horizontal curvature and to provide a stable turning motion for vehicles traveling at or below the design speed, the rotation of the pavement section must be designed along a given axis. The location of this axis of rotation has impacts on the length required to transition from a normal crown section to a superelevated section. The location can also impact drainage patterns, driver perception of the transition area, and aesthetics. Within a given project, the axis of rotation should remain constant for all horizontal curves and for a given type of cross section. Regardless of the location of the axis of rotation, review changes in cross slope between the roadway and its intersecting driveway and cross streets to avoid "flat" areas.

Maintaining normal crown through curves on low-speed roads may be acceptable if maintaining the guidelines outlined in the AASHTO *Green Book*.

607.2.1 Superelevation Transitions

Superelevation transitions refer to the lengths of highway that are used to bring a normal crown section up to the superelevation rate that is being designed. Transitions are also used to bring a superelevated section back to the normal crown section. There are two components that make up the total transition for a superelevated section:

1. Tangent Runout
    a. Denotes the length of highway needed to bring a normal crown section to a section with an adverse crown removed (zero cross slope), or vice versa.
2. Superelevation Runoff
    a. Denotes the length of highway needed to bring a section with the adverse crown removed (zero cross slope) up to a fully superelevated section, or vice versa.

Guidelines for the minimum length of superelevation runoff and tangent runout for a variety of design speeds and superelevation rates are given in the AASHTO *Green Book*.

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607.3 Vertical

Design all sections of a road's vertical alignment to provide adequate sight distance, safety, comfortable driving, good drainage, and a pleasing experience based on the road's FFC and design speed. Refer to the AASHTO *Green Book* for vertical alignment design.

607.3.1 Longitudinal Grades

The County standards for maximum and minimum profile grades are as follows.

Table 607.4 Profile Grade Criteria

Description	Maximum Grade
Arterial (FFC 3 & FFC 4)	6%
Major Collectors (FFC 5)	6%
Minor Collectors (FFC 6)	8%
Local (FFC 7)	10% [1]
Primitive Roads (Non FFC)	See Section 617.6

Additional Criteria	Maximum Grade
Maximum Grade Break at Side-Street Intersection	4%
Minimum Flow Line Grade for Roadways with Curb & Gutter	0.5%
Minimum Flow Line Grade for Roadways without Curb & Gutter	0.2%
Cul-de-Sacs and Turnarounds	6% [2]

[1] A 12% maximum grade may be allowed in hillside conditions with prior approval from the County Engineer. Street grades of 12% shall have a maximum length of 600-ft.

[2] The turning radii in cul-de-sacs and turnarounds shall not exceed 6%

The Engineer shall consider grades and its effect on stopping sight distance at intersections.

Any longitudinal street grade that varies from the above requirements must be approved by the County through a Waiver Request. For further information, see the AASHTO *Green Book*.

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607.3.2 Vertical Curves

All sections of a street's vertical alignment must meet passing and stopping sight distance requirements for the design speed established for the street, while providing effective street drainage. Vertical curves should be made to provide greater stopping sight distance and more pleasing aesthetics. However, a minimum length vertical curve may be required to reduce the amount of excavation in rolling or hilly terrain. Refer to the AASHTO *Green Book* for vertical curve requirements and equations and Table 605.1 for design speeds.

When designing crest or sag vertical curves for new or improved roadways, consider the following factors:

1. The formulas used to establish the length of a vertical curve for crest situations can be found in the AASHTO *Green Book*.
2. The formulas used to establish the length of vertical curve for sag situations can be found in the AASHTO *Green Book*.
3. Grade beaks are acceptable as an alternative for a vertical curve if they are less than 1% or as approved by the County Engineer.
4. Minimum lengths of crest vertical curves as determined by stopping sight distance requirements generally are satisfactory from the standpoint of safety, comfort, and appearance.
5. The sight distance value for designing sag vertical curves is taken as the minimum safe stopping sight distance. The design will approximate the condition of headlight distance on the pavement at nighttime by using the stopping sight distance. The assumption for the design of sag vertical curves is that no continuous street lighting will exist, and that headlight distance will govern.
6. The length of a vertical curve shall not be less than 200-ft or three (3) times the project design speed, whichever is greater. Most project designs should use a longer than minimum vertical curve length. Specific values for vertical curves, both tabular and graphical, can be found in the latest edition of the AASHTO *Green Book*.
7. A smooth grade line with longer tangent grades and fewer vertical curves should be a design objective.
8. Broken-back grade lines (two vertical curves in the same direction separated by short sections of tangent grade) should be avoided.
9. For long upgrades, it is preferable to place the steepest grade at the bottom and reduce the grades at the top. Roller coaster and hidden dip profiles should be avoided.

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10. Special attention to drainage and flow patterns at the top of the crest and at the bottom of sag curves.

607.3.3 Combined Horizontal and Vertical Curves

The combined effect of vertical and horizontal alignments along a given section of roadway is important to consider. Although there are no specific design values or specific criteria, address the following items:

1. Crest vertical curves should not be coincident with or immediately precede sharp horizontal curves.
2. Sharp horizontal curvature near the low point of a sag vertical curve should be avoided.
3. Horizontal and vertical curvature should be as flat as possible at intersections where vehicles have to decelerate, stop, or accelerate.

608 Sight Distance

The applications of the various sight distance requirements are noted in the following table.

Table 608.1 Sight Distance Applications

Type	Sight Distance			
	Stopping	Passing	Intersection	Decision
2-Lane Road	X	X	X	X
Driveways and Turnouts	X		X	
Driveways and Turnouts with Heavy Truck Traffic	X		X	
Private Roads	X		X	
Public Roads and Streets	X		X	
Signalized Intersections and Roundabouts	X		X	
State Route Intersections	X		X	X
Route Direction Changes	X		X	X

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608.1 Stopping Sight Distance

The principal design control for both crest and sag vertical curves is the provision of adequate stopping sight distance (SSD) along the entire length of the curve. All portions of the profile grade line shall meet sight distance requirements for the design speed of the roadway.

Refer to the AASHTO *Green Book* for stopping sight distance information, specifically about the effects of grade on the stopping sight distance.

Provide stopping sight distance throughout all parts of intersections.

608.2 Passing Sight Distance

On two-lane roadways, provision of passing sight distance (PSD) can be an important consideration. For crest vertical curves, the passing sight distance is substantially longer than the stopping sight distance, and the former is used as the design control. Appropriate no-passing zones and markings must be in place to enforce the no passing criterion. For multilane roadways, the stopping sight distance is again used as the design control for vertical alignment. Refer to the AASHTO *Green Book* for a discussion of passing sight distances for various design speeds.

608.3 Intersection Sight Distance

Intersection sight distance (ISD) identifies areas at the corners of intersections of roads, driveways, and turnouts where views of approaching traffic should not be obstructed. Identify and show intersection sight distance triangles at all road intersections, on the final subdivision plat, and on commercial site plans. Note these areas as “minimum clear sight triangle” and are required to remain free of all obstructions that would interfere with a driver’s visibility. The clear sight triangle is defined as anything between the heights of 3 ft and 10 ft, which often include buildings, signs, mailboxes, parked vehicles, walls/fences, vegetation etc. Exceptions (such as utility poles) may only be approved by the County Engineer. See ADOT’s *Roadway Design Guidelines* and the AASHTO *Green Book* for additional information.

608.4 Decision Sight Distance

Decision sight distances given in AASHTO Table 3-3 should be provided when practical at intersections where a county road turns or intersects a State Route or as required by the County or designee. For measuring decision sight distance, use a 3.5-foot eye height and 2-foot object height,

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the object being located on the side of the intersection nearest the approaching driver.

609 Roadway Sections

See the Navajo County Standard Details for typical sections.

609.1 Cross Slope

Surfaces of undivided streets shall have a normal crown that has a two-way cross slope with the cross-section high point on the street centerline. The normal cross-slope is 2% on a paved road. A Waiver Request is required for a normal cross-slope greater than 2% and not exceeding 3% based on the following criteria:

1. Road is not superelevated.
2. Road is unpaved.
3. Required for drainage needs, such as spread and dry lane criteria.
4. Matching into an existing or restrictive condition.

Review and evaluate roadway drainage as detailed in Chapter 800.

Inverted crown streets will not be acceptable without approval of a Waiver Request.

Any deviation from the desirable cross slope is subject to approval by the County Engineer through a Waiver Request.

609.2 Traffic Lanes

Table 609.1 shows appropriate ranges of road, bike, parking, turn, left- and right-turn lane and shoulder widths. If severe constraints make preferred widths too costly, then use the “minimum” values as an absolute minimum. The Design Engineer must get prior approval from the County before using the “minimum” values. The Design Engineer shall prepare a design memo detailing the cross section and lane widths. All dimensions are in feet and measured to the center of lane lines.

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Table 609.1 Lane and Shoulder Widths

Lane Type	Preferred Width (ft)	Minimum Width (ft)
Parking Lane	8	8
Through Lane	12	11
Left-Through Lane adjacent to Curb[1]	14	12
Other Through Lanes	12	11
Painted Center Lane (TWLTL)[2]	14	11
Left-Turn Lane	12	10
Right-Turn Lane	12	12
Shoulder[1, 3, 4, 5]	8	4

[1] Width is to the face of curb.
[2] Two-way left-turn lane
[3] Includes paved and unpaved shoulders; see Section 609.3.
[4] Width may include shared roadway area for bicycles.
[5] Width is inclusive of the gutter.

609.2.1 Turn Lanes

At intersections where no specific left-turn lane or a single left-turn lane is to be provided, the receiving lane on the exit portion of the intersection must have a minimum 18-foot width measured from the outside edge of pavement to the edge of the left-turn lane, centerline, or to the edge of pavement of the center median if one is provided.

At intersections where double left-turn lanes are to be provided, the receiving lanes on the exit portion of the intersection must have a minimum 30-foot width measured from the outside flow line to the edge of the left-turn lane, centerline, or the flow line of the center median, of one is provided.

The length of the transition to match the standard cross section must be determined using the road width transition tapers as specified in Section 610.

609.3 Shoulders

The shoulder width is the minimum continuous width of shoulder providing a drivable paved, unpaved or a combination thereof surface. The drivable width includes the usable portion of curb and gutter sections. Shoulders shall be on each side of pavement.

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609.3.1 Paved Shoulder

Paved shoulder widths shall be per the Navajo County Standard Details, 500 Series. The shoulder slope shall match the cross-slope of the adjoining travel lane unless site specific conditions prevent it.

609.3.2 Unpaved Shoulder

Unpaved shoulder widths shall be a minimum of 4 feet wide. Unpaved shoulder slopes shall be 20:1 (5%) max unless site specific conditions prevent it.

609.4 Side Slopes

The stability of all cut and fill slopes steeper than 2:1 shall be determined by a geotechnical study submitted by a registered engineer with proficiency in Geotechnical Engineering and approved by the County Engineer.

Typical cut and fill slopes shall be per the ADOT Construction Standard Drawings, C-02.10 to C-02.30.

Cut/fill slopes steeper than 2:1 and in excess of six (6) feet shall be slope stabilized and an erosion control plan shall be submitted for review and approval to the County Engineer or designee.

Refer to the AASHTO *Roadside Design Guide* for non-typical cases.

610 Pavement and Lane Transitions

Pavement transitions should be consistent with the section having the higher design standards. Place transitions on a tangent alignment section without horizontal and vertical sight distance restrictions. Desirably, the entire transition is visible to the driver approaching the narrower section. Avoid intersections within the transition. Drivers approaching the transition need to recognize and evaluate the situation and then decide on their course of action. The sight distance provided at pavement transitions should be significantly greater than the minimum stopping sight distance. Sight distances in the order of 1.5 to 2.0 times the minimum stopping sight distances would be appropriate for transitions on rural highways and urban controlled-access highways respectively.

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610.1 Lane Drops

Dropping a lane by tapering should occur on the right so that traffic merges to the left.

Table 610.1 Lane Drops

Design Speed	Length of Taper
Less than or Equal to 40 mph	$L = \frac{W \times S^2}{60}$
Greater than 40 mph	$L = W \times S$

S = Design Speed
W = Width of Roadway to be Transitioned in Feet
L = Length of Taper

610.2 Lane Additions

Design the approach transition when adding passing lanes, climbing lanes or more through lanes at a taper rate of 25 to 1 (e.g.- 12 ft lane = 300 ft taper).

610.3 Shoulder Transitions

With widening and reconstruction projects, new shoulder widths are commonly employed, necessitating tapers in shoulder widths to the existing adjacent roadway sections. Use the taper rates shown in Table 610.2.

Table 610.2 Shoulder Transitions

Application[1]	Taper Rate[2]
Narrow to Wider Shoulder Width	15:1
Wider to Narrower Shoulder Width	Design Speed:1

[1] Application is always in the direction of traffic
[2] With approval from the County, shorter taper may be used to meet existing conditions

611 Clear Zone and Roadside Safety

A minimum clear zone width of 10 feet is required for roads with and without gutter that have design speeds of 35 mph or below. Roads with design speeds of 35 mph or above shall meet the clear zone requirements of the AASHTO *Roadside Design Guide*.

Clear zone behind Curbs: curbs do not have significant containment or redirection capabilities and shall not be considered in clear zone

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calculations. The clear zone calculations shall be based on traffic volumes and speeds for the AASHTO *Roadside Design Guide*.

611.1 Barriers

The installation of roadside barriers is required per the AASHTO *Roadside Design Guide*. Install roadside barriers in accordance with the current ADOT Standard Specifications, Construction Standard Drawings and Approved Products List.

Provide barriers, concrete or guardrail, when necessary for the safety of the traveling public, as well as protection for adjacent properties. The need for barrier should be determined at the early stages of design to ensure that road sections are designed with enough width to facilitate the barrier installation. Guardrail requires additional coordination to ensure that drainage pipes have sufficient cover for the installation of posts and are extended to accommodate the necessary adjustments in the embankments and slopes.

The following minimum guidelines for barrier installation are based on the AASHTO *Roadside Design Guide*. However, it is noted that guardrail may be required in some locations that do not necessarily meet these criteria based on the judgment of the County. Such factors as traffic volumes, speed of traffic, accident history, road curvature, slopes of recovery area, presence of curb and gutter, and location of trees, utility poles, etc. must all be considered when determining if guardrail is warranted in a specific location.

Barriers are typically required on sections of roadway when any of the following conditions exist within the clear zone, as defined in the AASHTO *Roadside Design Guide*:

1. A roadside parallel embankment (fill slope) of 3:1 or steeper and a depth of 4 ft or more
2. A water hazard with a depth of 2 ft or more
3. A ditch section with a depth of 3 ft or more
4. A fixed object (such as a culvert, pipe, headwall, retaining wall, bridge pier, or abutment)
5. Other hazards as determined by the County

The County shall make the final determination as to whether a barrier is warranted along a section of roadway based on a review of the plans, a

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field inspection after rough grading has been completed, and/or prior to final acceptance.

New roadside barriers shall be MASH compliant and approved for use by FHWA and ADOT.

611.2 Longitudinal Rumble Strips

Longitudinal rumble strips may be required where deemed necessary by the County. Longitudinal rumble strips should be applied to new construction centerline and shoulders when the thickness of the asphaltic concrete will allow placement in accordance with ADOT's *Traffic Engineering Group Traffic Guidelines and Processes (TGP) 480* titled "Longitudinal Rumble Strips".

Placement criteria is shown in ADOT's TGP 480. Details of rumble strip applications are in ADOT's *Signing and Marking Standard Drawings* and must be shown on traffic plans.

In general, rumble strips are applied on the centerline and shoulders of rural roadway sections and should not be applied in urban, developed, or developing areas. In suburban areas, a determination will be made for each project through coordination with the County on whether rumble strips are appropriate.

Rumble strips may be applied on existing roadway sections to reduce the potential for run-off-road and crossover crashes.

611.3 Safety Rails

Install safety rails for the protection of pedestrians when slopes are 2:1 or steeper, within 3 feet of a sidewalk or other walkway, and the embankment height of the slope exceeds 3 feet, unless otherwise approved by the County Engineer or designee. Safety rails may also be required as directed by the County. Installation of safety rail does not remove the Engineer's responsibility for designing per AASHTO's *Roadside Design Guide*.

Install safety rails in accordance with MAG Detail No. 145. Variations may be approved by the County Engineer or designee through a Waiver Request.

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Install Safety rails on retaining walls, drainage headwalls or as required by the County to prevent workers from stepping over the edge of a walking-working surface. OSHA Regulation 1910.29(b) contains requirements to protect workers from falling to lower levels.

Install safety rails along bike paths, shared use paths or other pedestrian facilities as required per AASHTO's *Guide for the Development of Bicycle Facilities* and *Guide for the Planning, Design, and Operation of Pedestrian Facilities.*

612 Roadway Surface

The paving of roads and streets shall be based on FFC and context. The type of pavement surface shall be determined by the following criteria:

1. All roads shall be paved, except in subdivisions in which the minimum parcel size is greater than five (5) acres. Minimum paved structural sections can be found in Table 612.2
2. A penetration double chip seal over adequate base material may be utilized on new residential subdivision streets with lot sizes greater than two (2) acres or more when grades, snow removal, and/or traffic volumes are compatible, and the streets will be privately maintained. The maximum grade allowed for a penetration double chip seal is 10%. Grades exceeding 10% shall have an asphaltic concrete surface. The County will not accept any roads into their maintenance system that are double chip sealed.

Special consideration may be given when specifying a road surface type, based upon consideration of the following or a combination of the following:

1. Total development build-out
2. Traffic volumes or traffic analysis
3. Geometries
4. Snow removal
5. Location
6. Grades
7. Subgrade conditions

612.1 Subgrade

Subgrade shall be prepared in accordance with MAG Specifications Section 301. The materials of the subgrade shall conform to and be constructed in accordance with MAG Specifications Section 702.

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612.2 Select Material

Select material shall conform to MAG Specification Section 702 for processed natural materials and decomposed granite.

612.3 Aggregate Base Course (ABC)

Aggregate base course materials and construction shall conform to ADOT Specifications Section 303, unless otherwise approved by the County Engineer or designee. Use Class 2 aggregate base under roads, sidewalks, and driveways; however, other classes may be considered based on site and soil conditions.

612.4 Asphalt Pavement Design

The structural design for the placement of asphaltic concrete and base material, shall be based upon the Asphalt Institute methods, AASHTO Guide, ADOT Pavement Design Manual, or other methods as approved by the County Engineer or designee.

County roads shall have a pavement structural section based on the average daily traffic (ADT), FFC, equivalent 18-kip single-axle loads (ESALs), and R-Value of subgrade soils and/or sub-base materials under the roadway. The pavement structural section shall not be less than the values shown in Table 612.2.

A Pavement Design Report prepared and sealed by a professional engineer registered in the State of Arizona and approved by the County Engineer or designee is required to determine the pavement structural section(s). The evaluation should be based on good engineering judgment utilizing the best information available during the planning and design phases of the project together with consideration of the following project specific conditions:

- Pavement Design Life
- Traffic Considerations (ADTs, ESALs, etc.)
- Subgrade Soil Conditions
- Weather
- Availability of Materials
- Constructability
- Maintainability
- Cost Comparisons (initial capital cost and life cycle)

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Field sampling of the existing subgrade soil shall be required to determine the components and thicknesses of the pavement structural section required. Subgrade soil samples should be taken a minimum of every 1,000 ft per each lane and within 3-feet from finished subgrade. More frequent testing may be required depending on the existing soil conditions or as directed by the County Engineer or designee to accurately determine the soil profile. Imported soils/materials shall also be tested as directed by the County Engineer or designee.

The testing and analysis of soils and materials shall be by a person who is authorized and certified under Title 32-142 of the Arizona Revised Statutes (A.R.S.). Submit laboratory reports showing sieve analysis, plasticity index (PI), percent fines (passing the #200 U.S. standards sieve), and R-Value of all subgrade samples taken. Submittal of the findings of all other material and construction testing previously made on or for the required public improvements is also required. Sieve analysis shall be per ASTM D422, PI per ASTM D4318, #200 wash per ASTM D1140, and R-Value per ASTM D2844.

The minimum design parameters for County maintained streets are shown in
Table 612.1.

Table 612.1 Asphalt Pavement Minimum Design Parameters [1]

Parameter	Local Street	Minor Collector	Major Collector	Arterial
Analysis Period	20 yrs.	20 yrs.	40 yrs.	40 yrs.
Serviceability	Po=4.5, Pt=3.0	Po=4.5, Pt=3.0	Po=4.5, Pt=3.0	Po=4.5, Pt=3.0
Level of Reliability	75%	85%	85%	90%
Compound Growth Rate	1%	2%	2%	4%
Percent Truck Traffic	5%	6%	6%	8%
Directional Distribution	50%	50%	50%	50%
Lane Distribution	100%	100%	100%	100%
Truck Equiv. Factor	0.50	0.70	0.70	1.40
Soil Resilient Modulus Mr	Per Geotechnical Testing			

[1] ADOT Pavement Design Manual

Minimum structural section for any new road requested to be added to the County maintenance inventory shall be per Table 612.2.

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Table 612.2 Minimum Asphalt Structural Sections

Structural Section	Arterials (FFC 3 & FFC 4)	Major Collector (FFC 5)	Minor Collector (FFC 6)	Local Street (FFC 7)	Other Streets
Minimum AC Thickness	6”	5”	3”	3”	3”
A.B.C.	10”	9”	9”	8”	8”

Note: Streets with curb and gutter shall have a minimum of 4” of AC to accommodate future maintenance (mill and fill).

Mechanical or chemical stabilization techniques may be considered.

Volcanic cinder materials shall not be accepted as any part of the pavement structural section including aggregate base course in the County.

Alternate design parameters and pavement structural sections may be considered for privately maintained roadways.

For roadways that are within, or which serve, commercial/industrial development, the standards specified herein shall be adhered to.

Emulsion and chip seal are required on all asphalt surfaces.

612.5 Reclaimed Asphalt Pavement (RAP)

Reclaimed asphalt pavement design and construction shall conform to ADOT Specifications Sections 404, 408, 409, 416 or 417, whichever may apply based on the Pavement Design Report. Alternative specifications or standards shall require County Engineer or designee approval.

RAP shall be placed in 3-inch minimum lifts.

RAP shall be placed on surfaces that are clear of vegetation and debris.

612.6 Gravel Roads

The AASHTO low-volume road design method should be used to calculate the thickness of aggregate surfaced roads, particularly roads that are collectors, locals or may experience heavy truck traffic. Refer to FHWA’s *Gravel Roads Construction and Maintenance Guide*, Appendix A

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for guidance. Gravel road surfacing thicknesses should be rounded up to the nearest 3-inch increment.

The following table provides guidelines for good soil conditions in a freeze/thaw climate area and are considered the base requirement for gravel roads in the County.

Table 612.3 Gravel Road Minimum Surfacing Thickness

Relative Quality of Roadbed Soil	Traffic Level[2]	Gravel Thickness (inches)
Good[1]	High	12
	Medium	9
	Low	6

[1] Relative quality of roadbed soil is based on the Resilient Modulus.
[2] Traffic level refers to the equivalent 18-kip single axle load (ESAL) traffic load as defined below:

Traffic Level	ESAL	Approx. Daily Number of Heavy Trucks
High	60,000 – 100,000	25 - 50
Medium	30,000 – 60,000	10 - 25
Low	10,000 – 30,000	0 - 10

Traffic and subgrade soil conditions may require additional thickness of gravel or a different type of pavement design.

613 Pavement Edge Treatments

613.1 Thickened Edge

Asphaltic concrete streets without curb and gutter are required to have thickened edges as per MAG Detail 201, Type A.

613.2 Vertical Curb & Gutter

Vertical curb and gutter is required as shown in the Navajo County Standard Details, 500 Series “Typical Sections”. Construct vertical curb and gutter in accordance with MAG Detail No. 220, Type A. Variations may be approved by the County Engineer through a Waiver Request.

613.3 Vertical Curb

Vertical curb is required as shown in the Navajo County Standard Details, 500 Series “Typical Sections”. Vertical curb is to be constructed in

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accordance with MAG Detail No. 222, Type A. Variations may be approved by the County Engineer through a Waiver Request.

613.4 Roll Curb and Gutter

Roll curb and gutter may be constructed on Local streets in accordance with MAG Detail No. 220-1, Type C. Variations may be approved by the County Engineer through a Waiver Request.

Transitions between roll curb to vertical curb shall be per MAG Detail No. 221.

614 Intersections

The goal of the design in providing intersection layouts is to allow for safe and efficient crossing, merging, and diverging of conflicting vehicle streams. These conflicts can be significantly reduced through the provision of adequate sight distances and efficient traffic control devices. Providing safe sight distances and effective control will depend on human factors related to the drivers, bicyclists, and pedestrians, the traffic volumes to be accommodated, and the geometric and topographical characteristics of the intersection itself.

The crossover crown of a roadway being intersected shall not exceed an algebraic difference of 4 percent for arterial and collector roads and 8 percent for local roads.

Intersections should be located along tangent sections of roadway. In no case shall an intersection be located on or near the inside of a sharp curve.

Refer to AASHTO's guidelines for design of intersections and the ADOT *Roadway Design Guidelines* for information about roundabout design.

614.1 Location and Configuration

Intersections shall be created or revised per the following guidelines:

1. Intersections shall be located per Chapter 1300.
2. 90-degree intersections are preferable to skewed intersections
3. Skews greater than three degrees on arterial and collector roads and skews greater than five degrees on residential and local roads are to be avoided and require approval of the Navajo County Engineer.

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4. Intersections should be located along tangent sections of the roadway, unless otherwise approved by the County.
5. Intersections with more than four entering approaches shall not be used unless approved by the County Engineer
6. Refer to AASHTO *Green Book* for intersection clear view zone, sight triangle and sight lines requirements.
7. Refer to the Navajo County Subdivision Regulations for additional information and requirements.

614.2 Radius Returns

Construct street intersections with concrete vertical curb returns and sidewalk ramps per MAG Details. Special designs shall comply with the U.S. Access Board Guidelines and Standards.

If adjacent curb and gutter is not vertical curb, the curb transitions shall occur outside of the curb returns. Curb return radii are measured to the face of curb and shall be in accordance with Table 614.1.

Table 614.1 Minimum Radius Returns

Classification	Arterial (FFC 3 & FFC 4) (feet)	Major Collector (FFC 5) (feet)	Minor Collector (FFC 6) (feet)	Local (FFC 7) (feet)
Arterial (FFC 3 & FFC 4)	35	35	35	30
Major Collector (FFC 5)	35	30	30	30
Minor Collector (FFC 6)	35	30	30	30
Local (FFC 7)	30	30	30	25

Modify the design radii as necessary for special conditions, such as large volumes of truck traffic and/or skewed intersection angles. Consideration must be given to accommodate the design vehicle and the largest vehicle that may use the intersection/segment. Variations to curb radii proposed shall be reviewed and approved by the County Engineer through a Waiver Request.

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614.3 Cul-de-Sacs

A cul-de-sac is a street termination that serves more than one (1) and less than twenty (20) property owner(s) and has only one direct access to the public street system. The length of a cul-de-sac is measured between the centerline of an intersecting street and the radius point of the cul-de-sac.

See Table 614.2 for cul-de-sac design criteria including minimum radii and maximum lengths.

Table 614.2 Cul-de-Sac Design Requirements

Street	Minimum Cul-de-Sac Radius [1] (feet)	Maximum Cul-de-Sac Length (feet)	Minimum R/W Radius (feet)
With Fire Hydrants	50	600[2], 1200[3]	60
Without Fire Hydrants	50		60

[1] Minimum unobstructed turn-around radius which shall be free of parked vehicles.
[2] If densities are greater than one dwelling unit per acre.
[3] If densities are less than one dwelling unit per acre.

A Design Waiver may be made where topography or geographical constraints exclude meeting all cul-de-sac criteria.

614.4 Acceleration Lanes

See ADOT's *Roadway Design Guidelines*, Chapter 400, Subsection 408.12.

614.5 Deceleration Lanes, Left-Turn and Right-Turn Channelization

Deceleration lanes and additional right-of-way may be required on collectors and arterials as required by the County and TIA. Factors to be taken into consideration when performing a warrant study such as shoulder width, percentage of trucks, sight distance, roadway grade, horizontal and vertical curvature, and crash history. The lane length must be determined on a case-by-case basis and must be approved by the County Engineer or designee.

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A left-turn lane serves to expedite the flow of through traffic, to control the movement of turning traffic, and to improve the safety and capacity of the intersection.

Justify right-turn lanes based on capacity improvements and safety by permitting vehicles to slow down, stop as required and then turn right without impeding the flow of through traffic. Right turns are usually made at lower speeds than through movements, safety is enhanced if the slower turn is made in a separate, exclusive lane.

See ADOT's *Roadway Design Guidelines*, Chapter 400, for additional information.

614.6 Turn-Lane Warrants

For left- and right-turn lane warrants, see ADOT's TGP Section 245 "Turn Lane Warrants".

614.7 Traffic Islands and Raised Medians

See ADOT's *Roadway Design Guidelines*, Chapter 400, Subsection 408.13 for additional information on traffic islands and raised medians.

Raised medians may be placed at subdivision entrances or can be used to create a divided roadway. All medians greater than 6 feet in width shall be landscaped in accordance with Chapter 1000. A maintenance agreement from a homeowners' association (HOA) or other group is required. Construct medians 6-foot or less with concrete, per ADOT Construction Standard Drawing No. C-05.40; see Chapter 1000 for additional information. Deviations from these criteria requires approval from the County Engineer or designee.

Construct median nose transitions in accordance with ADOT Construction Standard Drawing No. C-05.40.

615 Street Drainage

615.1 Ditches and Channels

On roadways without curb and gutter, roadside drainage ditches or channels shall be in accordance with the drainage analysis and the drainage plan as approved by the County. Capture and convey drainage on streets with curb and gutter via a storm drain system.

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Typical ditches and channels as shown in the Navajo County Standard Details, 500 Series "Typical Sections", are the minimums that will be accepted by the County under any conditions. However, they may not be adequate for drainage across some topography. Deeper ditches or channels may require additional right-of-way considerations.

See Chapter 700 for more information.

If deeper roadside drainage ditch is required and side slopes are greater than 4:1 on collectors and arterials, barriers and/or a drainage easement may be required. Ditch and channel cross sections shall comply with the requirements of the AASHTO *Roadside Design Guide.*

615.2 Storm Drains, Catch Basins, Culverts, Bridges and Low Water Crossings

Storm drains, catch basins, culverts, bridges, and low water crossings shall be designed in accordance with Chapter 700.

616 Bicycle and Pedestrian Facilities

All design and construction shall attempt to meet and conform to the current standards, where practical. Pedestrian facilities, including shared use paths, within the public right-of-way shall use the U.S. Access Board *Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)*. PROWAG is published under the ADA to address access to sidewalks and streets, crosswalks, curb ramps, pedestrian signals, on-street parking, and other features within public right-of-way.

616.1 Bicycles

It is the County's goal to develop a transportation infrastructure that provides safe and convenient bicycle access. The County further advocates that bicyclists have the right to operate in a legal manner on all County roads including fully controlled-access highways except where specifically excluded by administrative regulation and where posted signs give notice of a prohibition. The County may consider the installation of dedicated bicycle lanes when the incremental costs for construction and maintenance are funded by a property owner or HOA and the bicycle lane.

Use the AASHTO *Guide for the Development of Bicycle Facilities* for bicycle facilities in the County.

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616.2 Sidewalks

Asses the need for sidewalks for all major construction and reconstruction projects in urbanized areas. ADOT's *Complete Transportation Guidebook*, 2016 provides guidance on assessing sidewalk needs. In urbanized areas without a current need for sidewalks, the roadway cross section should provide space for sidewalks to be constructed by others in the future.

See AASHTO's *Guide for the Planning, Design, and Operation of Pedestrian Facilities*, for guidelines pertaining to the design of pedestrian facilities.

Sidewalks and sidewalk ("curb") ramps should use MAG Details. Provide sidewalk ramps at street intersections or as directed by the County. Obstructions are not allowed within sidewalks and compliance with PROWAG is required to the maximum extent feasible.

Minimum sidewalk widths shall be in accordance with Table 616.1.

Table 616.1 Sidewalk Criteria

Street	Local	Minor Collector	Major Collector	Arterial
Minimum Sidewalk Width (feet)	5	6	6	6
Minimum Buffer Zone (feet)	4	4	4	4
Sidewalk Cross Slope	1.5%	1.5%	1.5%	1.5%

616.3 Shared Use Paths

Shared use paths, or Trails, are generally discouraged inside County right-of-way. The County supports the installation of these facilities in a separate easement under the jurisdiction and maintenance of the property owners or HOA.

Where a shared-use path is intended to primarily serve pedestrian traffic and take the place of sidewalks, the path shall be concrete or other approved hard surface. The cross slope shall not exceed 1.5% and shall be designed to drain. The pathway shall meet the requirements of a

sidewalk per Section 616.2 and sidewalk ramps shall be provided at street intersections.

Refer to AASHTO's *Guide for Development of Bicycle Facilities and Guide for the Planning, Design, and Operation of Pedestrian Facilities*.

616.4 Grade Separation

See ADOT's *Roadway Design Guidelines, Section 107.2* for pedestrian grade separation warrants.

616.5 Accessibility

The U.S. Access Board publishes guidelines for pedestrian facilities located within public right-of-way that are issued under the Americans with Disabilities Act (ADA) and the Architectural Barriers Act (ABA).

Design all new or updated features in Couty right-of-way shall comply with the US Access Board's Pedestrian Facilities in the Public Right-of-Way (PROWAG).

All new or updated features outside of County right-of-way shall adhere to ADA and ABA guidelines.

617 Driveways

A Right-of-Way permit is required prior to constructing a driveway. Site plans submitted to the County for review shall include dimensions, radii, and grades for all proposed driveways. See Chapter 1300 for additional information and requirements. Paved turnouts are classified as driveways.

The number, location, or spacing of driveways may be limited for arterial street classifications to ensure their primary function of mobility. Conversely, the primary function of local streets is to provide access, and therefore driveway spacing is less restrictive.

When a development is located adjacent to a public street, the parking facility must accommodate full internal vehicular circulation and storage. Vehicular circulation must be located completely within the property and vehicles within one portion of the development must have access to all other portions of the same development without using the adjacent street system.

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Adequate storage areas must be provided for both inbound and outbound vehicles to facilitate the safe and efficient movement between the street and the development. Inbound vehicle storage areas must be of sufficient size to ensure that vehicles will not obstruct the adjacent street, sidewalk, or circulation within the facility. Outbound vehicle storage areas must be provided to eliminate backup and delay of vehicles within the development.

See Table 617.4 and Table 617.5 for a summary of the following sections.

617.1 Fire and Emergency Services Access

All site/civil and building plans shall meet the submittal requirements of the County and the Fire Department. The driveway and fire lane dimensions, percent grades, turning radii and design specifications, including load capacity, shall be clearly identified on the plans. The following criteria shall apply to the design of driveways and fire lanes:

- 13’-6” minimum vertical clearance;
- Existing and proposed traffic patterns of driveways, and/or proposed fire lanes identifying and labeling all physical barriers to vehicular access including, but not limited to, gates, bollards, landscaping and similar items. The driveway and fire lane must provide access to all aspects of the building within 150 feet of the fire lane;
- Fire lanes shall have a minimum unobstructed width of 20 feet for one way traffic, and 26 feet for two-way traffic with 25 feet inside turning radii and 50 feet outside turning radii;
- Dead-end fire lanes shall be a maximum length of 150 feet;
- No grade breaks greater than seven percent (7%); and,
- Driveways and fire lanes shall have all-weather surface during and after construction.

Emergency access drives shall be at least 24 feet in width.

These are the primary design criteria for driveway design. The County and/or Fire Department reserve the right to modify or add design criteria as necessary to enforce the applicable life and fire safety codes during plan review or construction inspection.

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617.2 Number of Driveways

The number of driveways is a function of the size and use of the property. If additional driveways are requested, they shall adhere to the minimum spacing requirements noted herein. Where a property has access to multiple roads, the County reserves the right to restrict access to the road with the least amount of traffic.

617.2.1 Additional Driveways

Additional driveways may be permitted under the following conditions:

- If the daily volume using one driveway exceeds 250 vehicles (in both directions).
- If the traffic using one driveway exceeds the capacity of a stop-sign-controlled intersection during peak street traffic hours or the peak site traffic hours.
- If a traffic analysis shows that the traffic conditions warrant two or more driveways.

617.2.2 Driveway Spacing

The County has established these guidelines for the minimum spacing between adjacent driveways, which vary depending on the land use and street type. Distances are measured from the centerline of the driveway. It is important to consider the location and spacing of driveways as they have a direct impact on the safety and capacity of the roadway.

To ensure safe and efficient traffic flow, the distance between adjacent driveways should be sufficient to allow vehicles entering or exiting the driveway to queue, accelerate, decelerate, and cross traffic without causing excessive interference with through traffic or other vehicles using the adjacent driveway. Whenever possible, driveways should align directly across from established driveways on the opposite side of the roadway.

Driveways located near median openings shall either be centered with the center of the median opening or be at least 100 feet away from the median opening.

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617.2.3 Joint Access

A joint access is required for two adjacent developments when a proposed access does not meet these spacing requirements. Driveways shall not block access to streets, roads, properties, sidewalks, or other driveways. The spacing between adjacent driveways must be sufficient to allow vehicles to safely queue, accelerate, decelerate, and cross lanes without causing excessive interference with through traffic or other driveways. Private roads that provide access to two or more residential parcels shall provide a turnout in lieu of a single-use driveway.

The developer must obtain, in writing, acknowledgement and approval from the area fire service providers regarding the proposed joint access driveway.

If the developer does not use a restrictive covenant to require homeowners to park all vehicles off the joint access driveway surface, then the joint access driveway surface must be at least 24 feet wide. Otherwise, the driveway surface may be no less than 20 feet wide.

The developer must install signs, approved by the County, indicating "private driveway" at the driveway entrance and include a plat note stipulating that maintenance of the driveway will not be the responsibility of the County.

617.2.4 Driveway Analysis

A Traffic Impact Analysis (TIA) may be required to address traffic impacts for large developments, including multi-family, commercial or industrial. The County may require the developer to consolidate traffic access to a single point, which may be signalized or a roundabout. Driveway signals must be strategically placed to provide satisfactory signal progression for through traffic on the road.

617.3 Driveway Design Criteria

Driveways constructed within public right-of-way shall conform to the following criteria:

1. If a curb inlet is present, the driveway shall be located such that the gutter depression is maintained, and 10 feet of separation remains between the inlet opening and the driveway.
2. On all streets residential driveways are not appropriate, head-in/back-out parking is generally prohibited. Such a condition

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requires the approval of the County Engineer or designee. Other alternatives, however, should be encouraged when possible.

3. All driveways must be constructed within the street frontage of the subject property, as determined by extending the side property lines perpendicular to the curb line. Neither the driveway nor the curb returns shall overlap adjacent property frontage.

Driveways may not exceed 70 percent of roadway frontage.

617.3.1 Driveway Layout & Type

Driveways can be constructed with different features such as curb and gutter, flared edges, paved turnouts, or radius returns. They can also be attached to the curb and gutter and made of various materials including concrete, Aggregate Base Course (ABC), and Asphaltic Concrete (AC).

Figure 617.1 Driveway Types

Driveway Type	Detail
Apron	ADOT Detail C-05.20 & C-06.10 or MAG Detail 250
Flared Edges	MAG Detail 205, Type “B” or MAG Detail 250
Paved Turnout	MAG Detail 205, all Types ADOT Detail C-06.10
Radius Return	MAG Detail 205, Type “A”, “C” & “S” or MAG Detail 251 or ADOT Detail C-06.10

617.3.2 Driveway Restrictions

New or modified driveways are not permitted in the following conditions unless approved by the County:

- Within 25 feet of the end of a guardrail
- Within 100 feet of a bridge or other drainage structure
- Within the minimum spacing described in this Manual
- Within 150 feet of the right-of-way line of an intersecting arterial street
- Within 100 feet of an approved median opening location
- Within 25 feet from end arc of a curve connecting intersecting streets, as well as within the arc of the curve
- When there is inadequate sight distance for vehicles on the driveway trying to access the street, those movements shall be prohibited

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- When the nearest edge of any driveway is less than 2 feet from the nearest fire hydrant, utility pole, drop inlet, traffic signal, light pole, etc.
- For parking or loading areas that require backing maneuvers in right-of-way, except for single family or duplex residential uses on local roads.
- Large graded or paved areas at the end of driveways, which allow drivers to enter or leave the road at random locations are discouraged.

If a property cannot be served by an access point meeting these standards, the County may designate one or more access point(s) based on traffic safety, operational needs, and compliance with as many of the requirements as possible. A Waiver Request may be submitted per requirements in Chapter 100.

617.3.3 Width

The design of a driveway should consider the space necessary to accommodate all vehicles using the driveway (adequate storage length). This applies to both vehicles making a left turn from the roadway and to vehicles stopped on the driveway waiting to enter the roadway. The potential for larger vehicles, such as recreational vehicles (RVs) or livestock trailers, should be considered in the driveway design.

617.3.4 Skew

Driveway design shall seek to make the driveway alignment at a 90-degree angle (perpendicular) to the road they are accessing. When parcel circumstances cannot accommodate 90 degrees, a reduction of less than 90 degrees, to a minimum of 60 degrees, may be considered for approval by the County.

617.3.5 Driveway Length

The lengths shown in Table 617.4 and Table 617.5 may be reduced, if approved by the County, after considering the following:

1. Physical constraints on the site, such as existing structures;
2. The impact upon on-site circulation;
3. Shallow lot depths or unusual lot configurations;
4. Existing or potential traffic movements which are unsafe or which have an adverse effect on traffic operations;

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5. Traffic volumes and classification on the driveway and the intersecting street;
6. Alternatives to the proposed design;
7. Other information presented by the permittee; and,
8. For existing sites, the extent of proposed redevelopment.

Lengths in excess of those shown in Table 617.4 and Table 617.5 may be required by the County, if warranted by a County approved Traffic Study or queuing analysis.

The driveway length is measure from the edge of road to the right-of-way or property line or to the first conflict within the parking lot on the site.

617.3.6 Driveway Horizontal Alignment

All multifamily, commercial, and industrial driveways on arterial streets shall be designed to align with opposing street or driveway or be offset by a minimum of 250 feet.

All multifamily, commercial, and industrial driveways on collector streets shall be designed to align with opposing street or driveway or be offset by a minimum of 200 feet.

617.3.7 Driveway Profile

The vertical profile of a driveway shall be designed to provide a smooth transition to and from the roadway. Sufficient clearance between the vehicle and the driveway surface must be provided to prevent high centering and hang-ups; see ADOT Detail C-05.20 and C-06.10. The maximum grade for driveways should be limited to 10 percent for residential driveways and 7 percent for commercial driveways.

The profile of driveway connections to uncurbed roadways shall match the roadway pavement and shoulder grades; an independent driveway profile may begin at the outer edge of the roadway shoulder.

Successive crest grade breaks and successive sag grade breaks are to be spaced no closer than the spacing between the front and rear axles. For design of driveway profiles 20 feet is the minimum distance to be used between successive crest grade breaks or successive sag grade breaks unless the sum of the grade breaks is less than the maximum design grade change. For single family residential driveways used only by

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passenger vehicles not pulling trailers, the minimum distance between successive grade breaks may be reduced to twelve feet.

Commercial/industrial driveways shall provide a minimum 20-foot-long landing area with a slope not exceeding 3 percent.

617.3.8 Pedestrian Requirements

When a driveway crosses or adjoins a sidewalk, walkway, or an accessible path, as defined by the US Access Board, the driveway grade shall not exceed 2 percent, over a minimum length of 3 feet, thereby effectively matching the cross slope of the sidewalk or accessible path of travel across the full width of the driveway.

The local Fire Department shall be consulted when a grade change of greater than 7 percent is proposed.

617.3.9 Channelized Driveways

Channelized islands for limits driveway movements may be utilized, provided that the applicant establishes a maintenance agreement with the County. Where a sidewalk, walkway, or an accessible route, as defined by the US Access Board, crosses a limited movement driveway island, the sidewalk shall be a minimum of 4 feet wide across the island and shall provide a continuous, uninterrupted detectable warning at the boundaries between the sidewalks and the driveways.

Acceleration and deceleration lanes may be required to be incorporated into the design. Islands may be required with vertical curb.

Additional right-of-way or easement may be required to accommodate these designs.

The ends of the islands shall use a 2-foot minimum radius at the face of curb. Where site plans do not permit installation of islands, the County may permit or require the installation of a center median on the adjacent public street as an alternative.

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617.3.10 Driveway Sight Distance

Adequate sight distance shall be provided for vehicles exiting and entering a driveway. Driveway locations shall be evaluated to determine whether a sight obstruction exists, such as buildings, fences, signs, vegetation, parked vehicles, horizontal or vertical highway alignments, etc. Refer to AASHTO's *A Policy on Geometric Design of Highways and Street*, for detailed information regarding sight distance at intersections.

617.3.11 Drop-off and Turnaround Driveways

When a site plan proposes the use of a drop-off or turn around type driveway for a commercial use such as drive-through bank, car wash, or school drop-off, the designer shall consider the vehicle queuing length and storage requirements so that the queue does not extend back onto the street impeding free flow of traffic. Depending on the nature of the project, the County may require a TIA or queuing analysis to ensure the site plan design provides adequate storage and internal circulation to mitigate traffic impacts.

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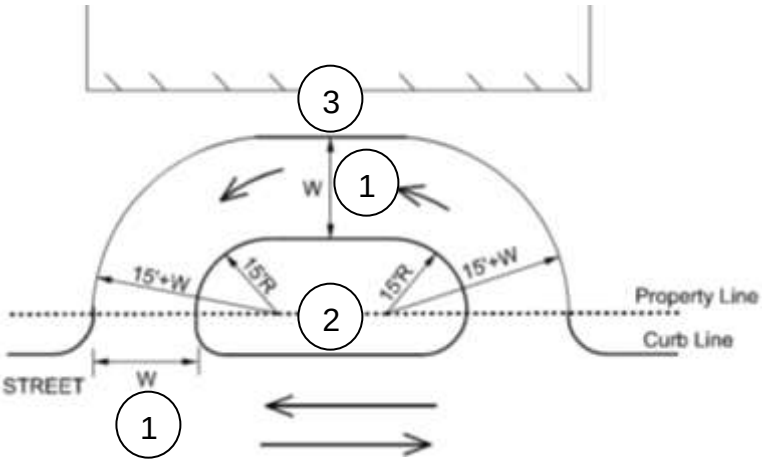
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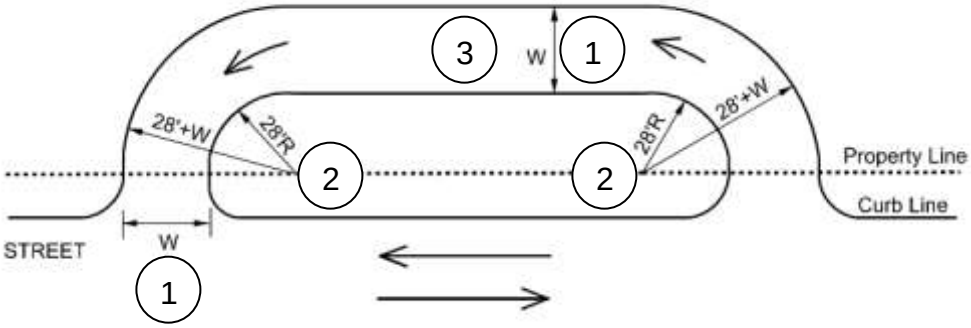
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Table 617.1 Design Criteria for Semicircular Drop-offs



Minimum Layout



Desirable Layout

[1] W = width of driveable area

[2] Radii shown are the minimum and must be designed to accommodate the design vehicle for the semicircular drop-off. The minimum design vehicle is a passenger car for most applications; however emergency vehicles, school buses and larger vehicles may be required based on the project.

[3] It is preferred to provide a tangent between successive curves that accommodates at least one design vehicle length.

[4] Prepare and submit an exhibit for each semicircular layout that identifies radii, width, design vehicle and shows the design vehicle turning template.

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617.3.12 Drainage

Driveways and turnouts shall be designed to adequately handle roadside drainage. Stormwater from the new roadway should not result in stormwater overtopping any part of the existing County-maintained travel way or cause erosion or deposition within the County Right- of-Way. New roadway, driveway or turnout shall be designed in such a way as to ensure that there is no increase in stormwater drainage onto neighboring properties.

Drainage structures shall be provided under driveways when necessary. Flows (design storm events per Chapter 700) that can be accommodated with less than the minimum 18-in. culvert size may use a concrete or paved low-flow drainage crossing. The Design Engineer shall provide details of the ditch or channel design and the embankment slopes with any protection requirements, including rip rap gradation.

The County maintains a program related to the installation of culverts under driveways; see Chapter 1300.

617.4 Turn Lane Requirements

Turn lanes and additional right-of-way may be required on collectors and arterials as required by the County and a Traffic Study. Factors to consider when performing a warrant study include shoulder width, percentage of trucks, sight distance, highway grade, horizontal and vertical curvature, and crash history. Turn lane lengths shall be determined on a case-by-case basis and shall be approved by the County. Turn lanes may be a condition of issuance for the access permit.

617.4.1 Left Turn Lanes

A 12-foot-wide left turn lane with appropriate storage and transitions shall be provided at each driveway where inbound peak hour left turning traffic is 30 vehicles or more. This requirement may be waived when the speed and volume of the opposing traffic is not sufficient to require a left turn lane, as determined by the County Engineer or designee. Alternately, the County Engineer or designee may require a left turn lane in cases with less than 30 left turn vehicles in the peak hour where the mix of vehicles, speeds and/or volumes on the street create a safety hazard.

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Table 617.2 Left Turn Lane Warrants

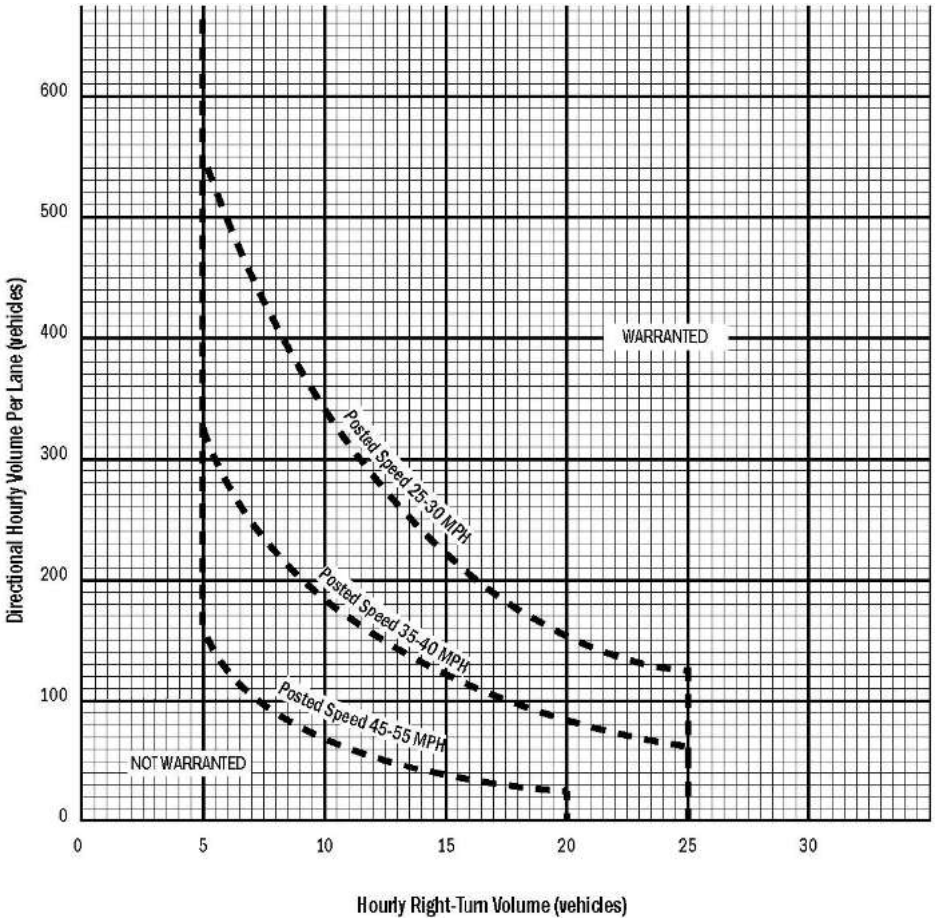
Peak Hour Traffic Volume on the Roadway in Advancing Direction	Minimum Peak Hour Left-turn Traffic Volume			
	Number of Thru Lanes per Direction			
	1		2 (Undivided)	
	< 45 mph Posted Speed	≥ 45 mph Posted Speed	< 45 mph Posted Speed	≥ 45 mph Posted Speed
< 200	30	15	-	-
201 – 300	12	12	40	30
301 – 400	12	12	30	25
401 – 500	12	12	25	18
501 – 600	12	12	15	12
601 – 1000	12	12	10	8
1000+	12	8	10	8

617.4.2 Right Turn Lanes

A 12-foot-wide right turn lane with appropriate storage and transitions shall be provided at each driveway where the street average daily traffic volumes exceed 10,000 vehicles per day and driveway volume exceeds 1,000 trips per day or 75 right turns inbound in the peak hour. Alternately, the County Engineer or designee may require a right turn lane in cases with less than 75 left turn vehicles in the peak hour where the mix of vehicles, speeds and/or volumes on the street create a safety hazard.

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Table 617.3 Right Turn Lane Warrants



Source: City of Flagstaff Engineering Design Standards and Specifications

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617.5 Driveway Categories

617.5.1 Residential Driveways

A residential driveway is one providing access to a single-family residence, a duplex, or an apartment building containing 5 or fewer dwelling units. Residential lots with frontage of 100 feet or more, the County may allow an additional driveway if site conditions allow. In new subdivisions, all driveways shall be a consistent configuration and material throughout the development, subject to County approval.

New residential driveways on parcels that have potential access to two (2) different roadways (e.g., corner lots), the access shall be on the street with the lower classification. Parcel access shall be from a local road rather than a collector or arterial to maintain higher speeds on busier roadways. In cases where a property faces both a public and private road, the County the County requires access from the private road.

Residential parcels that only front onto arterial or collector street shall have a single access point if there are no reasonable alternate public access points available, as determined by the County. If such access is permitted, the driveway shall be either circular or have a designated turn-around area to prevent vehicles from needing to reverse onto the street. Refer to ADOT Standard Drawing No. C-06.10 for vertical profile recommendations.

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Table 617.4 Single Family Driveway Criteria

	Minimum	Desirable	Maximum
Single Family, One Unit			
Width[d] (feet)	12	24	30
Uncurbed Return Radius[f] (feet)		See ADOT Detail C-06.10	
Curb Return Radius[f] (feet)	5	10	20
Length[a] (feet)		Extend to property line at a minimum	
Distance between Driveways[b]		Limited to one driveway per property, except where a semi-circular or circular driveway is approved, then the maximum is two.	
Distance from Intersecting Street[e] (feet)		50	
	Minimum	**Desirable**	**Maximum**
Single Family, Two Units			
Width[d] (feet)	15	24	30
Uncurbed Return Radius[a] (feet)		See ADOT Detail C-06.10	
Curb Return Radius[f] (feet)	5	10	10
Length[a] (feet)		Extend to property line at a minimum	
Distance between Driveways[b,c] (feet)		10	-
Distance from Intersecting Street[e] (feet)		50	

[a] Distance is measured from the road to the right-of-way or property line.
[b] Semicircular driveways acceptable minimum spacing between entrance and exit is 35 feet as measured from centerline to centerline of driveway approach at the property line. Minimum lot width for semicircular drives is 100 feet.
[c] Low-volume driveways providing access to more than three (3) off-street parking stalls for more than two (2) dwelling units.
[d] Width of the paved or unpaved surface exclusive of curb radii or wings.
[e] Distance from an intersection is measure edge to edge.
[f] Radii are measured from face of curb or edge of paved turnout.
Roadway speeds greater than 35 mph the return radii shall be per ADOT Detail C-06.10.
Radii and chamfers must remain within the projection of the subject parcel's property lines and shall not encroach upon any part of adjacent properties frontage on the roadway.

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617.5.2 Multifamily Residential

Multifamily residential is defined as either:

1. Low-volume driveway that provides access to more than three (3) off-street parking stalls for more than two (2) dwelling units.
2. High-volume driveway that provide access to more than 50 dwelling units and are normally on a major collector or an arterial street. The County may allow the widening of multifamily driveways up to 12 feet on the egress side to accommodate a dedicated left-turn lane.

Multifamily shall comply with the requirements shown in Table 617.5.

617.5.3 Commercial and Industrial Driveways

Commercial/industrial driveways and turnouts must consider the requirements of truck traffic and shall be designed using the appropriate turning template. The pavement surface of these driveways must be equal to or more durable than the connecting roadway.

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Table 617.5 Commercial and Industrial Criteria

Driveway Type	Roadway Type					
	Local Street		Collector		Arterial	
	Min.	Max.	Min.	Max.	Min.	Max.
One Way						
Width[i] (feet)	16[a]	20	16[a]	20	18[a,b]	25[b]
Uncurbed Return Radius (feet)	See ADOT Detail C-06.10					
Curb Return Radius (feet)	10	25	15	25[c]	20	30[c]
Length[d] (feet)	-	-	50	-	50	-
Distance between Entry and Exit Drive (feet)	50	-	50	-	75	-
Driveway Spacing[g] (feet)	100	-	200	-	250	-
Distance from Intersecting Street[h] (feet)	100	-	200	-	250	-

Driveway Type	Roadway Type					
	Local Street		Collector		Arterial	
	Min.	Max.	Min.	Max.	Min.	Max.
Two Way Undivided						
Width (feet)	25	40	25	40	30	45
Uncurbed Return Radius (feet)	See ADOT Detail C-06.10					
Curb Return Radius (feet)	10	25	15	35[c]	20	35[c]
Length[d] (feet)	-	-	50	-	50	-
Driveway Spacing[g] (feet)	100	-	200	-	250	-
Distance from Intersecting Street[h] (feet)	100	-	200	-	250	-

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Driveway Type	Roadway Type					
	Local Street		Collector		Arterial	
	Min.	Max.	Min.	Max.	Min.	Max.
Two Way Divided						
Width (each side of median)[e] (feet)	20	24[f]	20	24[f]	20	30[f]
Uncurbed Return Radius (feet)	See ADOT Detail C-06.10					
Curb Return Radius (feet)	15	25[c]	15	35[c]	20	35[c]
Length[d] (feet)	50	-	50	-	50	-
Median Width[e] (feet)	4	16	4	16	4	16
Median Length (feet)	10	-	10	-	20	-
Driveway Spacing[f,g] (feet)	100	-	200	-	250	-
Distance from Intersecting Street[h] (feet)	100	-	200	-	250	-

[a] Greater width may be required for Fire Department emergency access.
[b] When driveway connects into a state highway, the width shall be per ADOT Detail C-06.10
[c] Increase radius to accommodate design vehicle using full driveway width. Use WB-62 vehicle unless otherwise approved by the County.
[d] Distance may be adjusted based on an approved County Traffic Study.
[e] See ADOT Details for driveway constructed on ADOT roads.
[f] When a divided driveway is the fourth leg of an intersection, the width should match the opposing street configuration.
[g] Spacing may be reduced due to pre-existing use or development conditions, as approved by the County.
[h] Distance is measure from edge to edge.
[I] A one-way two-lane commercial driveway shall be at least 24 feet wide and a maximum of 40 feet.

Commercial/industrial driveways accessing a commercial/industrial road, or a major/minor collector roadway shall have either curb and gutter or a ribbon curb with a width of 6 inches to 12 inches and a depth of 12 inches to 18 inches.

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617.5.3.1 Commercial Driveways

Commercial driveways provide access to office buildings, retail stores, institutional building, or apartment building with more than five (5) dwelling units. They can function as access for service and delivery trucks, rather than serving as the main entrance. Commercial driveways that primarily serve administrative, or employee parking lots are also classified as commercial driveways.

617.5.3.2 Industrial Driveways

Industrial driveways serve a large volume of truck traffic going to and from loading docks at industrial sites, warehouses, or truck terminals. In the case of centralized retail developments like community regional shopping centers, there may be specific driveways designated, marked, and positioned to accommodate truck access. These driveways are considered industrial driveways as well.

617.5.4 Temporary Access

Temporary access may be granted to undeveloped property prior to development of a final plan if access is needed for construction or preliminary site access. Temporary access shall require a permit to the undeveloped property prior to development of the final plan and is subject to removal, relocation, or redesign after final development plan approval.

617.6 Guidelines for Primitive Roads

Primitive roads do not follow “typical” roadway design standards however when used for public or commercial use, designers should consult the AASHTO *Green Book, Chapter 5 and* the AASHTO *Guidelines for Geometric Design of Very Low-Volume Local Roads.*

617.7 Cross Section

1. Typically, does not conform to County standards.
2. May have inconsistent width, but roads must have minimum widths to safely operate equipment for blading, typically a 12-foot (single lane) travel width.
3. Surface varies from native material to rock and gravel.
4. Surface must be in a maintainable state when designed by the County as a Primitive Road.

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617.7.1 Backslopes

Make the primitive roads backslope as steep as the soil material will stand, without causing serious erosion. While most soils will stand with a ½:1 (H:V) or ¾:1 (H:V) backslope, this is not always true over time. Be careful to use an angle of repose that will maintain a stable condition indefinitely.

617.8 Clearing

Primitive roads should be cleared of all projecting limbs, brush, down logs, and debris that endanger a prudent user. In sparely timbered country, do not remove any healthy trees unless they interfere with traffic, and the primitive road cannot be relocated to eliminate the interference.

617.9 Drainage

Proper drainage is critical in primitive road design. Protection of the travel way, adjacent upstream and downstream lands depend upon proper drainage design. This requires basic knowledge of both hydrology and hydraulics. The design of primitive roads may include the use of culverts, ditches, water bars, and other drainage elements to handle runoff and protect adjacent land from environmental damage.

Provide for surface drainage with grade dips and out sloping. Provide cross drainage with water bars, ditching, built-up rock, and culverts as needed. In designing a grade for a section of primitive road, leave sufficient “slack” to permit grade dips at proper intervals without making the intervening sections steeper than the recommended maximum grade. Stake the exact location, length, and configuration of the dips in the field prior to commencing earthwork. Do not overlook the control of water at the discharge points. Employ rocks and native materials to dissipate water and controlling erosion when in plentiful supply.

617.9.1 Fords

Fords may be required to minimize damage to the stream channels.

617.10 Earthwork Design

Although not of primary importance, the County encourages balanced design for primitive roads. Waste is discouraged unless soil characteristics are unsuitable for vehicle loads. Limit borrow to surfacing materials where needed. Adjust alignment, gradient, or slopes to minimize the need for waste or borrow.

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617.11 Alignment

Alignment of primitive roads should consider elements such as surrounding terrain, grade, cross slope, and sight distance. Installation of turnouts on primitive roads are recommended when feasible. See the AASHTO *Green Book, Chapter 5, Sections 5.4 to 5.6 and* the AASHTO *Guidelines for Geometric Design of Very Low-Volume Local Roads.*

617.11.1 Turnouts

Turnouts are best located on points, in gullies, or ravines. Turnouts may be field adjusted to take advantage of points and ravines. Turnouts should be intervisible on steep, single lane segments. See the AASHTO *Green Book, Figure 5-5* for turnout design.

617.11.2 Grade Dips

Grade dips are sections where a short area of road, generally not exceeding 8 to 10 feet long, is built with a grade slightly adverse to the prevailing grade of the route segment. This prevents the flowing water from passing that point. The road is out sloped at the lowest point in the dip to divert the water from the travel way. Grade dips are the most satisfactory when built in the original construction and the designed grade allows for the adverse section to be built in a cut section.

617.12 Erosion Control

Erosion control is an important consideration on steep slopes. Erosion control is required when constructing steep cut slopes or embankments in erosive soils. Erosion control can be permanent (rock, fabrics, grids, concrete) or temporary (straw mats, hay bales, brush piles or plantings).

617.13 Soil Survey and Material Site Investigation

The extent of survey and sampling and testing work required depends on the type and size of the project and the character of the soils. Visual classification is sufficient for most primitive roads. Use the Unified Soil Classification system to perform visual soil investigations and classifications.

617.14 Warning Signs

Roads designated as primitive, by the County, shall have warning signs placed in locations to adequately warn the public. Signs shall conform to the following requirements:

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1. Conform with the sizes, shapes, colors, and legends of the MUTCD.
2. Horizontal rectangle with a black legend and border on a yellow background.
3. Minimum sign dimensions: 30 x 48 inches.
4. Designated primitive roads in a residential subdivision shall have warning signs posted at the entry to the subdivision.
5. No roads shall be designated as a primitive road without proposer warning signs being posted.
6. Install warning signs a minimum of 300 feet from the beginning of a designated primitive road.
7. Warning signs shall state:

   PRIMITIVE ROAD, CAUTION, USE AT YOUR OWN RISK
   THIS SURFACE IS NOT REGULARLY MAINTAINED

618 Mailboxes

See Chapter 1300.

619 Cattle Guards

Cattle guards, with or without gates, may be required to prevent livestock from interfering with roadway traffic or to maintain range control. To prevent livestock from entering the Right-of-Way, the construction of cattle guards may be required at side roads or private entrances. Install cattle guards based on ADOT Detail C-11.10.

620 Railroad Crossings

Railroad-roadway at-grade crossings shall be a right angle to the rails unless otherwise approved by the County Engineer. Design, construct and maintain pavement surfaces at railroad crossings to permit safe, smooth crossings for all roadway users. Install warning signs and pavement markings in accordance with ADOT's Signing and Marking Standards and the MUTCD. Permits from railroad and state agencies must be issued prior to County approvals or acceptance.

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621 Right-of-Way

Provide the minimum right-of-way width shown in Table 621.1.

Table 621.1 Public Right-of-Way Requirements

Street Classification (FFC)	Context	Detail No.	Min. R/W Width
Arterial (FFC 3)	Urban (Rural)	503.01 (503.02)	130-ft (130-ft)
Minor Arterial (FFC 4)	Urban (Rural)	504.01 (504.02)	120-ft (120-ft)
Major Collector (FFC 5)	Urban (Rural)	505.01 (505.02)	110-ft (110-ft)
Minor Collector (FFC 6)	Urban (Rural)	506.01 (506.02)	80-ft (80-ft)
Local Residential (FFC 7)	Urban (Rural)	507.01 (507.02)	60-ft (60-ft)
Local Commercial/Industrial (FFC 7)	Urban	507.03	80-ft
Local Unpaved (FFC 7)	Rural	507.04	60-ft
Primitive (Non-FFC 8)	Rural	508.01	50-ft
Subdivision (Non-FFC 8)	Per Subdivision Requirements		

See Chapter 1300 for additional information.

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Drainage Design, Policies, and Standards

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700 Introduction

It is the intent of the County to have a comprehensive storm water management program that protects the health, safety and welfare of its citizens, their property, and the environment. The County's storm water management documents may be accessed using the Quick Links and include the following:

- County Ordinance 01-16 Flood Damage Prevention (2016)
- County Subdivision Regulations
  - County Drainage, Section 3.10
  - County Drainage Policy, Section 3.15

700.1 Purpose and Intent

The purpose of this Chapter is to provide developers, engineers, and builders involved in projects within the County with comprehensive information and guidance on drainage design. The aim of these policies and guidelines is to ensure that proper drainage practices are followed. In cases where there are conflicts between any code and ordinance, the stricter regulations will take precedence.

This Chapter is intended to assist in the design and assessment of both public and private stormwater management facilities within Navajo County, Arizona. It includes guidelines for stormwater management policies, design procedures, and criteria for conducting hydrologic and hydraulic studies, designs, and evaluations. While the objective is to promote consistent design practices, it is important to acknowledge that engineering judgment is necessary, and alternative methods may be considered with approval from the County.

The overall goals for the development of this manual are to:

1. Compliance with applicable floodplain and stormwater management regulations, policies, and design criteria.
2. Minimize public expenditures for drainage projects.
3. Minimize the review time of drainage report and/or grading and drainage plan submittals.
4. Provide consistent policies and criteria that will result in uniform practices and drainage infrastructure within the County.
5. Improve the water quality of stormwater runoff within the County.

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The owner, developer, engineer, or contractor must obtain and adhere to the permit requirements of other relevant agencies, even if they comply with the requirements stated in this Manual.

700.2 Legal Authority

Navajo County, a governmental entity within the State of Arizona, is prohibited from issuing any permit(s) that would lead to an adverse alteration of the volume, velocity, flooding extents or direction of water flow entering or exiting adjacent properties during construction or improvement activities. To obtain a permit from the County, property owners or their representatives must first secure written approval from the County. In cases where engineering analysis is necessary for permit approval, the engineer's report and construction plans must adhere to the guidelines outlined in this Manual.

700.3 Requirements and Applicability

All developments within the County must include storm drainage facilities to protect all improvements, structures, and properties from the negative effects of storm water caused by the proposed development. The design and construction of these facilities should ensure that the flow of water after development is not greater than the flow before development for various flood events.

For any development or construction project in the County, it is required to prepare and submit a Drainage Plan and a Drainage Report. Additional reports and documentation may be necessary as per the County Subdivision Regulations when submitting a Tentative Plat.

Prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) for any development/construction project greater than one (1) acre, or as required to comply with ADEQ and EPA regulations. Prior to commencing construction, provide a copy of the Notice of Intent (NOI) filed with ADEQ to the County.

Submit all required permit applications to appropriate federal or state agencies for any development or project impacting the "Waters of the United States", as per Section 404 of the Clean Water Act, or a designated floodplain according to the U.S. Federal Emergency Management Agency, or ADWR. Submit proof of permit acquisition to the County.

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These standards represent the minimum requirements. If the application of the minimum standard could potentially harm public health, safety, and welfare, more rigorous requirements may be imposed. The information provided is based on accepted engineering procedures and criteria, but the specific applicability of these criteria to a particular project must be confirmed by an Arizona Registered Professional Civil Engineer.

700.4 References

Refer to the following documents for drainage design and reports in the County:

- ADOT Roadway Design Guidelines, Chapter 600
- ADOT Drainage Design Manual, Volume 2, Hydrology, including Appendices and Hydrology Data and Application Downloads
- ADOT Highway Drainage Design Manual, Hydraulics
- Navajo County Flood Insurance Study (FIS)

Where certain exclusions, modification, or supplements to the sections of the adopted manuals are required, they are stated within the specific chapter of this Manual. Seek clarification from the County if a subsequent update conflicts with this Manual.

In ADOT manuals, guidelines, or reports, the term "ADOT" should be substituted with the County when mentioned.

700.5 Deviation from Adopted Standards

The County Engineer or designee has the authority to grant a Waiver permitting variations from these guidelines based on the criteria specified in the Waiver Request Form. Before the Engineering Plans are approved for construction, any known deviations must be approved.

701 Drainage Reports

Drainage reports and/or engineered grading and drainage plans are required to:

1. Analyze the impact that the proposed development or project will have on stormwater discharges;
2. Provide adequate data to ensure that the development is designed to be protected from flooding and conforms to applicable floodplain and stormwater management regulations;

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3. Provide data for the design of public and private drainage facilities.

Ensure that drainage reports contain thorough details to show that the development or project will not result in drainage or flooding issues, and that any on-site drainage systems are adequately designed to handle the expected storm flows.

701.1 Applicability Requirements

The following land development activities require drainage reports:

- Residential, commercial, and industrial subdivisions.
- Any multi-family residential or commercial development, parking lot or park.
- Application for rezoning in conjunction with a qualifying development project.
- Public improvements involving new streets, culverts, storm drains, open channels, and private/public detention facilities or other drainage infrastructure.
- Application for Conditional Letter of Map Revision (CLOMR) or Letter of Map Revision (LOMR) to the Federal Emergency Management Agency (FEMA).
- Any other improvements which, in the opinion of the County, require a report.

The following applications may require a drainage report:

- Building permit
- Floodplain use permit
- Grading permit
- Site conditions warrant or if, in the opinion of the County, drainage issues affect the development of the site.

Drainage reports that are submitted to the County for review and approval must be prepared and sealed by an Arizona Registered Professional Civil Engineer who exhibits expertise in the particular field of design. Adhere to the drainage report guidelines outlined in this Manual for either Phase I or Phase II criteria.

The County recommends a pre-drainage submittal meeting before preparing or submitting drainage items.

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701.1.1 Subdivision Drainage Studies

Analyze all drainage basins within a tributary area at the point that they enter the subdivision or confluence within the subdivision.

The County may approve adjustments to the size limitation of different delineations based on the conditions of the specific subdivision. In cases where channelization of an existing drainageway is suggested, it is essential to conduct both pre-development and post-development analyses to demonstrate the impacts of the proposed enhancements.

Submit a Phase I Drainage Report at the time of the Tentative Plat Review; see Section 701.3 for additional information.

701.1.2 Rezoning Applications

All development projects must address how stormwater will be managed during construction. Drainage reports and plans addressing the stormwater management must be submitted in conjunction with rezoning applications. Most rezoning applications will require submittal of a Phase I Drainage Report (See Section 701.3). Detailed hydrologic and hydraulic analyses will not be required for most rezoning applications, unless the County determines that the site drainage is a limiting factor in the successful development of the subject site.

701.2 Floodplain Studies and Map Revisions

Detailed floodplain studies (i.e., Technical Data Support Notebooks) are required for the following applications to FEMA:

- Conditional Letter of Map Revision (CLOMR)
- Letter of Map Revision (LOMR)
- Physical Map Revision (PMR)
- Floodplain studies may also be required by the County Engineer for the following:
    - Conditional Letter of Map Amendment (CLOMA)
    - Conditional Letter of Map Revision Based on Fill (CLOMR-F)

Prior to submitting to FEMA, it is required for the County to review all FEMA applications. Refer to the County Floodplain Overlay for locations to identify where FEMA applications may be required. Additionally, the County may require flood studies for any other development(s) that may adversely affect floodplain depths.

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It may also be necessary to determine areas where floodplain delineations and drainage analysis may be appropriate, and to justify the method used to calculate and identify the hazard areas:

- **Detailed Floodplain Study:** Drainage basin areas greater than 160-acres will include a HEC-RAS or other backwater analysis.
- **Approximate Floodplain Study:** Drainage basin areas between 40-and 160-acres will include at a minimum a normal depth analysis of flooding extents.
- **Drainage Path Analysis:** Drainage basin areas between 10- and 40-acres will identify and quantify flows for all drainage paths.

Floodplain studies that are submitted to the County for review and approval must be prepared and certified by an Arizona Registered Professional Civil Engineer with demonstrated proficiency in hydrologic and hydraulic modeling.

The County will review all floodplain studies for technical compliance and completeness. Review and approval by the Arizona Department of Water Resources (ADWR) may be required for all floodway revisions and new hydrologic studies. The applicant is responsible for all local and federal review fees related to map revision requests.

Refer to the Code of Federal Regulations and the FEMA Policy Standards for Flood Risk Analysis and Mapping (FEMA Policy 204-078-1) February 2019 or latest revision and/or addendum for specific guidelines for flood risk mapping.

Format floodplain study reports in accordance with ADWR State Standard 1 – State Standard for Technical Support Data Notebook, August 2012 or latest revision.

Perform FEMA studies for hydraulic and/or hydrologic modeling in accordance with this Chapter and utilize a FEMA accepted hydraulic and/or hydrologic model.

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701.2.1 General Guidelines

Prepare FEMA map revision requests for hydraulic models as follows:

1. Duplicate Effective Model (natural and floodway models, when available)
    a. Using the same computer program (e.g., HEC-2, HEC-RAS), run the model on your computer and check the result with the output to make sure the model was duplicated.
    b. Assures the baseline is correct and the revised model will tie back into the effective model upstream of the revised reach.
2. Corrected Effective Model
    a. Using a newer version of the same program
    b. More detailed cross sections that reflect conditions that existed when the original model was developed.
    c. Fix technical errors.
    d. An improved computer model or improved bridge routine
    e. Add bridges, culverts, or other structures that existed but were not modeled.
    f. Becomes the new base model to measure impacts of development/construction.
3. Existing Conditions Model
    a. Update the corrected effective model to include existing conditions natural changes in the floodplain.
    b. Reflects fill in the floodway fringe since original model was developed, and other channel improvements.
    c. Other bridges and culverts
    d. Used as baseline model to measure the effects solely attributed to the “project" as reflected by the post-project model.
4. Post-Project Model
    a. Reflects the project (built or proposed) and determines the impacts of the project.

701.3 Drainage Report Requirements

Conform to current FEMA requirements for a required floodway analysis.

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701.3.1 Drainage Statement

A Drainage Statement must be included in the plans and submitted as a memorandum for projects that are unaffected by significant offsite flows or have been approved by the County Engineer, to show that the site is not impacted by any offsite flows.

For sites with drainage basin areas of 160-acres or less in size, use the Rational Method for calculations. For sites with drainage basins greater than 160-acres in size, provide the methodology used for calculating bandwidths for flows and flow rates.

701.3.2 Phase I Drainage Report

The Phase I Report will review, on a conceptual level, the feasibility and design characteristics of the proposed development or project. Print the Phase I Drainage Report on 8.5" x 11" paper (except drainage maps) and be properly bound. Submit an electronic version of the report and models. The report shall be in accordance with the following outline and contain at a minimum the applicable information listed.

701.3.2.1 Report Contents

General Location and Description

1. Location
    a. Owner/Developer Name
    b. Assessor's Parcel Number(s)
    c. City, County, State Highway and local streets within ¼ mile of the subdivision or the area to be served by the drainage improvements.
    d. Major drainageways and facilities
    e. Names of surrounding developments
    f. General project description
2. Description of Property
    a. Area in acres
    b. Ground cover (type of ground cover and vegetation)
    c. Major drainageways, floodplains
    d. Existing irrigation facilities, such as ditches and canals
    e. Existing and proposed land use
    f. Description and location of existing or proposed wastewater treatment and disposal system

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Drainage Basins and Sub-Basins

1. Major Basin Description
    a. Reference to all drainageway planning studies such as flood hazard delineation reports, drainageway planning reports, and flood insurance rate map (FIRMs).
    b. Basin drainage characteristics, existing and planned land uses within the basin.
    c. Identification of all nearby irrigation facilities within ½ mile of the property boundary, which will influence or be influenced by the local drainage.
    d. Soils Classification Map
    e. Identification of all detention facilities
2. Include all of the above and the following in sub-basin descriptions:
    a. Discussion of historic drainage patterns of the property in question
    b. Discussion of off-site drainage patterns and impact on development under existing and fully developed basin conditions,
    c. Discussion of proposed methods for managing stormwater quality during the construction phase

Drainage Facility Design

1. General Concept
    a. Discussion of existing drainage patterns
    b. Discussion of off-site runoff considerations
    c. Discussion of anticipated and proposed drainage patterns and improvements
    d. Discussion of the content of tables, charts, figures, maps or drawings presented in the report.
2. Discussion of hydrologic, hydraulic, and other analysis methodologies used in the report.
3. Specific Details
    a. Discussion of drainage problems encountered and solutions at specific design points.
    b. Discussion of detention storage, including size and location
    c. Discussion of first flush strategies as applicable.

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References
Reference all criteria, master plans, and technical information used in support of drainage concept.

701.3.2.2 Drawing Contents

All report figures shall be a maximum of 22" X 34" in size.

General Location Map
Furnish a detailed map that clearly shows the drainage patterns entering and leaving the development, as well as the general drainage patterns. Ensure the map scale is appropriate to display all the flow of all drainage starting from the highest point of any off-site basins to the major drainageways. Additionally, show significant structures or facilities within or impacting the property (such as developments, irrigation ditches, existing detention facilities, culverts, storm sewers, etc.) along the flow path to the nearest drainageway. Indicate basins, divides, and include topographic contours on the map.

Floodplain Information
Indicate the parcel's location on the relevant FEMA FIRM or Floodway Map, if available, and include a copy in the report.

Drainage Plan
Include map(s) of the proposed development in scales ranging from 1" = 20' to 1" = 200' on a 22" x 34" drawing and include the following:

1. Existing topographic contours at 5-foot maximum intervals. In terrain where the slope exceeds 15 percent, the maximum interval is 20 feet. Extend contours a minimum of 100 feet beyond the property lines. USGS Topographic Quadrangle maps may be used for existing off-site contours.
2. All existing drainage facilities, both onsite and offsite, that significantly impact the site.
3. Approximate flooding limits.
4. Conceptual major drainage facilities, including detention basins, storm drains, sewage facilities, swales, riprap, and outlet structures in the detail consistent with the proposed development plan.
5. Major drainage boundaries and sub-boundaries, both off-site and on-site. When defining basin and sub-basin boundaries, define

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them along basin divides that actually drain to the concentration point, not along property lines or other arbitrary lines.
6. Any off-site features influencing development.
7. Proposed flow directions and, if available, proposed contours.
8. Legend to define map symbols.
9. Title block in lower right corner.
10. Tabular reference of basin, area, peak runoff rates for each storm frequency.

701.3.3 Phase II Drainage Report

The Phase II Drainage Report serves to identify and define specific solutions for potential on-site and off-site issues that may arise due to development. Furthermore, any existing drainage concerns on-site must be resolved prior to development.

Submit Phase II Drainage Reports in conjunction with Final Plat applications and Commercial Projects. Submit all reports on 8.5” x 11” paper (excluding drainage maps) and securely bound. Submit an electronic copy of the report and models. Drawings, computer disks, figures, plates, and tables must be bound together with the report. Include a report cover letter detailing the final design for review, prepared by or under the supervision of an Arizona Registered Professional Civil Engineer. A signed and sealed certification sheet is required with the following statement:

> "This report and drainage plan for the Phase II drainage design of (Name of Development) was prepared by me (or under my direct supervision) in accordance with the provisions of the drainage planning submittal requirements of Navajo County and other regulations of the Navajo County Flood Control District (NCFCD). I understand that Navajo County does not, and will not, assume liability for the calculations, design elements, or drainage facilities designed by others."

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The following statement is required on all grading and drainage plans:

> "Adequate drainage, erosion and sediment control measures, best management practices, and/or other stormwater management facilities shall be provided and maintained at all times during construction. Damages to adjacent property and/or the construction site caused by the contractor's or property owner's failure to provide and maintain adequate drainage and erosion/sediment control for the construction area shall be the responsibility of the contractor and/or property owner."

701.3.3.1 Report Contents

Prepare the Phase II Drainage Report in accordance with the following outline and contain the applicable information listed.

General Location and Description

1. Location
    a. Owner/ Developer Name
    b. Assessor's Parcel Number(s)
    c. Township, range, section
    d. Local streets within and adjacent to the subdivision with ROW width shown.
    e. Major drainageways, facilities and easements
    f. Names of surrounding development, land uses, and identification of present zoning
2. Description of Property
    a. Area in acres
    b. Ground cover (type of trees, shrubs, vegetation, general soil conditions, topography, and slope)
    c. All drainageways and floodplains
    d. Project description
    e. Irrigation facilities
    f. Proposed land use

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Drainage Basins and Sub-Basins

1. Major Basin Description
    a. References to all drainageway planning studies, such as flood hazard delineation reports, drainageway planning reports, and flood insurance rate maps.
    b. Major basin drainage characteristics, existing and planned land uses
    c. Identification of all irrigation facilities within the basin, which will influence or be influenced by the local drainage.
    d. Soils Classification Map
    e. Identification of all detention facilities
2. Sub-Basin Description
    a. Discussion of historic drainage patterns of the property in question
    b. Discussion of off-site drainage flow patterns and the impact on development under existing and fully developed basin conditions, as defined by the Public Works Department

Drainage Design Criteria

1. Regulations
    a. Discussion of the optional provisions selected.
2. Development Criteria and Constraints
    a. Discussion of previous drainage studies (i.e., project master plans or Phase 1 Drainage Reports) for the site in question that influence or are influenced by the drainage design and how the plan will affect drainage design for the site.
    b. Discussion of existing drainage studies prepared for adjacent projects.
    c. Discussion of the drainage impact of site constraints, such as streets, utilities, existing structures and developments
3. Hydrologic Criteria and Results
    a. Identify design rainfall depths and/or intensities
    b. Identify runoff calculation method
    c. Identify detention discharge/volumes and storage calculation method
    d. Identify design storm recurrence intervals
    e. Discussion and justification of other criteria or calculation methods used that are not presented in or referenced by this Manual

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f. Summary table of pre- and post-development watershed areas and peak discharges for the 2, 10, 50, and 100-year return periods for the controlling storm duration

4. Hydraulic Criteria
   a. Identify references/methodologies used in performing hydraulic analysis
   b. Discussion of other drainage facility design criteria used that are not presented within this Manual
5. Variances from this Manual
   a. Discussion of any deviations from the Manual including the approved County waiver

Drainage Facility Design

1. General Concept
   a. Discussion of existing drainage patterns
   b. Discussion of off-site runoff considerations and compliance with applicable criteria
   c. Discussion of the content of tables, charts, figures, plates or drawings presented in the report
   d. Discussion of proposed drainage patterns and/or improvements
   e. Discussion of the stormwater runoff quality aspects of the drainage design including those activities necessary to control erosions and sedimentation during construction
2. Drainage Design (as applicable)
   a. Storm Drain Systems:
      i. Storm drain plans including profile(s)
      ii. The design frequency, discharge, and pipe capacity
      iii. Pipe size, length, type, and slope(s), inlet/outlet invert elevations
      iv. Outlet treatment
      v. Invert elevations in and out and rim elevations for all manholes and junction structures
      vi. Existing and proposed grades and pipe cover
      vii. Proposed utility crossings and vertical separations
      viii. Typical trench detail(s)
   b. Open Channels:
      i. The design frequency, design discharge, and channel capacity

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ii. Velocities at the design discharge for all different grades
iii. Channel grade(s)
iv. Typical cross-sections(s)
v. Transition details
vi. Hydraulic Grade Line (HGL) and available freeboard
vii. Channel lining(s)
viii. Drainage easement or right-of-way widths and setbacks
ix. Hydraulic calculations
x. Scour and erosion protection measures

c. Culverts:
i. Design frequency and design discharge
ii. Culvert slope and design velocities
iii. Inlet and outlet invert elevations
iv. Hydraulic calculations for inlet and outlet control conditions
v. Design and allowable headwater and tailwater elevations
vi. Headwalls
vii. Inlet and outlet erosion and scour protection measures
viii. Plotted headwater elevation(s) with contours in plan view
ix. Culvert profile w/ controlling headwater elevation, pipe size and type, and slope
x. Typical trench detail
xi. Temporary erosion and sediment control measures for channel construction or culvert/bridge crossings shall also be included on public improvement plans

d. Detention Basins
i. Design frequency and design discharge
ii. Discuss or demonstrate detention basin(s) depth(s) and side slopes
iii. Details and discussion of outlet structure(s)
iv. Table comparing pre-development versus post-development flow rates for each studied storm event
v. A stage, storage, and discharge table for each studied storm event
vi. Discussion of freeboard for each detention basin

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vii. Downstream conditions

3. Specific Details
    a. Discussion of drainage problems encountered and solutions at specific design points
    b. Discussion of detention storage and outlet design
    c. Discussion of maintenance access and aspects of the design
    d. Discussion of easements and tracts for drainage purposes
4. Conclusions
    a. Compliance with Standards
    b. Discussion of compliance with Navajo County Drainage Design Criteria
5. Drainage Plan
    a. Discussion of influence of proposed development on existing drainage conditions
    b. Discussion of effectiveness of the drainage design to control damage from storm runoff

References

Reference all criteria and technical information used.

Appendices

1. Hydrologic Computations
    a. Land-use assumptions regarding adjacent properties
    b. Initial and major storm runoff at specific design points
    c. Historic and fully developed (pre/post) runoff computations at specific design points
    d. Hydrographs at critical design points
    e. Time of concentration and runoff coefficients
    f. Unit hydrograph parameters
    g. Soil characteristics and maps
    h. Rainfall/runoff calculations and summaries
    i. Indirect verification
    j. Other as warranted
2. Hydraulic Computations
    a. Culvert capacities
    b. Storm drain capacities
    c. Hydraulic grade line calculations
    d. Gutter capacities

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e. Storm inlet capacity, including inlet control rating at connection to storm drain
f. Open channel design
g. Roadside ditch capacities
h. Check dam and/or channel drop design
i. Detention area/volume capacity and outlet design, details, and all supporting calculations. Depths of detention basins
j. Downstream/outfall system capacity to the major drainageway system
k. Scour and erosion protection design
l. Other as warranted

701.3.3.2 Drawing Contents

All report figures shall be a maximum of 36" X 48" in size.

General Location Map

Prepare a detailed map that clearly shows drainage flows entering and leaving the development, as well as the overall drainage patterns. Ensure the map scale is appropriate and accurately shows the path of all drainage starting from the upper end of any off-site basin to the defined major drainageways. Identify significant structures or construction (such as developments, irrigation ditches, existing detention facilities, storm drains) along the entire drainage path. Include basins, divides, and topographic contours for clarity. The use of USGS Quadrangle maps (7.5-minute) is acceptable.

Floodplain Information

Plot the location of the parcel on the appropriate FEMA FIRM and Floodway Map, if available, and include a copy of it in the report. For further details on constructing in a flood zone, refer to Section 705.

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Drainage Plan

Prepare and include map(s) of the proposed development on a 24” x 36” drawing(s), with a scale ranging from 1” = 20' to 1” = 200'. Clearly display the following details on the map(s):

1. Existing (dashed lines) and proposed (solid line) contours at 1-foot maximum intervals. In terrain where the slope exceeds 15 percent, the maximum interval is 10 feet. Extend contours a minimum of 100 feet beyond the property lines. Perform and place all survey on the County horizontal and vertical datums. (See Chapter 300)
2. Property lines, tracts, and easements (note the type of easement)
3. Streets, indicating right-of-way width, extents of pavement, curb and gutter.
4. Existing and proposed drainage facilities and structures, including irrigation ditches, roadside ditches, drainageways, gutter flow directions and culverts. All pertinent information, such as material, size, shape, slope and location shall also be included
5. Overall drainage area boundary and drainage sub-area boundaries, both off-site and on-site when defining basin and sub-basin boundaries, define them along basin divides that drain to the concentration point, not along property lines or other arbitrary lines.
6. Proposed type of street flow (i.e., vertical curb or combination curb and gutter), roadside ditch, gutter slope and flow direction, and valley gutters
7. Proposed storm drains and open drainageways, including inlets, outlets, manholes, culverts, other appurtenances, and channel protection.
8. Proposed outfall point for runoff from the developed area and drainage facilities to convey flows to the final outfall point without damage to downstream properties
9. Routing and accumulation of peak discharges at various critical points for the storm runoff event listed on the drawing
10. Routing and accumulation of flows at various critical points for the runoff from various storm frequencies listed in a table on the drawing
11. Volumes, release rates and locations for detention storage facilities and information on outlet works. This shall include design drawings, consisting of plan views, cross-sections and details of the basin, as well as the outlet/inlet works.

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12. Identify all flood hazard areas (pre and post development, if applicable), detailed delineations (drainage basins greater than 160 acres), approximate delineations (drainage basins between 40 and 160 acres), and drainage paths (drainage basins between 10 and 40 acres.).
13. Location and elevation of all floodplains affecting the property (detailed delineations)
14. Location and elevations of all existing and proposed utilities affected by or affecting the drainage design
15. Identification of drainage patterns through the development
16. Definition of flow path leaving the development through the downstream properties ending at a major drainageway
17. Legend to define map symbols
18. Title block in lower right-hand comer
19. Location of stormwater pollution prevention activities and identify methods of controlling erosion and sedimentation during grading and construction phase(s).

701.4 Submittal Requirements

All drainage report and plan submittals submitted to the County for review shall be prepared and sealed by an Arizona Registered Professional Civil Engineer who demonstrates proficiency in the specific area of design.

The engineer is solely responsible for the accuracy and sufficiency of all data, drawings, calculations, and reports submitted to the County for review and approval. In addition, the engineer shall comply with all floodplain regulations at the local, state, and federal levels when designing a development.

The County will review drainage report and plan submittals for completeness and overall compliance with all applicable local, state, and federal requirements. Approval by the County does not necessarily indicate that the design is appropriate, nor that the development is in strict compliance with all applicable regulations and standards. Review and approval of drainage submittals does not hold the County or its staff responsible for any flood-related damages that may occur due to reliance on administrative decisions made by the County or its employees.

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When design procedures, equations, or data not covered in this Manual are utilized, the engineer must furnish the County with adequate information regarding the methods and data to enable the County to evaluate their applicability.

702 Hydrology

702.1 General Information

The County has adopted the *Arizona Department of Transportation Highway Drainage Design Manual, Volume 2 – Hydrology (ADOT Hydrology Manual*) for the use of all hydrologic analyses in the County. The County Engineer has the discretion for modifications and/or the approval of additional analyses as deemed appropriate.

The ADOT Hydrology Manual is adopted in whole with the exceptions defined in the following sections.

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702.2 Quick Reference Guide

The following is a quick reference guide for hydrologic analysis in the County.

Table 702.1 Hydrology References

Topic	Notes
Rainfall depths and intensities	NOAA Atlas 14 NOAA Atlas 14 data can be accessed through NOAA's Hydrometeorological Design Studies Center The frequency storm shall be used for the temporal rainfall distribution unlessjustified by the engineer
Rational Method	Acceptable for drainage areas less than or equal to 160 acres
Time of Concentration	Tc ≥10 minutes (See Section 3.3.3 for exceptions)
Rainfall-Runoff Modeling	Unit Hydrograph method, for drainage areas greater than 160 acres. HEC-HMS is the preferred methodology for rainfall-runoff modeling and the 24-hour storm duration shall be modeled
Rainfall Losses	Green and Ampt
Unit Hydrographs	Clark Unit Hydrograph
Channel Routing	Muskingum-Cunge, Kinematic Wave, and Modified Puls Routing are acceptable methods
Storage Routing	Level Pool Storage Routing
Transmission Losses	Transmission Losses are not permitted in Navajo County without prior approval from the County Engineer
Regional Regression	The USGS *Scientific Investigations Report 2014-5211: Methods for Estimating Magnitude and Frequency of Floods in Arizona, Developed with Unregulated and Rural Peak-Flow Data through Water year 2010* shall be utilized for regression analyses. The USGS StreamStats tool may be used for verification and comparative purposes only

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702.3 Modifications and Deviations

702.3.1 Review and Approval

County review and approval is required in all cases where the ADOT *Hydrology Manual* mandates review and approval.

702.3.2 Requirements for Drainage Reports

A comprehensive description of the requirements and methodologies for documenting hydrologic and hydraulic analyses is in Section 701.

702.3.3 Minimum Time of Concentration (Tc)

When estimating rainfall intensity, it is recommended to use a minimum Time of Concentration (Tc) of 10 minutes. However, there are cases where a shorter Tc may be more suitable and may be required by the County Engineer. A Tc less than 5 minutes is not permitted under any circumstances.

702.3.4 Selection of Runoff Coefficient (C)

There may be instances in the County where a custom runoff coefficient (C) that differs from the curves provided in the ADOT Hydrology Manual may be more appropriate.

In all cases where a custom runoff coefficient (C) is used, a justification for this value must be provided and documented, along with a thorough comparison to the existing runoff coefficients (C) in the ADOT Hydrology Manual. County approval is required for all custom runoff coefficients (C).

702.3.5 Rainfall Losses

702.3.5.1 Green and Ampt Loss Rate Method

The County prefers to use the Green and Ampt Loss rate method with the Unit Hydrograph methodology. However, when estimating surface retention loss, follow the ADOT *Hydrology Manual* methodology, with the exception that Table 3-1 Surface Retention Loss (Max Storage) for Various Land Surfaces in Arizona should be replaced with the following table

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Table 702.2 Surface Retention Loss and Effective Impervious Area Estimate for Various Land Uses

Land-use and/or Surface Cover (1)		Surface Retention Loss, inches (2)	Effective Imperviousness, percent	
Natural				
Natural grasslands, flat slope		0.50	n/a	n/a
Rangeland, flat slope (moderate vegetation)		0.35	Varies	Varies
Rangeland, hill slopes (moderate vegetation)		0.15	Varies	Varies
Mountain, flat slope (vegetated)		0.50	Varies	Varies
Mountain, steep slopes (vegetated)		0.25	Varies	Varies
Developed (Residential and Commercial)				
Single Family Residential	1/4 acre	0.25	40	25-55
	1/3 acre	0.25	30	20-40
	1/2 acre	0.25	23	15-30
	1 acre	0.30	18	10-25
	≥ 2 acres	0.30	15	5-25
Multi-Family Residential		0.25	50	40-60
Commercial		0.10	75	50-95
Industrial		0.20	70	50-90
Non-Irrigated Landscape		0.10	Varies	Varies
Lawn and Turf		0.20	0	0
Pavement and Roof Tops		0.05	95	95
Agricultural				
Tilled Fields, Irrigated Pasture		0.50	0	0

Custom surface retention loss values are allowed; however, it is required to provide documentation justifying the use of these custom values and to compare them with the allowable surface retention loss values. Approval from the County is required for all custom values.

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702.3.5.2 Initial and Constant Loss

The County discourages the use of the initial and constant loss method for rainfall losses, although it is permitted. This method may be suitable for areas with high infiltration rates. However, if the initial and constant loss method is employed, it is mandatory to conduct soil testing, calibrate the model, and compare it to the Green and Ampt methodology. Additionally, a comprehensive justification and documentation must be provided to support the use of this method. Approval from the County Engineer or their representative is required for any application of the initial and constant loss method.

702.3.6 Transmission Losses

As a general rule, transmission losses are prohibited. However, if the project site is expected to be significantly affected by transmission losses, it is necessary to obtain County approval before implementing such losses. Additionally, any utilization of transmission losses may necessitate soil testing and model calibration. To proceed with the use of transmission losses, it is imperative to provide comprehensive justification and documentation.

702.3.7 Regression Equations

Use USGS *Streamstats* for verification and calibration.

702.3.8 Indirect Methods for Discharge Verification

The ADOT Hydrology Manual does not provide any further guidance on methods for verifying and calibrating discharges, apart from the use of regional regression equations. To ensure the accuracy of hydrologic analysis, verify all discharge calculations using the StreamStats tool provided by the USGS.

This process utilizes three indirect procedures for verification, and in general, all three procedures should be followed. They include the following:

1. A graph of numerous peak discharges versus drainage area curves
2. A graph of estimated 100-year discharges and maximum recorded discharges versus drainage area for gaged watersheds in Arizona
3. Regression equations and data graphs for flood regions in the County

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Follow and document these indirect procedures as part of the drainage report.

702.3.9 Watersheds above 7000 Feet

When watersheds are located above 7000 feet, the engineer shall take into account the possibility of rain falling on snow or frozen ground when calculating stormwater runoff. The engineer shall document and justify the procedures utilized in the Drainage Report. An example of justification would be analyzing local gauges and identifying when seasonal peak discharges occur for a specific area.

703 Hydraulics

The County has adopted the *Arizona Department of Transportation Highway Drainage Design Manual, Hydraulics (ADOT Hydraulic Manual*) for conducting hydraulic analyses in the County. The County has the authority to modify and the approve additional analyses when considered appropriate.

703.1 Quick Reference Guide

The following is a quick reference guide for hydraulic analysis in Navajo County.

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Table 703.1 Hydraulic References

Topic	Notes
Uniform Flow	Manning's Equation (Normal Depth)
Gradually Varied Flow	HEC-RAS 6.6 or later is the preferred Methodology
Two-Dimensional Analysis	FLO-2D or HEC-RAS-2D 6.6 or later Areal reduction of rainfall is not recommended for two-dimensional analyses. A meeting with the County Engineer or their designee is required prior to using any two- dimensional analysis to discuss and agree upon standard approaches and techniques
Floodplain Encroachment	Method 4 – Equal Conveyance for gradually varied flow analyses
Culvert Analysis	FHWA Inlet Control Nomographs (inlet controls) HEC-RAS 6.6 or later (preferred) Other Software (HY8, CulvertMaster, other approved)
Bridge Analysis	HEC-RAS 6.6 or later is the preferred methodology
Scour Analysis	ADWR State Standards

703.2 Modifications and Deviations

703.2.1 Review and Approval

County review and approval is required in all cases where the ADOT *Hydraulic Manual* mandates review and approval.

703.2.2 Requirements for Drainage Reports

See Section 701.

703.2.3 Street Drainage

1. Design street drainage to maintain the natural drainage patterns existing before development, whenever possible.
2. Design the street section to convey local runoff only and shall not be used as major stormwater carriers for contributing watersheds.
3. Install drainage facilities to convey runoff under streets or street grades shall be set so diversion of runoff or ponding will not occur on adjacent properties.

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4. Typical section street cross slopes shall not be decreased or increased, and curb heights shall not be increased to create more carrying capacity for runoff. Curb overtopping is not permitted for the 10-year design storm.
5. Public streets with inverted crowns are prohibited.
6. Existing alleys shall not be used to convey runoff unless the entire alley is designed and constructed to convey runoff to the nearest downstream street.
7. Drainage facilities shall be placed to intercept runoff from sources outside the street section to avoid concentrated flows onto and over sidewalks or curb and gutter.
8. In all cases, confine street drainage to the public right-of-way. Runoff which leaves the right-of-way shall do so in a controlled manner and shall be conveyed in an appropriate tract or drainage easement.

703.2.3.1 Design Frequency and Allowable Spread

Confine the runoff from the 10-year design storm within the curbs of local street sections, while the 100-year flow must be contained within the right- of-way.

At least one travel lane in each direction on collector and arterial curbed street sections must be kept clear of flooding for the 10-year design storm, with the 100-year flow contained within the right-of-way. If either criterion is not met, the installation of storm drain facilities is required. Furthermore, the 10-year design storm must always be contained within the combined street gutter and storm drain system.

703.2.3.2 Catch Basin Selection

Catch basin inlets for use within the right-of-way, an easement, or public property shall be per MAG Details. Slotted drain inlets are only permitted for special circumstances, as approved by the County Engineer, where standard drainage inlets will not suffice. Slotted drain inlets on a longitudinal grade function best when designed and constructed in conjunction with a curb opening inlet and when debris is not a factor. Slotted inlets for public storm drains are not permitted in sump locations due to high clogging potential and sediment deposition problems in the pipe section.

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Transverse Slotted drains function best for shallow low velocity sheet flow (e.g., in parking lots) but are not recommended for more concentrated flow due to the small opening width and low splash over velocity threshold.

Slotted drain inlets must be set in concrete to withstand vehicular loading and to maintain a consistent slope. Accessibility for maintenance and cleaning purposes must be provided at both ends of the pipe, which can be achieved by extending the pipe beyond the required opening length.

703.2.3.3 Inlet Clogging

Refer to Table 703.2 for inlet reduction factors to apply for increasing the calculated inlet length or area to accommodate potential blockages caused by debris, pine needles, snow/ice, and other similar materials.

Table 703.2 Inlet Clogging Factors

Inlet Type	Design Condition	Clogging Factor (percent)
Grate	Sump	50
Grate	Continuous Grade	50
Curb Opening	Sump	20
Curb Opening	Continuous Grade	20
Combination, sweeper	Sump	35
Combination, sweeper	Continuous Grade	50 – grate 20 – curb opening

703.2.3.4 Roadside Ditches and Channels

Design roadside ditches or channels for rural, uncurbed street sections for a 25-year design storm. Contain the runoff within the roadside channels with the allowable water depth elevation below the roadway subgrade to avoid unnecessary saturation of the subgrade and/or aggregate base course shoulder. Design the minimum depth of a roadside channel to be at least 1.5 feet below subgrade. See the typical sections in the Standard Details for additional information. Only roadway drainage and drainage from areas immediately adjacent to the roadway shall be carried in roadside drainage channels.

Construct all roadside drainage ditches and channels prior to laying base materials. Grade and slope all roadside drainage ditches and channels

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per the AASHTO *Roadside Design Guide*. The design of the ditch or channel cross section shall include hydraulic requirements for the design discharge, safety, minimization of right-of-way acquisition, economy in construction and maintenance, and aesthetic appeal.

Local soil conditions, flow depths, and velocities within the channel are typically the main hydraulic factors in channel geometric design. However, terrain and safety have considerable influence. Steeper side slopes of rigid, lined channels can offer cost-effective solutions and enhance hydraulic flow characteristics. The application of steeper slopes is generally restricted to areas with limited right-of-way, where traffic hazards can be mitigated by using barriers. It is preferable to avoid the use of long stretches of riprap lined roadside channels to prevent long-term maintenance issues.

703.3 Storm Drains & Culverts

703.3.1 Installation, Details and Specifications

Install all drainage features, including storm drains, culverts, manholes, junction structure, catch basins, inlets, outlets, aprons, and other related features, in accordance with the following ADOT and MAG documents:

- ADOT Standard Specifications
- ADOT Standard Details (C-Stds)
- ADOT Structure Detail Drawings (SD-Stds)
- ADOT Approved Products List, if applicable
- MAG Specifications and Details

703.3.2 Storm Drain and Culvert Material Selection

Various factors, including longevity, strength, cover depth, joint integrity, hydraulic efficiency, ease of use, installation expenses, and upkeep, must all be taken into account when choosing storm drain and culvert materials to optimize both performance and cost efficiency.

Corrugated Metal is required. A waiver request may be submitted to use alternate pipe materials such as, Smooth Steel, Reinforced Concrete or HDPE. Do not use HDPE in fire susceptible areas. All pipes shall conform to ADOT's Standard Specifications and be on ADOT's Approved Products List. Refer to ADOT's *Pipe Selection Guidelines* and *Roadway Design Guidelines*.

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Designers shall refer to ADOT's Pipe Design Information for the *Pipe Selection Guidelines and Procedures* and *Plastic Pipe Selection Guidelines* as well as ADOT's Approved Product List and Standard Specifications.

703.3.3 Maintenance Considerations

It is essential to take maintenance into account throughout the design and construction of storm drain systems and culverts. Typical maintenance issues related to storm drains and culverts include debris accumulation, sediment buildup, scouring, pipe blockages, settling of roads or embankments, and structural deterioration of the pipe. The potential for scouring and abrasion within the pipe should be factored in during the process. Furthermore, provisions for easy access for inspection and maintenance of storm drains and drainage inlets should be included in the planning.

Clearing accumulated debris and sediment from storm drain, culverts, inlets, and outlets is an essential maintenance obligation for every facility owner. Nevertheless, this issue is frequently overlooked during construction, and it is crucial to take appropriate precautions for sediment/erosion control.

Settlement issues in piping, roadways, or embankments, as well as structural damage, are often linked to substandard construction methods. These problems can be prevented by implementing appropriate design, installation guidelines, and regular inspections.

703.3.4 Manholes and Junction Structures

703.3.4.1 Location and Spacing

The primary purpose of establishing criteria for manhole location and spacing is to meet the maintenance needs of storm drains or culverts. To ensure proper functionality, manholes are mandatory in the following areas:

1. At junctions where two or more storm drains or culverts converge (not including laterals from adjacent catch basins)
2. At storm drain vertical deflections
3. Changes in pipe size
4. At storm drain horizontal alignment changes as outlined below:

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Pipe Diameter (inches)	Deflection
18 - 42	> 22 ½ degrees
42 and larger	> 45 degrees

5. Manholes may also be required by the County Engineer at other locations to facilitate maintenance.

Manholes situated at vertical deflections should be positioned at or as near as possible to the deflection point, taking into account any bends that have been manufactured. If the manhole is not at the deflection point, it must be placed directly upstream of the deflection.

Manholes are necessary at intermediate intervals on lengthy stretches of storm drain, as per Table 703.3.

Table 703.3 Manhole Spacing Criteria

Pipe Diameter (inches)	Maximum Distance (feet)
18–24	300
27–36	400
42 and larger	500

Whenever feasible, do not located manholes in traffic lanes. Nevertheless, if it is unavoidable, then avoid locating them in a street intersection or the vehicle wheel path.

703.3.4.2 Manhole Configurations

For storm drains or culverts measuring 36 inches and above, utilize a vertical riser or prefabricated "tee" to connect to the storm drain, subject to approval from the County and adherence to specific design considerations.

Use a pressure manhole shaft, pressure frame, and cover if the design hydraulic grade line elevation at the manhole is within 12 inches of the adjacent ground elevation.

To differentiate storm drain or culvert manholes from sewer or communication facilities, the manhole cover shall have the words "NAVAJO CO. STORM DRAIN" cast into the top surface of the cover in accordance with ADOT Standard Detail C-18.10.

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Manhole depths shall be determined based on the storm drain or culvert profile and surface topography, typically ranging from 5 to 13 feet. Manholes that are either shallower or deeper may require special design considerations. Deep manholes (exceeding 12 feet), a diameter of 60 inches is required to withstand pressures. Additionally, if a manhole extends below the water table, it must be designed to withstand hydrostatic pressure and/or seepage. Manhole shafts should have a diameter of 60 inches for storm drain pipes or culverts 36 inches in diameter or larger.

703.3.4.3 Manhole Shaping

A minimum drop of 0.10-foot is required through all storm drain or culvert manholes. For a manhole with two contributing laterals a drop of 0.3 feet is preferred, if possible. In cases where a storm drain or culvert changes within a manhole, a drop of 0.4 feet is preferred, if possible to maintain positive flow through the manhole.

703.4 Storm Drain Design

1. All offsite runoff from whatever source must be considered in the design of a storm drain system if such runoff could affect the street that the storm drain is serving.
2. Storm drain systems serving collector and arterial streets must keep one 12-foot lane of traffic open in each direction for the 10-year design storm and the 100-year storm within the right-of-way. Storm drain systems for local streets must keep the 10-year design flow between the curbs.
3. The minimum design frequency for all public storm drain facilities shall be the 10-year design storm. The 100-year design storm must also be analyzed to ensure that the 100-year storm is maintained within the right-of-way.
4. The minimum easement width for public storm drains 36 inches in diameter or less shall be 16 feet. For multiple pipe installations or pipe diameter greater than 36 inches, the easement width shall be the conduit width(s) plus 8 feet on each side of the conduit measured from its edge.
5. The minimum acceptable diameter for any public storm drain pipe is 18 inches. Mainline storm drains shall be at least 24 inches in diameter.
6. New storm drains and manholes shall not run longitudinally under existing or future curb and gutter or sidewalk, whenever possible.

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7. When connecting into an existing storm drain system, the existing storm drain system shall be analyzed to determine available capacity.
8. Hydraulic grade line computing software such as StormCAD, SWMM, and SewerGEMS may be used.

703.4.1 Design Velocity and Slope

Storm drain pipe shall have a minimum slope of 0.5 percent or a slope that generates a velocity of 3 feet per second when the pipe is flowing full, whichever is greater. Approval from the County is required for slopes less than 0.5 percent.

The desirable minimum velocity is 5 feet per second, but it essential that all storm drains are designed to maintain a minimum self-cleaning velocity of 3 feet per second when flowing at full capacity. Use Equation 703-1 to calculate the minimum slope required to achieve a velocity of 3 feet per second in storm drains.

Equation 703-1 Minimum Slope based on Velocity

$$s = \frac{(nV)^2}{2.208R^{4/3}}$$

where:
- s = the slope of the hydraulic grade line, ft/ft
- n = Manning's roughness coefficient
- V = the mean velocity (3 ft/sec)
- R = the hydraulic radius, ft.

It is important to take note of the following flow conditions at various depths within a circular pipe:

1. Peak flow occurs at 93 percent of the height of the pipe. This means that if a pipe is designed for full flow, the design will be slightly conservative.
2. The velocity in a pipe flowing half-full is the same as the velocity for full flow.
3. Flow velocities for surcharged storm drains with hydraulic grade line elevations above the top of pipe (pressure flow) are greater than velocities at full flow.
4. As the depth of flow drops below half-full, the flow velocity drops off rapidly.

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703.4.2 Alignment

Storm drains should be designed straight, with uniform slopes between manholes. However, in cases where conforming to the street layout requires it, curved storm drains with long radius bends many be allowed. Note that storm drains smaller than 4 feet in diameter should not be designed with curves. For storm drains that are 4 feet in diameter or larger, long radius bends are recommended as a preferred methods for changing direction, unless a manhole is necessary. The specified radius of curvature should align with the standard curves available for the specific type of material used. The minimum radius shall not be less than 100 feet.

703.4.3 Storm Drain Size

Lateral pipes for public storm drains shall have a minimum diameter of 18 inches, while mainline shall have a minimum diameter of 24 inches. Approval from the County is required for the use of elliptical or arched pipe for storm drains. The size of storm drain pipe shall progressively increase in the downstream direction. Decreasing the pipe size in the downstream direction, even if the flow is on a steeper slope or for pressure profiles is not permitted.

703.4.4 Separation Requirements

Installation and backfill requirements for public storm drains shall be in accordance with ADOT Specifications and Details.

The vertical and horizontal separation criteria for storm drain pipes and waterlines shall conform to the standards set for sewer pipes as outlined in this Manual.

The required distance between storm drains and any other dry underground utilities shall conform to the standards set for sewer pipes as outlined in this Manual. Whenever feasible, utility crossings should be made at angles exceeding 45 degrees.

Extra depth, concrete encasement, channel stabilization, or other protective measures may be necessary for crossings of open channels in order to prevent scour.

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703.4.5 Storm Drain Outfalls

All storm drain systems are required to have a point of discharge, where the flow is released into either a natural watercourse, artificial channel, another storm drain system, or any other drainage facility. Various factors related to the design of storm drain outlets need to be taken into account, such as the invert of the outlet, tailwater elevation(s), type of receiving watercourse, orientation of the outlet, and local scour.

If the discharge point is a wash or stream, it is essential to consider the simultaneous likelihood of two hydrologic events happening. There may be situations where excessive downstream water causes the flow to reverse in the storm drain system and potentially lead to overflowing inlets and manholes. It is recommended to have the bottom of the storm drain outlet at least 1-foot higher than the bottom of the channel at the same location.

The evaluation of the hydraulic grade line necessitates careful consideration of the tailwater depth at the storm drain outlet.

Storm drains discharging into open channels shall have a headwall/wingwall, with no projecting outlets allowed. The outlet orientation should be downstream to minimize turbulence and local scour. If the outlet is perpendicular to the flow direction, erosion of the opposite bank must be taken into account, potentially requiring a riprap lining. An energy dissipater might be necessary for high outlet velocities.

703.5 Culvert Design

Culverts typically convey storm water through an embankment or acting main discharge point for detention facilities. They are typically aligned with natural washes, watercourses, or open channels that function the primary outfall for local and regional drainageways. The design of culverts takes into account factors such as their intended use, hydraulic effectiveness, site topography, impacts on adjacent property, and cost.

To ensure the pipe's structural integrity under expected loading conditions, it is necessary to have a minimum amount of fill covering the culverts. All culverts should have at least 24 inches of cover from the finished elevation to the top of the pipe, except at driveways where at least 12 inches of cover may be used. Under no circumstances shall the culverts extend into the roadway base. If it is not possible to meet the

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minimum cover requirement, a lower minimum cover or an arch pipe equivalent may be permitted, subject to approval by the County Engineer.

The occurrence of flows up to or including frequencies of 100 years should not result in heightened flooding of private land, developable lands, or buildings, unless a drainage easement is obtained for those specific areas. It is necessary to accurately determine the ponded headwater elevation by either delineating it on a contour map or utilizing other appropriate surveying techniques.

703.5.1 Design Velocity and Slope

The culvert must maintain a minimum velocity of 3 feet per second when it is flowing partially full.

703.5.2 Culvert Sizing

Public roadway culverts shall have a minimum diameter of 18 inches.

Design roadway culverts to convey the storm frequency specified in Table 703.4.

Table 703.4 Culvert Design

Street Classification	Conveyance Requirements
Local*	1. Must convey the 25-year storm without roadway overtopping. 2. Roadway overtopping is allowed on storm frequency flows greater than 25-year event as long as the overtopping depth for the 100-year event does not exceed 12 inches.**
Collector / Arterials*	1. Must convey the 50-year storm without roadway overtopping. 2. Roadway overtopping is allowed on storm frequency flows greater than 50-year event as long as the overtopping depth for the 100-year event does not exceed 12 inches.**

* See Section 4.3.5.5 for low water crossings
** Where flow does not cross the road, but turns and drains down the roadway, the maximum depth of flow within the roadway travel lanes shall be 8 inches.

All land development, whether it involves the construction of residential, commercial, or industrial structures, future development plans, or any

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other kind of land use within the FEMA Floodplain, must strictly adhere to the regulations outlined in the County Floodplain Ordinance and any other relevant regulations.

Driveway culverts located within public road boundaries that direct water into roadside ditches shall handle stormwater flows equivalent to the road's federal functional classification. Culverts for private driveways outside of public road boundaries should be able to handle a 10-year storm without overflowing.

Circular cross-sections are preferred, although the County may consider arch or oval shapes in cases where hydraulic limitations, site characteristics, structural criteria, or environmental concerns necessitate it.

703.5.3 Pipe Collars

Install pipe collars at all horizontal and vertical alignment changes of a culvert. Manholes may be utilized instead of pipe collars upon receiving approval from the County.

703.5.4 Minimum Cover

In the design of roadway culverts, it is crucial to take into account both the minimum and maximum cover limits. The minimum cover limits are set to guarantee the structural stability of the culvert when subjected to live and impact loads. As the fill height increases, dead loads become the determining factor. Designers shall refer to ADOT's Pipe Design Information for the *Pipe Selection Guidelines and Procedures* and *Plastic Pipe Selection Guidelines* as well as ADOT's Approved Product List, Standard Specifications, and *Roadway Design Guidelines*.

Culverts ranging from 18 to 36 inches in diameter shall have a minimum cover of 2 feet from the top of the pipe to the top of the top of finished grade. For culverts larger than 36 inches in diameter, the minimum cover should be 30 percent of the culvert diameter, if feasible. It is crucial that the top of any culvert does not protrude above the roadway subgrade within the roadway street section.

703.5.5 Inlets and Outlets

Whenever feasible, culvert inlets should align with the shape of the roadway embankment. To minimize headwater elevations, enhance the

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capacity of the inlets, and safeguard both the roadway embankments and culvert ends, it may be necessary to utilize concrete headwalls and wingwalls, side or slope tapered inlets, and beveled edges.

Aprons may be necessary when encountering high headwater depths or when the velocity in the channel may lead to scour.

Concrete headwalls are required for public culverts larger than 36 inches in diameter.

Cutoff walls are required where the outlet velocity and downstream bed material may result in local scour.

Drop inlets should typically be used when the upstream channel sides and bottom are bank protected, and significant sediment loads are not anticipated; to avoid sediment deposition and plugging of grated inlets. It should be noted that HDS-5 inlet control nomographs do not apply to drop inlets since the additional losses caused by the plunging flow are not accounted for. In this case, the analysis for a storm drain inlet should be used.

End sections install on culverts with a diameter of 36 inches or less, provided that the design headwater meets the required standards and additional embankment protection measures are implemented.

Riprap protection for end sections shall extend around and over the top of the inlet a minimum of 2 feet. Roadways designed for overtopping require additional slope protection for the upstream and downstream spillway sections.

703.5.6 Reinforced Concrete Box Culvert (RCB)

Reinforced Concrete Box Culverts (RCB) shall have a minimum height of 4 feet, a desirable height of 6 feet, and a minimum width of 6 feet.

See ADOT's *Roadway Design Guidelines* for additional information.

704 Bridges

Bridges are typically not practical or warranted for most roadway crossings in the County. However, when bridges are applicable, they shall be designed to convey the 100-year event runoff under the road

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with at least 2 feet of freeboard below the bridge low chord, including the effects of pier clogging.

Design bridges in accordance with ADOT's *Bridge Design Guidelines* and *Structure Detail Drawings* and *Roadway Design Guidelines*.

704.1 Low Water Crossings

Low water crossings or vented fords may be permitted in locations with shallow or distributary flow, provided that the County determines that a culvert or bridge crossing is not feasible and the following design criteria are satisfied:

1. The maximum water depth crossing the roadway travel lanes for the 100-year peak discharge does not exceed 12 inches, and
2. The velocity does not exceed 8 feet per second (ft/s), and
3. Low water crossing surfaces are to be constructed per MAG Standard Detail 552 (Concrete Surface) or comparable all-weather surface as approved by the County, and
4. The crossing accesses a single-family home development.

A waiver process is available for individual parcel applicants interested in single-family type developments who believe a culvert, bridge, or low water crossing as described above is not feasible. The exemption waiver must outline how meeting these criteria would be challenging, such as:

1. Is financially impractical, and/or
2. Would significantly change historical flow patterns or would result in significant adverse impacts to properties.

If waived, the applicant must provide a notarized letter, recorded as an addendum to the property deed at the County Recorder's Office, that acknowledges the design is not in compliance with County standards. In the event that legal access does not permit emergency vehicles to reach the lots, parcels, or fractional interests, the county, along with its agents and employees, shall not be held liable for any damages incurred due to the inability of emergency vehicles to access the said lot, parcel, or fractional interest.

If a development is granted approval for low water roadway crossings of washes with a 100-year peak discharge of 500 cubic feet per second or greater, the County Engineer may deem it necessary to install signage,

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barricades, or other flood warning devices to ensure public safety and welfare.

704.2 Channels

704.2.1 Open Channels

1. All open channel designs and/or related activities shall meet the minimum requirements and/or design criteria for the County, Federal Emergency Management Agency, U.S. Army Corps of Engineers 404 permitting, and the Arizona Department of Environmental Quality, as applicable.
2. Open channels shall be design per ADOT's *Roadway Design Guidelines* and this Manual.
3. Safety of the public shall be considered in the selection of location and cross- sectional geometry of artificial channels.
4. The design of artificial channels shall consider the frequency and type of maintenance expected and make allowance for access of maintenance equipment. Soil cement linings are not permitted for open channels intended to become public and are discouraged for all channels due to maintenance problems.
5. All artificial open channel drainage systems shall be designed for the 50-year design storm at a minimum and checked with the 100-year design storm to determine available freeboard, minimum finished floor for structure elevations adjacent to the channel, and the potential for flood damages.
6. Channels shall be designed to follow natural drainage alignments whenever possible. Environmental impacts of modifications to natural channels, including disturbance of wildlife habitat, wetlands, and stream bank stability shall be assessed and meet any applicable regulations.
7. The County may require the designer to analyze the downstream impacts for channels that alter the time-of-concentration and/or the flow attenuation of existing conditions drainageways.
8. All channels which are to be maintained by the County must be dedicated to the County either in fee title or granted as drainage easement and must be formally accepted for maintenance by the County.
9. Unless proper authorization from the County and the adjacent property owner(s) is obtained, open channels must enter and exit a site where the channel historically flowed.

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10. The lining proposed for public channels must be approved by the County.

704.2.2 Composite Channels

The channel lining plays a crucial role in shaping artificial channels, as it is one of the most influential factors in their design. Various types of channel linings, such as earth (natural), grass, rock, concrete, and other biotechnical or synthetic measures, are widely used. These linings can be employed individually or in combination to create a composite channel.

Trapezoidal or compound cross-sections are mandatory for public open channels unless authorized by the County. The stability of channel side slopes must be maintained along the entire length and will vary based on the channel bank or lining material. In certain cases, a slope stability analysis might be necessary. For natural vegetal or earth linings, side slopes should not exceed 3:1 (H:V), while for ungrouted riprap lining, the limit is 2:1 (H:V). However, side slopes for rigid lined channels can be steeper, subject to the structural stability of the lining.

The depth of public open channels shall be determined by computation of the uniform flow depth for the design discharge plus a minimum of one foot of freeboard. The maximum depth for artificial public channels in residential areas should not exceed 3 feet, including freeboard, for safety considerations unless approved by the County.

Sediment transport requirements must be considered for conditions of flow below the design frequency, especially for multi-use corridors, if applicable. Low and high flow sections shall be considered in the design of channels with large cross sections and/or a design discharge greater than 100-cubic feet per second.

704.2.3 Natural Channels

Natural washes or channels that are not officially recognized as floodplains by the County or FEMA and run through private land should ideally be preserved in their natural condition upon development. Proper planning and design strategies must be used to protect properties adjacent to these natural washes/channels from potential flooding and erosion typically associated with increased development. Due to the increased runoff resulting from development, these natural

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washes/channels may face erosion issues, necessitating the use of on-site detention, grade control, and localized bank protection measures.

If relocation of a natural stream channel is unavoidable, the cross-section shape, meander pattern, roughness, sediment transport capacity, and slope should conform to the existing conditions as much as practical. Energy dissipation may be necessary when existing conditions cannot be duplicated. The U.S. Army Corps of Engineers Section 404 and Section 401 of the Clean Water Act permitting processes may be required for projects affecting Waters of the U.S., such as stream channelization, relocation, bank stabilization, or roadways crossings. County approval does not exempt compliance with applicable Federal and State laws. Developer shall submit a NPDES Notice of Intent form and Stormwater Pollution Protection Plan for all grading permit applications involving site disturbance exceeding one acre.

Natural channels should be analyzed through field observation, surveyed cross-sections, and the utilization of Normal Depth/Uniform Flow (Manning's Equation) or step-backwater methods (preferably HEC-2 or HEC-RAS), as applicable.

704.2.4 Velocity

The slope of a proposed channel is typically dependent upon the natural topography. However, adjustments can be made by changing the channel's alignment through a development, modifying the elevation of inflow and outflow points, or utilizing grade control. The selected channel configuration, alignment, and slope should result in a stable channel. Public channels must have a minimum slope of 0.5 percent. The maximum allowable velocity for open channels is 5 feet per second without submitting a Waiver Request and obtaining approval.

Abrupt changes in channel slope shall be avoided except when necessary to create a desired hydraulic jump or grade control. When abrupt changes in slope are unavoidable, the slope changes should not cause the channel top width to vary by more than 15 percent.

The design engineer shall consider the velocity and flow regime in the design and selection of materials for the channel.

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704.2.5 Grade Control

It is recommended to incorporate the use of grade control to limit channel slopes/velocities and avoid the necessity of channel linings at grade control structures. The use of alternate channel treatments, other than riprap, is strongly encouraged. Methods developed by the International Erosion Control Association for channel protection and streambank stabilization are recommended.

704.2.6 Channel Linings

Artificial open channels have a wide variety of applications ranging from landscaping swales to large flood control facilities. The selection of the open channel lining type is influenced by numerous factors such as hydraulics, structural features, environmental concerns, sociologic impact, risks and liability, maintenance, and economics.

Soil cement linings are not permitted for open channels intended to become public and are discouraged for all channels due to maintenance issues.

704.2.7 Maintenance

The minimum width of fee title dedications or drainage easements for public open channels shall be dependent upon the top width of the channel, required setbacks, and the need for maintenance access roads adjacent to the channel.

All new public open channels must have maintenance access provided along at least one side. The minimum width required for maintenance access is 12 feet. The access can be located either adjacent to the top of the channel bank, down into the channel bottom, or a combination of both. In any case, the right-of-way or drainage easement must be wide enough to allow maintenance vehicles or equipment to operate without any hindrance.

704.3 Stormwater Storage

1. Stormwater detention is required for all new subdivisions, commercial and industrial developments, redevelopment of non-conforming sites (i.e., existing developed sites that do not have detention that have been razed and vacant for greater than six months), and other developments that the County deems required for protection of downstream properties.

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2. Detention for single-family residential structure or lot (i.e., not associated with a new subdivision) is not required unless requested by the County.
3. Detention requirements may be waived by the County for the following:
    a. Residential subdivisions with lot areas >1 acre in area, if it can be shown that such a waiver will not result in any adverse downstream effects, nor create any disturbance to the existing drainage patterns both within and adjacent to the subdivision.
    b. Developments less than 1/4 acre or increases in impervious area of < 5,000 square feet. It must be demonstrated to the satisfaction of the County Engineer that there will be no increase in the potential for damages to adjacent properties and adequate off-site or downstream drainage capacity is available.
    c. Developments with drainage basins adjacent to drainage ways with large contributory basins if it can be shown that time-to-peak for each hydrograph is offset adequately so as not to affect the peak flowrate in the larger basin drainageway.
4. Detention facility storage volume shall be adequate to attenuate the post-development peak discharge rates to pre-development discharge rates for the 2-, 10-, 50-, and 100-year design storms as determined per requirements in this Chapter. Reservoir routing calculations must be used to demonstrate that the storage volume is adequate.
5. Detention facility outlet structure release rates shall be less than or equal to the pre-development peak runoff rates for the 2-, 10-, 50-, and 100-year storm events, with emergency overflow provisions. Emergency overflow weirs shall be provided on all detention basins and designed to safely convey the 100-year peak. Overtopping of the entire length of the top-of-embankment is not acceptable as an emergency overflow weir. Design calculations are required to demonstrate that developed peak runoff rates from the 2-, 10-, 50-, and 100-year design storms are controlled.
6. The total combined post-development peak flow rates from a development cannot exceed the total predevelopment peak flow rate for the 2-, 10-, 50-, and 100-year storms. Drainage flows of

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all frequencies shall enter and depart the property to be developed in substantially the same manner as under the predeveloped condition.

7. The same methodology shall be used for both pre-development and post- development analyses. Contributing drainage areas shall be analyzed separately for purposes of estimating the runoff which must be accepted and conveyed through the site. Flows from offsite drainage areas must be routed around local detention ponds and not co-mingled with flows emanating from the development unless approved by the County.
8. The use of retention or infiltration systems may be permitted in the County, especially in cases where the site is land locked, due to topography, with no means of positive outflow; however, it is discouraged. If a retention system is proposed, sufficient supporting data must be provided to ensure adequate storage volume and evaluate the functionality of all proposed infiltration retention systems, including but not limited to a soils report addressing soil classification, soil erodibility, soil permeability, slope stability, ground water elevations, and percolation test results.
9. The use of pavement parking lot storage as the primary detention facility is not permitted unless other sites or detention alternatives are not available and approved by the County.
10. Roof-top detention storage is not permitted for meeting the County detention requirements.
11. Individual on-lot storage systems within single family residential developments is not permitted for meeting the County detention requirements.
12. The minimum lowest floor elevation of any structure adjacent to a detention facility shall be 1-foot above the 100-year water surface elevation in the facility or the emergency overflow water surface level, whichever is higher.
13. Developments which are phased shall prepare a master stormwater detention plan for the entire development. The master stormwater detention plan must either be implemented with the first phase, if possible, or detention must stand alone for each phase. Interim temporary detention facilities may be required for phasing.
14. Road culverts shall not be utilized as outlet structures for detention basins.

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15. The point or points at which a pre-development watercourse enters and leaves a site shall remain substantially the same after the property has been altered for the development. Drainage in general, including sheet flow, should leave the site as it did in the pre-developed condition. Developers must coordinate with downstream properties if the drainage exiting their property is to be changed (e.g., predevelopment flow was sheet flow, and the post- development discharge is a detention outlet pipe or point discharge). The County may require the developer to obtain a drainage easement or written permission from adjacent property owners.
16. Discharges from detention facilities shall be designed to enter established downstream drainage systems (e.g., drainage channels, natural watercourses, public streets, or storm drain systems) whenever possible. If flows are to be concentrated or ponded on the upstream or downstream side of the site, either a recorded drainage easement or written permission as determined by the County must be obtained from the affected property owner(s) before issuance of grading or building permits. Discharge velocities shall be reduced or dissipated to provide non-erosive flows and reduce damages to downstream properties.
17. The County may accept large-scale regional detention basins for operation and maintenance. The County will not accept small-scale, local on-site detention basins for operation, maintenance, or liability.
18. Maintenance of local on-site detention and/or retention facilities shall be the responsibility of the property owner or homeowner's association. The County shall reserve the right to periodically inspect any detention facilities to verify that regular maintenance activities are being performed. Final Plats; Covenants, Conditions, and Restrictions (CC&R's); and/or Development Plans shall include a special note stating that (1) the owner(s) shall be solely responsible for the operation, maintenance, and liability for all detention facilities; and (2) the County may periodically inspect said detention facilities to verify that regular maintenance activities are being performed adequately.
19. No part of a private detention basin shall be constructed in a public right-of-way or public utility easement.

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20. Site designs which consolidate detention areas into a limited number of larger facilities are preferred over designs which utilize many small facilities. Designs which will demand considerable maintenance, will be difficult to maintain and access, or utilize numerous small facilities will not be permitted if other alternatives are physically possible.
21. All new subdivisions are required to provide detention for the entire subdivision, including the respective one-half of all abutting streets to the subdivision. Two or more subdivisions may partner to provide a common detention facility.

704.3.1 Detention Facility Design

Detention facilities which incorporate basins below grade or embankments shall be designed and constructed as permanent drainage structures which are protected from long term erosion and are as maintenance free as possible. Detention basins and related facilities should be designed to minimize the following typical problems:

- grass and vegetation maintenance
- sedimentation control
- bank deterioration
- standing water or soggy surfaces
- mosquito control
- blockage of outlet structures
- litter accumulation
- maintenance of fences and perimeter plantings

No detention shall retain standing water longer than 36 hours unless the facility has been designed and constructed as a permanent body of water with appropriate health, safety, and water quality measures for such a body of water.

Basin inlet and outlet structures may be at or below grade or a combination of both. Drainage crossings or culverts shall be provided whenever runoff entering or exiting a basin crosses pedestrian paths or sidewalks.

Riprap aprons or other energy dissipating measures should be used at all inflow points (side slope and basin floor) to reduce velocities and discourage sedimentation.

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Low flow channels are required on the bottom of basins which serve as multi-use areas and are recommended on all basins. Low flow channels should be designed with a minimum longitudinal slope of 0.5 percent. Concrete lined low flow channels can be designed with a minimum longitudinal slope of 0.2 percent.

If any portion of a detention basin is a retaining wall, design information for determining factors of safety against sliding and overturning is required. Provisions shall also be incorporated to prevent seepage through and under the retaining wall.

Location and Configuration

In general, open detention facilities located adjacent to streets or buildings are discouraged. No portion of a detention basin shall be permitted within any public right-of-way or public utility easement.

Curvilinear or irregular shapes are encouraged for open surface basins, whenever possible. The designer should vary the shape and side slopes of the basin and maximize the linear footage of the perimeter. Curvilinear contours at areas immediately adjacent to walls or structures is encouraged.

704.3.2 Slope and Depth Criteria

The following minimum slope and depth criteria are required for multi-use basins and basins that have unrestricted access:

1. A maximum of 2:1 (H:V) for protected side slopes and 3:1 (H:V) for unprotected side slopes where depths of ponding are less than three feet.
2. A maximum of 4:1 (H:V) for side slopes where depths of ponding exceed 3 feet.
3. Basins greater than 6 feet in depth will require a benched configuration with bench widths at least 3 times the height of the slope above it with a minimum width of 6 feet.
4. Basins containing human activity areas shall incorporate access slopes of 8:1 (H:V) or flatter (12:1 (H:V) for ADA compliance) into the design for ingress and egress.

A minimum freeboard of 0.5-foot above the 100-year high water elevation is recommended for all detention facilities. Freeboard may include adjacent parking lot areas.

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The basin floor should be graded to drain toward the basin outlet. The minimum recommended slope is 0.2 percent. A meandering low flow channel across the basin bottom is recommended to accommodate frequent flows and prevent standing water.

704.3.3 Landscaping and Surface Treatment

All detention basins shall include appropriate surface treatment and erosion control measures including but not limited to landscaping, seeding, grass or sod, rock, gravel, or any combination thereof. Regardless of basin side slopes, seeding of the basin to promote vegetation shall be considered in the design to prevent rill and gully erosion.

Trees, shrubs, and other native vegetation may be used on basin side slopes and periphery. Any landscaping placed on the basin floor shall not have a density such that it interferes with the stormwater storage function of the basin or regular maintenance activities. For basins located adjacent to streets, landscaping density shall be increased along the street frontage to screen the basin from the street.

Use of decomposed granite or small gradation rock shall be limited to basin side slopes of 3H: 1V or flatter and is not recommended for use on basin floors, in flow channels, or at the basin inlets and outlets. Use of bio-mass filter landscaping treatment on basin floors is encouraged.

Over-excavation will be required to account for any volume displacement from landscaping islands, boulders, or rock riprap placement within the basin and shall be noted on the Grading & Drainage and Landscape Plans.

704.3.4 Outlet Structures

Due to multi-frequency detention requirements, the design of several detention facilities may require the implementation of multi-stage outlet structures. These outlet structures must be carefully designed to guarantee the complete drainage of the basin and can be in the form of drop inlets, culverts, weirs, orifices, or a combination of these options. The utilization of weirs is highly recommended. It is important to note that outlet structures that rely on manual operation for proper functioning are prohibited.

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Outlet structures for detention basins shall be sized based on hydrologic reservoir-routing calculations and stage-discharge relationships. Inlet control should not always be assumed on detention facility outlet pipes; therefore, outlet pipes should be evaluated using the FHWA, HDS-5 procedures.

Outlet structures shall be constructed such that they are situated directly across from the inlet structure(s) and positioned at the greatest distance possible. It is important to maximize the distance between outlet structures and inflow points in order to extend flow paths and detention times, facilitating the efficient settling of pollutants and sediment.

Metal outlet pipes extending from a basin side slope or embankment are prohibited. All outlet structures utilizing solely a pipe/culver as the main outlet must have suitable headwalls, end sections, mitered sloped concrete protection, etc.

Outlet culverts for detention facilities shall be 12 inches or larger. Orifice plates are allowed if they are permanent, tamper-proof, and connected to a 12-inch minimum diameter outlet pipe. Outlet structures with orifice plates should have a trash rack to prevent clogging.

Incorporate adequate sediment and debris collection measures into the basin design to minimize clogging. Outlet structures shall not be oversized to account for debris blockage or clogging. Sediment traps should also be incorporated into the design of all multi-use detention facilities.

Outlet pipes that pose a risk to children, such as those that directly connect to a large storm drain system, should be equipped with a bar/grate arrangement as per the safety regulations outlined in the International Building Code (IBC). This is necessary to ensure that children cannot gain access to the outlet opening.

Local scour at culvert outlets and the long-term downstream degradation of the facility must be considered in the overall basin design. To mitigate erosion, various measures such as energy dissipators, cut-off walls, riprap aprons or basins, and rock lined channels should be implemented. These measures aim to decrease outlet velocities and enable the flow to

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return to its pre-developed conditions as much as possible before discharging onto the downstream property.

704.3.5 Detention Embankments

It is recommended that detention facilities be constructed with the storage volume located entirely below the natural ground or finished grade adjacent to the facility. Use of detention embankments or berms is discourage due to the potential for downstream flood hazard in the event of failure; however, the following criteria must be incorporated into the detention embankment design, at a minimum:

1. Vegetated embankments shall be less than 20 feet in height and shall have side slopes no steeper than 3:1 (H:V). Embankments protected with riprap or other approved erosion control measure shall be no steeper than 2:1 (H:V).
2. A geotechnical engineering study and slope stability analysis is required for embankments exceeding 10-feet in height or for embankment slopes exceeding those given above. See the Arizona Administrative Code Dam Safety Procedures for additional information and criteria.
3. Top width of the embankment shall be a minimum of 1/2 the height of the embankment.
4. Design of spillways shall also incorporate adequate erosion control and energy dissipating measures to ensure the stability of the embankment. The use of concrete spillways is preferred.
5. Seepage through the embankment and internal erosion, particularly along the outside of the primary outlet conduit and spillway wall, must also be considered in the design of the embankment. Soil used for detention embankments should have a relatively low permeability after placement and shall be compacted to a minimum of 95 percent of AASHTO T-99 maximum density.
6. No detention facility can be designed to be a jurisdictional dam based on ADWR criteria without approval of the County Engineer.

Public detention facilities that include an embankment must have a minimum of 1-foot of freeboard above the spillway elevation. The spillway elevation should be set equal to or above the 100-year water surface elevation.

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704.3.6 Emergency Overflow

All detention facilities must include measures for emergency overflow in case the main outlet structure fails or if there are storm events that exceed the design capacity. The overflow system should be designed to handle the maximum discharge during a 100-year peak flow after development. The design criteria should ensure the protection of the basin and determine the method of discharge. The overflow should be conveyed downstream in the same way it would have done under predevelopment, historic conditions.

Spillways for detention facilities utilizing embankments should be carefully planned to safeguard the embankment side slopes, especially on the downstream side. It is recommended that the spillway be located to direct the flow around the embankment on or through natural ground, rather than situating the spillway directly above the main outlet structure. The safety of individuals, properties downstream, and the potential outcomes of embankment failure must be taken into account and assessed.

704.3.7 Safety

Detention facilities in general should be open, visible, and accessible so that persons can appreciate any hazard and guard themselves, and so that rescue efforts, if necessary, are not impeded.

To reduce the potential dangers associated with detention facilities the following recommendations are made in the design and construction:

1. The ground surface side slopes around the facility should be made rough.
2. Break up ponding water with islands, boulders and mounds; put solid objects for holding onto in the ponding area such as large plants or rocks.
3. Avoid sudden constrictions and high velocities at outlets. Broad open rectangular weirs are preferable to anything involving the mouths of pipes and/or creating a hazardous vortex at the outlet.
4. Restricting public access and/or identifying potential hazards associated with detention basins, particularly in multi-use areas.

If detention facilities must be designed with steeper side slopes or vertical walls, adequate routes out of the basin should be provided.

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Signage should be provided to inform the public of the basin purpose and potential safety hazard from stormwater. (e.g., DANGER - This basin is designed to collect stormwater runoff DO NOT ENTER during rainy or threatening weather).

704.3.8 Security Barriers

Detention basins that adhere to the Slope and Depth Criteria Section and the preceding sections should eliminate the need for security barriers to prevent unauthorized access. However, it is recommended to install security barriers, equipped with maintenance access gates, along the top of basin side slopes steeper than 3:1 (H:V) and in areas where water depths exceed 3 feet.

These security barriers can be constructed using materials such as masonry, chain-link, or wrought-iron (pool-type) fencing, and must have a minimum height of 72 inches. It is important to ensure that the fencing, if required, does not impede the hydraulic capacity of the inlet or outlet structures.

For retaining walls or inlet/outlet structure headwalls and wingwalls that are over 30 inches in height, appropriate safety railings are required. Show detailed sections of the proposed barriers on the grading and drainage plans or development plans, as applicable.

705 Building in a Flood Zone

Constructing in flood zones necessitates thorough due diligence, particularly in terms of foundation type, base flood elevation (BFE), frequency of flood events, ceiling height, and the financial implications of National Flood Insurance Program (NFIP). The base flood elevation (BFE) denotes the elevation linked to a one percent probability of an annual flood occurrence.

Flood zones are geographic areas that FEMA has defined according to levels of flood risk.

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There are multiple flood zones:

Table 705.1 Flood Zones and Risk

Flood Zone	Risk	General Location
V	High & Most Hazardous	Adjacent to oceans or seas
A	High	Near lakes, rivers, streams, etc.
X (shaded)	Moderate	Within the 500-year floodplain
B	Moderate	Within the 100- to 500-year floodplain
X (unshaded)	Minimal	Outside the 500-year floodplain
C	Minimal	Ponding or local drainage problems, no designation as a base floodplain
D	Undetermined	A flood analysis to determine the probability of flooding has not been done.

705.1 Floodplain Management Regulations

The County is responsible for adopting and enforcing floodplain management regulations so that development, including the construction of buildings are undertaken in a way that reduces exposure to flooding.

The National Flood Insurance Program (NFIP) requires the County to agree to do all of the following:

- Adopt and enforce flood maps as well as flood damage prevention ordinance
- Require permits for development in a floodplain
- Assure building sites are reasonably safe from flooding
- Establish base flood elevations (BFE) where not determined by FEMA
- Require new and substantially improved home and manufactured home to be elevated above the BFE
- Require non-residential buildings to be elevated above the BFE or dry floodproofed
- Determine if damaged building is substantially damaged
- Conduct field inspections to cite and remedy violations
- Require and maintain surveyed elevation information to document compliance
- Carefully consider requests for variances
- Resolve non-compliance and violations

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- Advise and work with FEMA and the State when updates to flood maps are needed
- Maintain records for review and respond to periodic request for reports to FEMA

705.2 National Flood Insurance Program (NFIP)

An elevation certification is required to obtain an insurance quote.

705.3 Removing Property from a Flood Zone

FEMA approvals take considerable time, typically 60- to 90-days due to respond and rush processing is not an option. DO NOT commence building before FEMA issues a finding. The following steps are required to remove a property from a flood zone.

To request removing a property from a flood zone, it must be proven that the:

1. property will not suffer flood damage
2. property higher than 100-year BFE

The property must be removed from the floodplain **before** building to avoid the requirement to acquire flood insurance.

The removal process with FEMA typically requires the services of a civil engineer and/or surveyor. The land surveyor will determine if the existing ground is above or below the BFE.

705.3.1 Natural Grade is above the BFE

If the natural ground is above the BFE and no fill is required to raise the grade above the BFE, then a Letter of Map Amendment (LOMA) is required.

705.3.2 Fill is Required to Raise Grade above the BFE

Prior to placing any fill on the site:

- Obtain a County floodplain permit for the placement of fill in the floodplain
- A grading plan is required showing existing elevations, proposed finished grade that is above the current BFE

The County will review the permit and determine if revisions are required, such as additional fill to placed elsewhere onsite to offset the fill placed

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in the floodplain. After the permit is issued, only the fill material may be placed, and it must be surveyed once the placement is complete. This information must be recorded on a surveyed document that will support the application to FEMA. The County floodplain administrator is responsible for providing a Community Acknowledge Form for FEMA, confirming that the fill has been properly placed and the property is reasonably protected from flooding. However, it should be noted that this does not guarantee that the property will not experience flooding.

The payment of all fees related to the preparation and submission of the required documents for a Letter of Map Revision (LOMR-F) from FEMA, including processing fees paid directly to FEMA, falls under the responsibility of the property owner or developer.

Properties built prior to FEMA approval are not eligible for removal from a flood zone.

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Traffic Engineering

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800 General Information

The intent of this Chapter is to establish guidelines and criteria for Traffic Engineering design and construction in the County. The minimum requirements outlined in this Chapter are focused on ensuring safety. Therefore, standards that offer a higher level of safety should be used.

801 Traffic Signals

The County does not own, maintain or install traffic signals. Any development plans that involve signalization must be coordinated with the County and the maintenance shall be the responsibility of the developer, HOA, or property owners. Refer to ADOT *Traffic Guidelines and Processes* for the necessary requirements and standards for conducting a Traffic Signal Study.

Traffic signals shall conform to ADOT Specifications and Drawings, unless otherwise approved by the County.

802 Street Lighting

The County does not own, install, or maintain streetlights. Developers are responsible for coordinating any plans for street lighting with the County and assume maintenance responsibilities themselves, or through an HOA, or property owner(s), or by forming a lighting improvement district.

Designers should review the County's Outdoor Lighting Ordinance 02-88 (1998) and ADOT *Traffic Guidelines and Processes* for roadway illumination requirements and guidance.

Street lighting shall conform to ADOT Specifications and Drawings, unless otherwise approved by the County.

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803 Pavement Marking and Signing

All required pavement markings, traffic control devices, and road name signs for new and/or existing roads must be shown on the plans and shall be installed and paid for by the developer.

The pavement markings, signing and sign supports shall conform to ADOT Standard Specifications and Details, including but not limited to the following:

- FHWA Manual of Uniform Traffic Control Devices (MUTCD)
- ADOT Supplement to the MUTCD
- ADOT Manual of Approved Signs (MOAS)
- ADOT Signing and Marking Standard (SMS) Drawings
- ADOT Standard Specifications
- ADOT Traffic Guidelines and Processes

Signs shall be installed on breakaway supports for roads with a design speed of 50 mph or higher. Whenever a sign is replaced or upgraded, the support must also meet breakaway compliance, subject to available funding.

In subdivision development with stub roads, signs shall be installed at the end of the stub roads and indicated that the road will be extended in the future. The sign shall have a message stating: “This Road is to be extended with Future Development. For More Information Contact the Navajo County Planning & Development Services.” The developer is responsible for providing this sign which shall be made of a 0.080-in. gauge aluminum sign blank and fully reflective (minimum engineering grade material) sheeting and designed per the MUTCD.

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804 Traffic Control

Projects and public functions in County right-of-way require a traffic control plan review and approval from the County. Traffic control plans shall conform to the following guidelines:

1. The safety of the public and construction personnel takes precedence over all other considerations.
2. Provision for access by emergency response vehicles must be in place at all times.
3. Access to adjoining properties must be available at all times.
4. Schools, hospitals, and other public service organizations must be made aware of the project and level and duration of impact prior to starting construction. Notification shall be the responsibility of the permittee.
5. Traffic control shall utilize and conform to the following documents:
    - Manual on Uniform Traffic Control Devices (MUTCD)
    - ADOT Temporary Traffic Control Design Guidelines
    - ADOT Supplement to the MUTCD
    - ADOT Manual of Approved Signs (MOAS)
    - ADOT Standard Specifications
    - ADOT Traffic Guidelines and Processes

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Grading and Sediment Control

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900 Grading and Sediment Control

It is crucial to take into account various factors such as conserving the natural environmental function of the site, ensuring compatibility with the surrounding land, stabilizing hillsides and slopes prone to erosion, preserving drainage courses, and protecting natural drainage ways when planning and implementing grading activities.

900.1 Purpose and Intent

The purpose of this Chapter is to prevent loss of life and property by regulating development, safeguarding watersheds and natural waterways, eliminating adverse drainage conditions in new developments, preventing soil erosion, reducing land disturbance, promoting preservation of land's natural character and aesthetic value, maintaining the visual appeal of graded sites, and preserving the existing landscape by retaining natural topographic features, native vegetation, and wildlife habitat.

900.2 County Code, Ordinances and Standards

Excavation and grading activities shall comply with the regulations and ordinances set forth in this Manual.

All earthwork, clearing and grubbing, and other site preparation work shall conform to the requirements of the International Building Code (for buildings and site improvements), MAG Specifications or ADOT Specification (for roads), and this Manual, unless otherwise specified in the approved geotechnical report. In the event of any inconsistencies between the International Building Code, MAG Specifications, or the requirements in this Manual, the more rigorous of the two will be enforced.

The design of drainage systems must meet the standards outlined in Chapter 700 of this Manual. In the event of any discrepancies between Chapter 700 and other sections, the requirements of Chapter 700 will prevail.

901 Permits

A County grading permit must be obtained before any grading is done, unless exempted in this Chapter. Each site requires a separate permit, which can cover both excavations and fills.

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Engaging in or allowing any clearing or grading activities on a site is strictly prohibited, unless a permit is obtained. The only exception to this rule is conducting soil tests on a piece of land that is no larger than 100 square feet. Whether it is vacant lots or developed lots in non-disturbance areas in all zoning districts, any clearing or grading requires a grading permit and prior approval from the County. It is important to note that no clearing or grading should exceed a defensible space, which is a strip of land extending up to a maximum of 30 feet horizontally from any structure. Removing any cacti, shrub, or plant within the defensible space is only allowed if it has been confirmed as dead by the County.

The removal of dead trees within the designated defensible area is required. Vegetation under trees should be maintained at a height that prevents a fire from spreading easily. Proper maintenance of live vegetation in the defensible area is required to minimize intensity and spread of fires. Vacant lot owners must follow the recommendations for establishing a defensible space from neighboring structures. Without written authorization from the County, clearing for a defensible space in undisturbed areas is prohibited. Clearing of vacant lots is only allowed for the purpose of creating a defensible space near a structure. It is forbidden to eliminate wildlife habitat for protected species.

No work shall commence within a floodplain without prior consultation with the County and an issuance of a permit. See Chapter 700.

901.1 Requirements

To acquire a Grading Permit, all of the following criteria must be satisfied:

1. The application for a grading permit shall include submittal items as outlined in Chapter 200 of this Manual. Plans shall be drawn to scale and shall be per the County's CADD Standards and be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that they will conform to the provisions in this Manual and all relevant laws, ordinances, rules and regulations.
2. Grading Plans shall be prepared by a Professional Engineer and at a minimum shall include the following:
    a. Location of the work, the name and address of the owner, and the person by whom they were prepared.

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b. Clearly defined original contours and proposed elevations or contours to be achieved by the grading construction.
c. Property limits and accurate contours and details of terrain / drainage of adjacent properties.
d. Clear delineation of the limits of cut and fill slopes including top and toe slopes relative to adjacent property lines and proposed improvements.
e. Clear delineation of potential rock disposal areas.
f. Proposed grades of streets, slopes, drainage ways, parking lots and driveways.
g. 100-Year Floodplain and Floodway Delineation where applicable; see Chapter 700.
h. All surface and sub-surface drainage devices, walls, cribbing, dams and other protective devices to be constructed with, or as a part of, the proposed work. A map showing the drainage area and the estimated runoff of the area served by any drains shall be referenced in the drainage report.
i. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners that are within 15 feet of the property or that may be affected by the proposed grading operations.
j. Other details, as required, to clarify the plan.

3. The County requires re-vegetation for any grading. The type and extent shall be shown on the grading plans and titled “Erosion Control”. Erosion control plans must conform to current NPDES requirements.
4. A geotechnical report is required for all projects requiring a grading permit unless exempted in this Chapter. The report shall include the following:
    a. Data regarding the description and classification, properties, distribution, and strength of existing soils
    b. Conclusions and recommendations for grading procedures
    c. Design criteria for corrective measures, including buttress fills, when necessary

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d. Opinion on adequacy for the intended use of sites to be developed by the proposed grading as affected by geotechnical factors, including the stability of slopes.
e. The geotechnical report or separate geology report shall include an adequate description of the geology of the site, conclusions, and recommendations regarding the effect of geologic conditions on the proposed development, and opinion on the adequacy for the intended use of sites to be developed by the proposed grading, as affected by geologic factors.
f. The geotechnical or geology reports shall include the date, names, addresses and phone numbers of the firms or individuals who prepared the reports.

5. Specifications shall contain information covering construction and material requirements.
6. Recommendations included in the geotechnical report shall be incorporated in the grading plans or specifications.
7. The County Engineer may require a geotechnical investigation in accordance with the International Building Code to address the potential for liquefaction if the following conditions are discovered:
    a. Shallow ground water, at a depth of 5 feet or less.
    b. Unconsolidated sandy alluvium.
8. An Owner or Operator who intends to disturb an area of land that is equal to or greater than one acre, or that is less than one acre but is part of a larger plan of development that disturbs one or more acres of soil in an area designated as a Small Municipal Separate Storm Sewer System (SMS4) shall obtain permit coverage under the General Permit for Discharges from Construction Activities from ADEQ. A copy of the Notice of Intent (NOI) submitted to and approved by ADEQ and the SWPPP must be provided to the County prior to the start of any land disturbance on the construction site.

901.2 Issuance

The regulations outlined this Manual are relevant to grading permits. In the event of unforeseen delays arising from factors that were not taken into account during the issuance of the permit, the County has the authority to request modifications to the grading operations and project designs.

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901.3 Exemptions

1. Single Family Residential where the excavation is:
    a. Less than 50 cubic yards,
    b. Less than 2 feet in depth and
    c. Does not create a cut slope 5 feet or greater in height and steeper than 1.5:1 (H:V).
2. When approved by the County, grading in an isolated, self-contained area if there is no impact or danger to private or public property.
3. An excavation below finished grade for basements and footings of a building, retaining wall, or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation or exempt any excavation having an unsupported height greater than 5 feet after the completion of such structure.
4. Cemetery graves.
5. Refuse disposal sites controlled by other regulations.
6. Excavations for wells, tunnels, or utilities.
7. Mining, quarrying, excavating, processing, or stockpiling of rock, sand, grave, aggregate or clay where established and provided for by law, provided such operations do not affect the lateral support or increase the stresses in or pressure upon any adjacent or contiguous property.
8. Exploratory excavations under the direction of soil engineers or geologists.
9. A fill that meets the following criteria:
    a. not intended to support structures, and
    b. does not exceed 50-cubic yards (38.3-cubic meters) on any one lot, and
    c. does not obstruct a drainage course, and
    d. is either:
        i. less than 1 foot in depth and placed on natural terrain with a slope flatter than 5:1 (H:V or 20 percent slope), or
        ii. less than 3 feet in depth

An exemption from the permit requirements does not imply authorization for any work to be carried out in a manner that violates the provisions of this Chapter or any other laws or ordinances of this jurisdiction.

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902 Standards and Design Criteria

902.1 At-Risk Grading

Before accepting an At-Risk Grading and Drainage plan for County review, the County must conduct an initial review of the project's Grading and Drainage plan. All significant County comments on the Grading and Drainage plan must be resolved before accepting the At-Risk Grading and Drainage plan. While an At-Risk Grading and Drainage Plan approval may be granted for the developer's convenience, it is important to note that the County is not obligated to approve an At-Risk Rough Grading Plan. If there is a lack of timely progress towards the final approval of the Grading and Drainage plan, the permit may be revoked.

At-Risk Grading and Drainage plans are solely approved for rough grading purposes. Trenching or fine grading is not permitted under the At-Risk Grading and Drainage plan approval.

The Professional Engineer shall work to finalize the approval of the complete Grading and Drainage plan while the At-Risk Grading and Drainage plans are being utilized, as failure to do so may result in the revocation of the At-Risk Grading and Drainage permit.

902.2 Pre-Grading

A grading or building permit shall not be contingent upon altering, modifying, or not utilizing existing grading, provided that the existing grading work has a valid permit and does not pose a risk to the proposed development or neighboring properties. This clause does not prohibit the County from requiring documentation to verify site suitability for soil stability, compaction, and other geotechnical considerations.

902.3 Clearing and Grubbing

Clearing and grubbing is work performed in advance of grading operations to remove vegetation, rubbish, debris and other objectional material from the right-of-way, easement, and such other areas.

Perform clearing and grubbing in accordance with MAG Specifications Section 201.

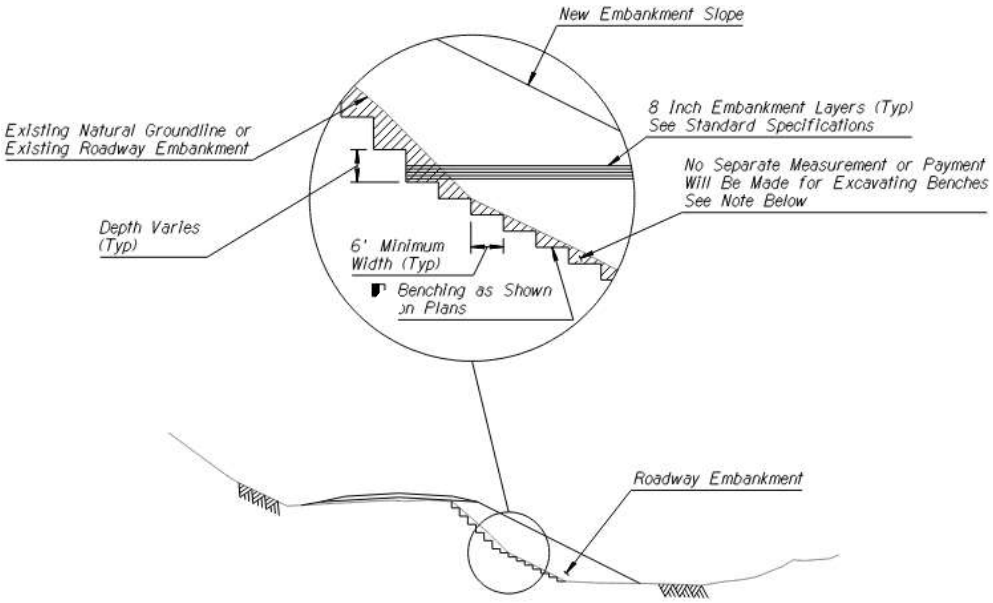
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902.4 Benching

902.4.1 Fill Slopes

When constructing new embankments on existing embankments, fill slopes, or hillsides, benching (Figure 902.1) shall be required to key-in the new embankment to minimize the possibility of slippage at the interface. A determination of the need for benching at each location shall be made by the designer and geotechnical engineer. Show benching details and locations on the plans.

Figure 902.1 Typical Fill Slope Benching



902.4.2 Cut Slopes

Benching of new cut slopes is a special design and is to be investigated and designed individually for each cut area where benching of the new cut slope is being considered. A geotechnical report is required and must include benching details and requirements.

902.4.3 Mini-Benching

Mini-Benching is a special slope treatment used to promote re-vegetation, reduce erosion. See ADOT Roadside Development Section's Erosion/Sediment Best Management Practices and Details.

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902.5 Excavations and Cuts

The slope of cut surfaces shall not exceed what is deemed safe for the designated purposed and shall not exceed a ratio of 2:1 (H:V). Steeper cut slopes may be considered when a sealed geotechnical report is provided by the permit holder. The geotechnical report must confirm that the area has been thoroughly investigated and the Geotechnical Engineer gives an opinion that a steeper cut slope will not pose a risk to public or private property.

Excavations and cuts shall comply with MAG Specifications Section 205. The County has the authority to require the use of ADOT Specification Section 203.

902.5.1 Surplus Material

Prior to the exportation of any material from a site, a suitable location for the material must be identified in order to obtain a grading permit for its removal. Surplus material can only be exported to the approved site specified on the approved grading plans. Alternate receiving sites shall only be used after grading plan is revised, resubmitted to the County, and the amended is approved.

902.5.2 Structure Excavation and Structure Backfill

Structure excavation and structure backfill shall comply with MAG Specifications Section 206. The County has the authority to require the use of ADOT Specification Section 203.

902.5.3 Borrow Excavation

Borrow excavation is the excavation of material required for construction embankments or fills from on-site locations. Borrow excavations shall comply with MAG Specifications Section 210. The County has the authority to require the use of ADOT Specification Section 203.

902.6 Embankments and Fill Construction

All fills and berms shall not exceed a height of 8 feet, measured from the highest nearby natural grade to the top of the fill, unless authorized by the County. All fills within setback limits shall not exceed a height of 4 feet. The placement of embankments shall comply with MAG Specifications Section 211. The County has the authority to require the use of ADOT Specification Section 203.

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902.6.1 Importation of Fill Material

Except as exempted in the International Building Code the importation of fill material is prohibited unless a grading permit allowing such is first secured.

902.6.2 Geotechnical Investigation

A geotechnical investigation is required for all projects that include roadways; major structures in the right-of-way, such as bridges or box culverts; underground facility design, including storm drain, water, and sewer; or when natural slopes are steeper than 4:1 (H:V).

902.6.3 Placement of Fill

Organic matter is prohibited in fills unless a sealed engineering report is submitted and approved by the County. Rocks or other non-reducible materials larger than 12 inches in size are not permitted in fills, unless specifically approved by the County. If larger rocks are permitted, a geotechnical Professional Engineer must inspect and approve the placement and stability of the fill.

902.6.4 Slopes and Benching

Fill slopes shall be no steeper than is safe for the intended use and shall be no steeper than 3:1 (H:V), unless otherwise approved in the geotechnical report.

Benching shall be as required by the International Building Code and as determined by the geotechnical and design engineer.

902.6.5 Compaction

All fills shall be compacted per the Table 902.1 and ADOT Specifications.

Table 902.1 Fill Compaction

Location	Minimum Density (AASHTO T99)*
Open Space	90%
Roadways, Driveways, Parking Lots	95%
Structures or Building Pads	Per Geotechnical Report

* Unless otherwise indicated in a sealed and approved geotechnical report.

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902.6.6 Blending of Fill Grading

Fill grading should have an irregular and contoured edge that blends into the natural surrounding terrain.

902.7 Setbacks

Setback dimensions and cut/fill slope requirements shall be in accordance with International Building Code. In cases where a fill slope is situated close to the site boundary, additional measures may be required by the County to safeguard neighboring properties from potential damage caused by grading activities. These precautions may include but are not limited to:

- Additional setbacks
- Provision for retaining or slough walls
- Mechanical or chemical treatment of the fill slope surface to minimize erosion
- Provisions for the control of surface waters

The County has the authority to grant alternative setback approvals. The County may require an investigation and recommendation from a licensed Professional Engineer or geologist to verify compliance with the requirements outlined in this section.

902.8 Grading for Parks and Golf Courses

The County has the authority to waive the restrictions on disturbance, such as disturbed areas and the height and retention of cuts and fills, for the purpose of developing a park, a golf course, trails, or any other recreational facility that does not involve constructing buildings as its main objective.

903 Hillside Disturbance Standards

The hillside standards aim to limit the amount of hillside disturbance on each property based on slope severity. Hillside areas are defined as those with slopes equal to or greater than 20 percent, as indicated on a topographical contour map prepared by an Arizona-registered land surveyor. Slope percentage is determined by contour line spacing on the preliminary plat. The County requires the submission of topographic contour maps with specific requirements based on Table 903.1.

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Table 903.1 Topographic Map Requirements

Site Size (acres)	Maximum Contour Interval	Maximum Map Scale
Less than 10	2-foot	1” = 20’
10 to 100	5-foot	1” = 50’
More than 100	5-foot	1” = 100’

Individual areas less than 500 square feet may be part of larger nonhillside or hillside areas. The land disturbance allowance for slope interval areas of 500 square feet or more are in Table 903.2.

Table 903.2 Hillside Disturbance Preservation & Disturbance

Percent of Slope	Preservation Requirement	Disturbance Allowance
0 – 20%	0%	100%
20% +	60%	40%

903.1 Exemption - Calculations

Unless otherwise stated in this Manual, all disturbance activities are subject to regulation. If permitted, any exempted disturbance activities will be deducted from the total area of the property. The "Preservation Requirement" and "Disturbance Allowance" areas, as mentioned earlier, will be calculated based on the remaining net area of the property after subtracting the exempted disturbance areas from the total area of development.

903.1.1 Limited Exemptions

Only the disturbance activities listed below are exempt from the horizontal Hillside Disturbance Standards.

1. Disturbance within street rights-of-way, tracts of land for private roads meeting public road standards, and any roadway grading required by the County outside of street rights-of-way or tracts for private roads meeting public road standards.
2. Utility lines, or any other public improvement activities needed for the development of utility lines and associated equipment, outside of any disturbance caused by other development activities, either pre-existing or current, may be exempted from the requirements of this section upon administrative review by and approval of a "Utility Disturbance Permit" by the County. Utility Disturbance Permits shall only be issued in conformance with the Following conditions.

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a. The County shall find that the proposed disturbance is necessary.
b. The County shall approve a re-vegetation and landscaping plan which shall be completed within a specified time frame and made a condition of the Utility Disturbance Permit.
c. The County shall determine the method, if any, of covering open trenches during nonworking hours.
d. The County shall specify the expiration date of the Utility Disturbance Permit.
e. Utility Disturbance Permits are project-specific and property-specific and are nontransferable.
f. The County may, at his sole discretion, include any other reasonable condition he feels is necessary to ensure public safety and convenience.
g. Any violations of the conditions of a Utility Disturbance Permit shall render the permit void.

3. All lots and uses deemed exempt in this Manual or by County Ordinances.
4. An area up to 10 feet beyond the disturbance fence may be cleared during construction to provide additional fire protection, provided a plan to revegetate this area consistent with the native desert in place prior to construction is approved with the building construction plans. The revegetation must be accomplished prior to issuance of the occupancy permit.

903.2 Specified Nonexempt Activities

The Hillside Disturbance Standards do not exemption to the following disturbance activities:

1. Disturbance activities for the development of any effluent watering field or any lake or pond intended for the storage of treated effluent, or any service and/or access road or any above or below ground pipeline or utility lines, whether or not the development of such fields, ponds, lakes, service/access roads, pipelines or utility lines have been mandated or suggested by another governmental agency or Court.
2. Any "utility" disturbance, other than for a utility line and associated equipment as described in Section 903.1.1.
3. In addition to the detailed information that is required to be provided to the County to ensure compliance with this Manual and Ordinances, the property owner may submit to the County an

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alternative method of calculating the "Preservation Requirement" and the "Disturbance Allowance" as set forth in this Hillside Disturbance Standard. The County may approve this alternative method of calculating the "Preservation Requirement" and the "Disturbance Allowance" at the time of preliminary plat consideration.

4. The Development Services Director may consider additional exemptions to or modifications of the disturbance area required this these Hillside Disturbance Standards when, in the determination of the Development Services Director, the specific situations of the lot (lot configuration, steep slope on the lot adjacent to the street, location of appropriate building site, etc.) make development of the specific lot impractical under the provisions of this Standard. The relief allowed shall be the minimum necessary to facilitate construction on the property.

903.3 Previously Disturbed Areas

Hillside areas that have been previously disturbed within a development will be included in the overall hillside disturbance calculation for the development and will not be considered as undisturbed hillside areas by the County. If an applicant wishes to salvage landscape materials for re-vegetation before Final Plat approval, they may do so, but at the risk of not complying with this Standard and having the final plat denied.

903.4 Determination of Natural Grade.

The topography of land in the County as of January 1, 2025, is considered to be natural grade by this Standard. Any grading or disturbance activities carried out after January 1, 2025, will not be exempt from the Hillside Disturbance Standards, and any cumulative hillside disturbance shall be offset at the time of development approval in accordance with the Hillside Protection Standards.

903.5 Disturbance Buffers and Fencing

903.5.1 Fencing

With the exception of Section 903.5.2, once a disturbance area is defined, an area that meets the hillside protection requirements of the lot, parcel, or tract must be safeguarded by using rope and flag, which should be securely fixed in the ground to prevent any movement. The roped-in area should encompass all previously disturbed areas as well as any areas that

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are intended to be disturbed. No disturbance shall take place outside of this designated roped-in area. Nevertheless, the Planning & Development Services Director or designee has the authority to permit the re-vegetation of undisturbed areas or hillside protection areas disturbed prior to January 1, 2025, if it is in line with an approved landscape plan. The rope and flags shall only be removed once all construction activities on the lot have been completed.

903.5.2 No Fencing

If the County deems fencing requirements impracticable, they may waive such requirements at their discretion. In such cases, the designated area to be disturbed must include a perimeter area that is at least 20 feet wide around all other construction or grading activities. The proposed disturbance perimeter, as indicated on approved grading plans, must be iron-staked by an Arizona-registered land surveyor or civil engineer, roped, and have warning signs posted prior to any disturbance activities. The County must inspect the staking, roping, and warning signage prior to any disturbance activity occurs. These markers must remain in place throughout construction and can only be removed after final approval is granted by the County, or in the case of a multifamily development, after a Certificate of Occupancy is issued.

903.6 Utility Disturbance

Excavation work for utility line installation, such as water, septic systems, sewer mains, and laterals, must be confined to a designated area centered on the utility line, with a width that may vary depending on the requirements of the work. Any activities outside of this designated area are prohibited.

903.7 Subdivider Options

To comply with the Hillside Disturbance Standards, the developer of a property where future disturbance activities are planned may select one of two options.

903.7.1 Lot-by-Lot Hillside Protection Option

If the developer chooses not to use the Hillside Transfer and Protection Option outlined in Section 903.7.2 to comply with these Standards, and if no hillside protection measures are proposed (apart from those required in Section 903.3) during the platting process for the undisturbed but developable lots or parcels within site, then each lot or parcel must

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independently satisfy the land disturbance criteria in the Hillside Protection Standard.

903.7.2 Hillside Transfer and Protection Option

1. If the developer opts to transfer allowable hillside disturbance from undisturbed hillside areas to lots, parcels, tracts or rights-of-way within a development, they may do so by identifying an area approved by the County and granting to the County a Hillside Protection Easement(s) to the County. In case the Hillside Transfer and Protection Option is used, all areas outside of the Hillside Protection Easement(s) in the development may be disturbed through the subdivision improvement process and/or future development activities.
2. In the event that the developer selects the Hillside Transfer and Protection Option to preserve the required amount of hillside areas within the development, the following regulations apply:
    a. If a development spans two or more zoning districts, the amount of hillside slopes to be preserved in each zoning district will be calculated separately.
    b. The total required undisturbed hillside areas for the development can be preserved anywhere within the development. Hillside Protection Easements can be placed on lots intended to be developed, instead of, or in addition to, tracts of land within the development boundaries. In specific instances approved by the County, hillside areas may be preserved outside of the development boundaries.
    c. The specified Hillside Protection Easement text must be used for easements intended to meet the requirements of this Section:

Owner hereby grants to “Navajo County” a perpetual easement upon, across, over and under all those areas designated as "Hillside Protection Easement" for the purpose of preserving the natural topography and vegetation of land area within the Final Plat of (Development Name) in conformance the County Subdivision Regulations. The owner or any of his heirs, successors, or assigns shall not perform nor allow to be performed, any construction; or cutting, filling, grading to the Topography; nor any grubbing, brushing, removal, or otherwise damage any vegetation, rock outcropping, or other natural feature in the Hillside Protection

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Easement area without prior County approval. A trail way may be a permitted use if approved by the County.

903.8 Clearance for Fire Safety

The Fire Marshal has the authority to inspect and approve limited clearing and removal of plant material within a non-disturbance area on the lot for up to 100 feet from a structure in order to mitigate fire hazards caused by excessive growth and the buildup of dead or dying plant material. The purpose of this is to minimize fire risks by requiring the removal of materials that pose a fire hazard. No replanting is permitted within the non-disturbance areas under this Section. Any activities exceeding the Fire Marshal's authorization will constitute a violation and may incur relevant fines and fees.

903.9 Enforcement - Remediation

If disturbance activities are found to be in violation of this Section, the Planning & Development Services Director or their designee is authorized to enforce these regulations. This includes, but is not limited to, the ability to mandate the immediate installation of chain-link fencing around all disturbance perimeters, the immediate re-vegetation of any illegally disturbed areas, and the issuance of project-wide stop work orders.

904 Hillside Local Streets

In hillside areas where the existing slopes exceed 15 percent, it is possible to use hillside local street standards to promote a more suitable adaptation to the area's topography. If there are notable topographical elements like washes, hillsides, boulders, rock outcroppings, and established native vegetation that cannot be restored, alternative engineering designs may be approved. These modifications will be evaluated on a case-by-case basis and require approval from the County. The subsequent section outlines the prerequisites and design options for constructing local streets in hillside areas.

904.1 Grading Disturbance

The grading process for both public and private streets must adhere to the to this Manual, including the limitations on cut and fill activities as well as land disturbance. Any disturbance caused by road grading will decrease the overall allowance for hillside disturbance across the entire development, as specified in this Chapter. If road grading results in disturbance outside of street right-of-way or private road street tracts that

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meet public street right-of-way standards, the development-wide allowance for hillside disturbance will be reduced accordingly. However, any development that falls within an Area Specific Plan adopted before January 1, 2025, will be exempt from this requirement.

904.2 Revegetation

The developer must ensure that re-vegetation and restoration take place in areas where scarring occurs due to street or utility construction. These restored areas shall be carefully graded and landscaped to blend in with the surrounding natural vegetation and terrain. Additionally, measures must be taken to stabilize these areas to prevent erosion. It is important that landscaping and stabilization activities are carried out simultaneously with the construction process.

Disturbed Forest Service land requires an approved US Forest Service (USFS) revegetation plan and seeding design.

905 Washes and Drainage

905.1 Maintenance of Continuity

Designers, developers, and contractors shall preserve of the entry and exit points and the uninterrupted flow of all natural drainage channels on lot or parcel. The ponding of water above cut or fill slopes is prohibited. Design building sites to divert surface waters away from structures and retaining walls.

905.2 Swale Grading

Swale grading for drainage needs is exempt from the restoration procedures.

905.3 Character

Enhance the appearance of retained washes and new drainage channels to blend in seamlessly with the surrounding environment. Utilize rock and native plant materials in landscaping efforts, while also prioritizing the conservation of existing natural elements.

905.4 Detention Basins

Stormwater detention basins utilizing natural materials are recommended, pending approval from the County Engineer based on specific conditions and locations.

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905.5 Detention Basin Re-vegetation/Aesthetics

Stormwater detention basins shall be re-vegetated using the existing vegetation and native plant materials, as deemed appropriate based on the approved landscape plan. The implementation of terracing, berming, and contouring techniques are encouraged to enhance the naturalization and visual appeal of the basin, ensuring it seamlessly integrates with the surrounding terrain.

905.6 Basin Construction

Design basins to facilitate the formation of peninsulas, enhance the "natural" contouring, and strategically position boulders and rock outcroppings.

905.7 Basin Slopes

Basin slopes shall not exceed a 3:1 (H:V) slope. The County may approve deviations from this requirement if a lesser slope would result in excessive grading of the existing environment.

905.8 Native Materials

The use of native materials in the construction of headwalls, flow retardant structures and devices, culverts and drainage channel bottoms is encouraged.

905.9 Erosion Prevention

See Section 907.

906 Retaining Walls

The County requires a permit and a sealed engineering design for masonry and concrete retaining walls for the following conditions:

- Retaining walls exceeding a height of (4) feet
- Retaining walls below four (4) feet in height, but meeting one of the following conditions:
    - Surcharge loading from structures or vehicles
    - Having a backslope exceeding 10:1 (H:V) within a distance equal to the retaining wall's height, or ten (10) feet, whichever is greater.
    - Horizontal spacing between terraced walls is less than two (2) times the height of the taller wall.

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Before the County will close a wall permit, the applicant is required to obtain final inspection and approval from the engineer who is responsible for the design.

ADOT Structure Detail Drawings (SD-Std) may be used. Retaining walls used in conjunction with or adjacent to stormwater conveyance or detention facilities, and subject to inundation or flow, shall be specifically designed to withstand these conditions.

906.1 Terraced Walls

Terraced retaining walls are subject to the retaining wall height limitations. In cases where two retaining walls are separated by a landscaped terrace that is at least as wide as the height of the taller wall, each wall will be treated as an individual wall. The distance between terraced retaining walls is measured from wall face to wall face.

906.2 Determination of Average Height

The height of a retaining wall is measured from the top of footing to the top of wall. The length of a retaining wall is measured along the lay out line of the wall as defined on the plans or details and includes any straight or curved sections. The average height is then determined by calculating the total vertical surface area of the wall, as noted above, then dividing the total vertical surface area by the wall's total length.

906.3 Height Limitations

The maximum allowable height and average height of a retaining wall, including straight-line or circular sections of a meandering wall, shall not exceed the following:

Table 906.1 Wall Height Limitations

Average Slope at Wall*	0% – 15%	> 15%
Maximum Height	8 feet	10 feet
Average Height	6 feet	7 feet

* As determined by averaging percentage of slopes shown on sections through grading plan submittal.

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906.4 Stacked Rock and Mechanically Stabilized Earth Retaining Walls

Design stacked stone and Mechanically Stabilized Earth (MSE) retaining walls for non-roadway applications in accordance with the guidelines provided by the National Concrete Masonry Association (NCMA) *Design Manual for Segmental Retaining Walls.*

907 Erosion Control

Construct and maintain erosion controls to prevent erosion of all slopes and graded areas. Provide surface drainage interceptors at the top of all cut and fill slopes where surface runoff will create erosion problems. Install sub-surface drainage facilities stability and protection of affected areas due to ground water seepage. Erosion protection of drainage swales is encouraged using native rocks and native plant materials. Where runoff velocities necessitate additional erosion protection, the use of integral colored gunite or alternative material may be approved by the County.

Erosion control measures and best management practices shall be in accordance with ADOT Roadside Development standards and details.

907.1 Construction Phase Erosion Control

Install erosion control measures during construction as soon as practicable and prior to the forecast that rain is imminent. See Chapter 700.

907.1.1 Permanent Erosion Control

The faces of cut and fill slopes shall be prepared and maintained to prevent erosion. Slope stabilization is required for all grading work involving cut and fill slopes that are two (2) feet or higher. Protective measures may not be necessary where cut slopes are considered erosion-resistant, such as in situ granite. Options for slope stabilization include:

- Re-vegetated banks with a mix of reseeding/seed mats, trees, shrubs, groundcover, rock, and riprap. Plant type, size and coverage shall be sufficient to stabilize and begin restoring.
- For manufactured banks higher than 8 feet, a natural appearance should be created (such as a combination of rough-cut, undulating, and/or rounded toe and top of slope), with terracing improve plant establishment.

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- Retaining walls should be terraced or treated to blend with the surroundings (e.g. tinted concrete, rock facing, slump block, railroad ties, and/or plantings).
- Un-planted banks are permitted for exposed bedrock cuts, but additional measures may be needed to stabilize soil and reduce scarring effects.

The County may approve the use of check dams, cribbing, riprap, or other devices or methods for the project.

908 Grading Inspection

Grading activities that fall within the scope of a grading permit shall be inspected and tested. The responsibility of arranging and covering the costs of these inspections lies with the owner, who must hire a civil Professional Engineer, geotechnical Professional Engineer, or geologist. Before the work can be accepted, the County requires submission of testing results and reports documenting the grading activities.

908.1 Pad Elevation and Building Location Certifications

Before a building stem wall inspection or pre-slab inspection is approved, the property owner or their representative must submit a certification statement to the County. This statement shall be prepared, stamped, and signed by an Arizona-registered land surveyor, confirming the finished floor elevation(s) and the horizontal location of the building. The accuracy of pad elevations and building locations must be within 1/10th of a foot in comparison to the approved site plan or any amended site plan. The County Engineer may choose to waive these requirements if deemed appropriate.

908.2 Permittee

The permittee is responsible for the performed work in accordance with the approved plans and specifications, as well as in conformance to the provisions of the building codes. The permittee must engage consultants, as necessary, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor, and the County. In the event of changed conditions, the permittee is responsible for notifying the County and submitting revised plans for approval.

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908.3 Civil Engineer

The civil engineer is responsible for conducting comprehensive inspections within their specific area of expertise. These inspections include observing and reviewing the establishment of line, grade, and surface drainage of the site. In modifications are necessary, the civil engineer will develop updated plans and seek County approval.

908.4 Geotechnical Engineer

The geotechnical engineer is responsible for conducting inspections within their specific area of expertise. These inspections shall include closely monitoring the grading process and conducting tests to ensure the required fill materials quality and compaction are achieved. The geotechnical engineer must also carefully observe the preparation of the subgrade, as well as the placement and compaction of the fill, to ensure that the work is carried out in accordance with the approved plan and the relevant regulations outline in this Manual. If any conditions deviate from the approved geotechnical report, the engineer must submit revised plans and reports to the County for approval.

908.5 Geologist

The geologist is responsible for conducting a thorough inspection within their specific area of technical expertise. These inspections shall include observing the excavation of the bedrock to assess whether the conditions and grading activities align with the approved geotechnical report. If any conditions are found to deviate from the approved geotechnical report, the geologist must submit revised plans and reports to the County for approval.

908.6 County

The County is responsible for conducting inspections throughout the project's different phases to ensure compliance with the project plans, reports and specifications. The permittee must furnish the County with copies of testing and inspections reports performed by an engineer or geologist.

908.7 Noncompliance

If the event that the civil engineer, geotechnical engineer, or geologist determines that the work is not in compliance with the requirements outlined in this Chapter or the approved grading plans, they must

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immediately report these discrepancies in writing to both the “permitee” and the County.

If there is a change in the designated civil engineer, geotechnical engineer, or geologist during the grading process, all work must cease until the replacement individual agrees in writing to assume the responsibilities within their technical expertise. The “permitee” is responsible for informing the County in writing of any such changes before grading activities resume.

909 Completion of Work

Upon completion of the rough grading work and the final completion of the work, the following reports, drawings, and supplements are required, as applicable:

1. A Record Drawing, as outlined in Chapter 300 of this Manual and the Record Drawings Checklist.
2. A comprehensive report prepared by the geotechnical engineer hired to provide their services. This report shall include the locations and elevations of field density tests, summaries of both field and laboratory tests, supporting data, and comments on any modifications made during the grading process and their impact on the recommendations stated in the approved geotechnical report. The geotechnical engineer shall submit a statement confirming that, to the best of their knowledge, the work within their area of responsibility adheres to the approved geotechnical report and relevant provisions of this Manual.
3. If required by the grading permit, a report prepared by the geologist who was retained to provide their expertise. This report shall include a final description of the site’s geology and any new information discovered during the grading process, along with its impacts on the recommendations shown on the approved grading plan. The geologist shall submit a statement affirming that, to the best of their knowledge, the work within their area of responsibility complies with the approved geology report and relevant provisions of this Manual.
4. The grading contractor shall submit a statement of conformance to the approved grading plans, using a form provided by the County.

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909.1 Notification of Completion

The County shall be notified by the permittee once the grading operation is ready for the final inspection. The final approval will not be granted until all tasks, such as the installation of drainage facilities and their protective devices, completion of erosion-control measures as per the final approved grading plan, and submission of the necessary reports, have been accomplished.

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Landscaping and Irrigation

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1000 General Information

The purpose of this Chapter is to establish landscaping standards and guidelines within County Right-of-Way. These guidelines aim to maintain and enhance the environmental qualities of the County, mitigate the impacts of adjacent uses, and improve the quality and appearance of new or existing development.

Landscaping within the Right-of-Way may be permitted as long as it complies with the AASHTO Roadside Design Guide. It shall not obstruct sight distance, cause visibility issues, pose safety hazards, or damage road, drainage or utility infrastructure. If landscaping is placed in roadside drainage channel or on side-slopes, the materials shall not impede the drainage flow or reduce the channel's cross-sectional area.

Environmentally compatible landscaping plays a crucial role in enhancing the visual quality of the environment. It promotes water conservation, addresses wildfire safety concerns, controls erosion and stormwater runoff, manages noxious weeds and invasive plans, and encourages the preservation of existing trees and vegetation. Native and/or drought-tolerant plans are preferred for landscaping.

Irrigation systems may be installed within the Right-of-Way, but they shall include features to prevent water from ponding or becoming trapped near or under the roadway. The proposed landscaping, irrigation system, and/or sleeves must be approved by the County, and a Maintenance Agreement must be established with developer to outline their irrigation maintenance schedule and responsibilities before any work can commence in the County Right-of-Way. The responsible party for installing and maintaining all landscaping and irrigation in the maintenance agreement shall be either the developer, homeowner's association, or property owner.

The review and approval of landscaping plans, as part of an overall landscape plan for a development, shall be coordinated with Planning & Development Services.

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1001 Codes, Ordinances and Standards

If there is a conflict between the regulations stated in this Chapter and any other regulations that apply to the same area, the requirement that is more stringent will take precedence.

1001.1 ADOT Roadside Development

The County has adopted ADOT's Roadside Development Section manuals, guidelines, and details, including but not limited to the following:

- Stormwater and Erosion/Sediment Control Maps and Manuals
- Erosion/Sediment and Water Quality Protection Best Management Practices (BMP) Details
- Revegetation and Native Seed Mix Design, Environmental Mitigation and Landscape Ecological Design, Native Plant Salvage and Replanting

1001.2 Final Stabilization

In order for an operator of a construction site to submit a Notice of Termination (NOT) to the Arizona Department of Environmental Quality (ADEQ) or the U.S. Environmental Protection Agency, certain requirements must be met. These requirements include achieving final stabilization, which is necessary for compliance with the Arizona Pollution Discharge Elimination System (AZPDES) Permit or the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP). The AZPDES applies to projects that disturb more than one acre on non-Tribal Lands. The operator submits a NOT to terminate coverage for discharges from construction activities into Waters of the United States. For more information on the methodology used by ADOT for determining final stabilization, refer to ADOT's Methodology for Determining Final Stabilization (NOT Criteria).

1002 Preservation of Existing Vegetation

Wherever feasible, healthy existing trees and shrubs shall be protected in place and preserved. These trees and shrubs shall be shown on the landscape plan and labeled as "existing to be protected in place." Additionally, they must also be listed on the plant list, including their current size.

All landscape plans must identify methods for protecting existing vegetation that will remain. Construction materials and debris may not be stockpiled within 1½ times the outside drip line perimeter of all trees and

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shrubs being retained. This protected area must be clearly marked using temporary fencing or similar material.

1002.1 Native Plant Salvage and Replanting

Arizona's vegetative zones include numerous rare and unique plant species, some of which can only be specific geographic areas and are limited in numbers. Native plant salvage and replanting on a project must be in conformance with the requirements of Arizona Native Plant Laws.

1002.1.1 Non-Discretionary Evaluation Requirements

- Conformance to requirements of Arizona Native Plant Laws.
- NEPA Decision Document Requirements.
- Roadway safety shall not be compromised.
- Mitigation for 404 permit requirements.
- Plants must be species that are self-sustaining after planting and establishment.

1002.1.2 Discretionary Evaluation Requirements

- Replanting of salvaged or planting of nursery plant materials would maintain or restore wildlife habitat value for cover and movement connectivity between habitat areas crossing the roadway.
- Plant species that exhibit difficulty in regenerating naturally or establishing from seeding.
- Designed replanting quantities should not exceed the area's existing density for individual species and area plant spacing which are good indicators of the area's capacity for sustainable plant survival.
- Maintain or enhance the visual resource quality of the County right-of-way, professional judgement should be used to achieve an appearance similar to the surrounding area and at the same time self-sustaining with the available natural moisture.
- Required maintenance activities would not be affected such as ditch and culvert cleaning, mowing, shoulder repair and vegetative management and erosion control within a vehicle recovery area.
- Plants are in good condition with high level of assurance of survival and reestablishment. Locations of plants are accessible for equipment.
- Salvage and transplanting of primary or climax vegetation is emphasized over transitional or secondary species.

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1003 Invasive and Noxious Plant Species

Refer to the following ADOT-maintained documents to prevent the spread of invasive and noxious plants before, during, and after construction:

- ADOT Invasive and Noxious Plant Species List for Seeds
- ADOT Invasive Noxious Plant Species for Construction Projects

1004 Seeding Practices for Sustainable Revegetation and Erosion Control

The information in this section is sourced ADOT's *Final Seeding Practices PowerPoint*.

All disturbed soil areas resulting from construction activities must be seeded in order to establish a sustainable native vegetative cover on slopes and right-of-way areas.

1004.1 Reasons for Seeding

1004.1.1 Erosion Control

- Reestablish vegetative cover for erosion protection.
- Meet Final Stabilization as required by Section 402 of Clean Water Act.
- Minimize long-term maintenance costs.

1004.1.2 Visual and Aesthetic Benefits

- Successful revegetation with native wildflowers and shrubs integrates the aesthetic visual quality of the slopes with the surrounding areas.
- Returns the visual quality of disturbed areas to a natural condition.

1004.1.3 Sustainability

- Seed mixes include plant species suitable for the native vegetation biotic communities.
- Native grasses, forbs, shrubs, and trees are seeded to establish sustainable native plant communities and are vital for habitat mitigation and ecological restoration.

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1004.1.4 Control Noxious and Invasive Species

- Revegetated areas decrease and prevent the intrusion of noxious and invasive non-native plant species.

1004.2 Seeding during Grading and Slope Construction

Tilling/Ripping: Cuts, fills and disturbed areas require tilling or ripping to a depth of 6 inches or 12 inches.

Minibenching: Cut slopes constructed in rip-able material should be deep tilled or mini-benched as they are constructed. Deep tillage or minibenching can only be accomplished on 3:1 and steeper slopes during the construction of those slopes.

1004.3 Completing Seeding Work

Seeding work can be carried out at any time of the year. It is important to include a variety of species in the seed mixes that can germinate in both warm and cool seasons, as well as in different moisture conditions.

To ensure effective project staging and scheduling, it is recommended to complete seeding in multiple mobilizations. This approach can help minimize the need for temporary erosion and sediment control measures, as well as reduce the number of mobilizations required. It is crucial to complete the seeding process within 14-days after the slope has been finished.

1004.4 Seed Mix Design

Every site is different and seed mix design depends on site-specific characteristics such as temperature, precipitation, soil type, landform, land use, etc. Any plant species recommendations are not meant to be a definitive authority. It is important to observe the site vegetation and environmental factors. It is recommended to select a combination of species to cover a range of growth seasons and bloom times.

1004.4.1 Categories

Standard: These species commonly grow to some extent in most places in the County.

High Elevation: These species commonly at elevations 7000 feet or higher, such as Pinon-juniper woodlands or Ponderosa forests.

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Wetlands: These species commonly grow near springs, streams (riparian), or where groundwater is close to at the surface.

Sandy Soil: These species can tolerate dry habitats with well drained sandy soils, such as sand dunes, but moisture is still required to germinate and grow, and mulching is recommended for moisture retention.

Erosion Control: These species grow in areas susceptible to wind or water erosion, such as dry washes, slopes, or sandy soils. The tend to grow fast, large, and spread once established.

Pollinator: These are mainly wildflower species that have large or many colorful flows that attract pollinator species such as insects and birds. The inclusion of these species is recommended in any mix to improve habitat for pollinators, for landscaping, near gardens or agricultural fields.

Clay: These species are able to grow in clay soils. Clay soils tend to retain water and often have high alkalinity, preventing many species from growing. If the soil pH is greater than 7, then it is recommended to include these species in the mix.

Ornamental: Any native plant can be used for ornamental purposes. However, these species are especially useful in landscaping because they are perennial, showy/unique flowered, large, attract wildlife, colorful, and/or retain aesthetics year-round. Native plants are preferred.

1004.4.2 List of Plant Species for Seed Mixes

The following tables list some of the common grasses, shrubs and trees found in the County. This is not a complete list and other native species or varieties may exist. The Arizona Native Plant Society (AZNPS) and local nurseries can provide further assistance and information on the selection of seeds and/or plants that are suitable for the project site.

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Table 1004.1 Grasses Category Assignment

Common Name	Scientific Name	Category							
		Standard	High Elevation	Wetlands	Sandy Soils	Erosion Control	Pollinator	Clay	Ornamental
Alkali muhly	*Muhlenbergia asperifolia*			✓					
Alkali sacaton	*Sprobolus airoides*	✓			✓	✓	✓	✓	✓
Black gramma	*Bouteloua eriopoda*	✓			✓	✓			
Blue gramma	*Bouteloua gracilis*	✓			✓	✓			
James' galleta	*Pleuraphis jamesii*	✓			✓	✓		✓	
Needle-and-thread grass	*Hesperostipa comata*	✓	✓		✓	✓			
New Mexican feather grass	*Hesperostipa Neomexicana*	✓			✓	✓			✓
Pine dropseed	*Blepharoneuron tricholepis*		✓						
Prairie junegrass	*Koeleria macrantha*		✓						
Purple threeawn	*Aristida purpurea*	✓							
Ricegrass	*Achnatherum hymenoides*	✓			✓	✓			✓
Sideoats gramma	*Bouteloua curtipendula*	✓				✓			
Crested wheatgrass	*Agropyron cristatum*	✓	✓			✓			
Mesa dropseed	*Sporobolus flexuosus*	✓			✓	✓			
Squirreltail	*Elymus elymoides*		✓						
Vine mesquite	*Hopia obtuse*			✓					

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Table 1004.2 Wildflowers Category Assignment

Common Name	Scientific Name	Category							
		Standard	High Elevation	Wetlands	Sandy Soils	Erosion Control	Pollinator	Clay	Ornamental
Wild Bergamot	*Monarda fistulosa*			✿			✿		
Red Dome blanketflower	*Gaillardia pinnatifida*				✿		✿		
Cowpen daisy	*Verbesina enceliodes*				✿		✿		
Globemallow	*Spharecallcea spp.*	✿				✿	✿	✿	
Milkweed	*Asclepias spp.*						✿		✿
Rayless Greenthread	*Thelesperma megapotamicum*	✿			✿		✿	✿	
Pentsemon	*Penstemon spp.*						✿		✿
Evening primrose	*Oenothera spp.*	✿			✿	✿	✿	✿	
Redroot buckwheat	*Eriogonum racemosum*	✿	✿				✿		
Rocky Mtn. beeplant	*Cleome serrulate*	✿			✿		✿		
Threadleaf groundsel	*Senecio flaccidus*	✿			✿		✿		
Common yarrow	*Achillea millefolium*		✿	✿			✿		✿
White prairie clover	*Dalea candida*	✿			✿	✿	✿		

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Table 1004.3 Shrubs Category Assignment

Common Name	Scientific Name	Standard	High Elevation	Wetlands	Sandy Soils	Erosion Control	Pollinator	Clay	Ornamental
Standsbury's cliffrose	*Purshia tridendata, p. stansburyiana*					❋	❋		❋
Apache plume	*Fallugia paradoxa*						❋		❋
Sagebrush	*Artemisia spp.*	❋							❋
Narrowleaf willow	*Salix exigua*			❋		❋			
Fourwing saltbush	*Atriplex canescens*					❋		❋	
Greasewood	*Sarcobatus vermiculatus*					❋		❋	
Alderleaf Mtn. mahogany	*Cercocarpus mountanus*		❋				❋		❋
Rubber rabbitbrush	*Ericameria nauseosa*	❋			❋	❋	❋		❋
Shadscale Saltbush	*Atriplex confertifolia*					❋		❋	
Sumac	*Rhus aromatica, R. trilobata*	❋			❋	❋			❋
Utah serviceberry	*Amelanchier utahensis*		❋				❋		❋
Wax currant	*Ribes cerrum*		❋				❋		❋
Winterfat	*Krascheninnikovia lantana*					❋			❋
Wood's rose	*Rosa woodsia*		❋	❋			❋		❋
Yucca	*Yucca baileyi, Y. baccata*				❋		❋		❋

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Table 1004.4 Trees Category Assignment

Common Name	Scientific Name	Category							
		Standard	High Elevation	Wetlands	Sandy Soils	Erosion Control	Pollinator	Clay	Ornamental
Fremont cottonwood	*Populus fremontii*			▲					▲
Gambel's Oak	*Quercus gamelii*		▲						▲
Goodding's willow	*Salix goodingii*			▲					▲
Juniper	*Juniperus spp.*				▲				▲

1004.5 Seeding Steps

1004.5.1 Tillage

Deep tillage is an environmentally friendly erosion control Best Management Practice (BMP) that often involves ripping the soil.

Tillage helps decrease surface runoff, enhances infiltration, and increases water availability in the soil for seed germination, plant growth, and establishment.

When dealing with fill slopes, better revegetation outcomes are usually achieved. However, cut slopes made in geologically compacted material may need to be ripped, tilled, or minibenched to facilitate water infiltration and storage, improve seed germination, and allow root penetration for sustainable revegetation.

1004.5.2 Amending the Soil

To establish, support, and sustain vegetation, it is essential to provide the necessary nutrition, biological activity, and soil chemistry. This can be achieved through the use of low solubility/slow-release fertilizers, sulfur, and compost. These amendments can be broadcasted or hydraulically applied over rough, ripped soils before the final tillage process. This

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ensures that they are effectively incorporated into the soil, maximizing their benefits for vegetation growth.

1004.5.3 Seed Application

Apply seed through drilling or hydroseeding methods.

Final application of seed and mulch should be made as soon as possible after grading of an area is completed. This provides erosion and sediment protection and time for vegetation to become established and the project to meet Final Stabilization requirements.

1004.5.4 Straw Mulching

Mulching is an effective method to prevent erosion and sediment loss, as well as retain moisture in the soil for seed germination and the growth of permanent vegetation.

By utilizing certified mulching that is free from weeds and securely applied through crimping, tacking, or hydraulic methods, the risk of introducing harmful weeds is significantly reduced.

To maximize the benefits of mulching, it is recommended to apply it the same day as seeding. This ensures that the soil remains protected and conducive for the successful establishment of seeds.

1004.5.5 Rain and Time

With rain/snow and time vegetation will typically establish if the previous seeding steps are implemented properly and in the correct sequence.

1004.6 Seeding Specifications

Each project site possesses distinct vegetation characteristics. Utilize ADOT Seeding Specifications to establish the seeding requirements for every individual project.

1005 Landscape and Irrigation Plan Requirements

An approved landscape plan is required prior to any site clearing for non-single family residential purposes. Landscape plans shall be in accordance with this section and apply to new development and redevelopment, excluding single family residential projects. The landscape plan shall be prepared by a landscape architect, a professional landscape designer, or a plant nursery.

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Landscape plans shall include the following:

1. A site plan drawn to scale providing sufficient detail to evaluate the features of landscaping and irrigation required by this Section. The site plan shall show the location of property lines, proposed contours, drainage structures, subsurface utilities, existing and proposed development including all buildings, parking, pedestrian, and circulation areas. The plan shall show the location of all proposed landscaped areas, and the dimensions and total area (in square feet) for each interior parking lot landscaped area.
2. The location, design and materials of all landscape areas including planting strips along all streets, earth berms, retaining walls, fences, water features, detention areas, trash enclosures, lighting, and paved areas. Where fencing is used for required screening, a scaled elevation drawing of the fence must be included.
3. The location, size, and type of all proposed plant and non-plant materials, including any existing vegetation to be retained and existing trees over 6” caliper proposed to be removed.
4. A chart comparing the landscaping requirements to the proposed materials and area covered, including, but not limited to, the following information:
    a. Total parking lot and circulation areas, including interior drives and driveways (in square feet);
    b. Total number of parking stalls required and total provided;
    c. Total parking lot landscaped area required and total provided (in square feet);
    d. Total buffer and screen landscaped area required, and total provided (in square feet);
    e. Total site landscaped area required, and total provided (in square feet);
    f. Total quantity and size of plant material required and the total provided;
    g. Size, type, and quantity of non-plant material to be provided;
    h. Any other information as the Planning and Development Services Director may determine is necessary to ensure compliance with the Standards.
5. All landscape plans must provide an irrigation plan. Irrigation systems shall be designed to maximize efficient water use and minimize the waste of water. An automatic irrigation system designed to provide efficient irrigation coverage is required.

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a. The irrigation system should be designed to correlate to the organization of plants into zones with similar watering requirements.
b. The use of treated effluent, a collection system to capture stormwater runoff, and other alternatives for irrigation purposes are encouraged.
c. A waiver from the automatic irrigation system requirement may be approved by the Planning and Development Services Director. If an alternative means of watering is proposed a specific plan must be provided.

1006 Landscape Design

Landscape design within the County right-of-way shall take the following into consideration:

- All landscape plans must use native and/or drought tolerant plant materials appropriate for their location. Invasive plants and noxious weeds are prohibited. Preferred landscaping materials are native plants as defined by the Native Plants for Northern Arizona Landscapes compiled by The Arboretum at Flagstaff. A detailed plant list shall be included with all plans. The list shall include both the botanical and common names.
- Plants should be grouped in strategic areas and not spread thinly around the site.
- New vegetation shall be selected, planted, and maintained so that at maturity it will not interfere with utility lines, snow storage areas, vehicular parking, pedestrian circulation, traffic sight visibility at driveways and Street intersections, and will not cause damage and upheaval of sidewalks and pavement.
- Plantings which bear fruit, nuts, or seeds that, when dropped, will interfere with, or impede storm water drainage flow shall not be permitted.
- All landscape designs shall take into consideration the need for Defensible Space.
- All landscaped areas shall incorporate a ground cover to tie the landscaping together and to discourage weed growth.
- A mix of deciduous and evergreen plant materials is desired. Invasive species should not be considered.

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1006.1 Placement of Trees and Shrubs

- Trees shall not be planted in public utility easements, water and wastewater easements, and the trunk of a tree shall be at least 8 feet between the nearest edge of the water and wastewater pipe to the center of the tree trunk.
- Trees shall be located away from underground utilities to avoid conflict with mature tree roots.
- Trees that are to be planted abutting or under overhead power lines shall conform with the specific utility company's (SRP, APS, etc.) approved plant species list.
- Landscaping shall be located to prevent conflicts with signs, street and site lighting, sidewalks/paths, fire hydrants, median crossings, and above and underground utilities.
- Hostile vegetation (i.e., cacti) shall be located a minimum of 10 feet from any sidewalk/path, trail, or pedestrian access route to assist in minimizing hazards.
- Thornless trees and shrubs shall be used adjacent to public facilities (trails, parking, sidewalks, etc.)
- A clear sight triangle shall be maintained at all street intersections and driveway entrances. Such clear sight triangle shall be determined by measuring 25 feet along each right-of-way/easement line at street intersections, and along the right-of-way/easement line and the driveway for driveway entrances. Landscape materials in this area shall have a clear trunk height of 6 feet from grade level; mature shrubs, groundcover, or other materials shall not exceed 3 feet in height from grade level.
- Trees must be planted to allow for maximum growth in height and shape without the need for pruning in excess of that required to maintain the health of the plant. Trees shall be located so that the mature tree canopy does not extend into the rights-of-way as shown in Figure 1011.1.

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1006.2 Standard Plant Units

Landscape plant needs are specified based on the quantity of standard plant units as shown in Table 1006.1.

Table 1006.1 Standard Plant Units

Plant Unit Alternatives	Quantity Required	Type and Size at Time of Installation
Alternative A	3	8-foot-high evergreen trees
	10	2-foot-high shrubs (or 5-gallon minimum)
Alternative B	2	6-foot-high evergreen trees
	1	3-inch caliper deciduous tree (minimum 10-foot to 12-foot height)*
	4	2-foot-high shrubs (or 5-gallon minimum)
Alternative C	1	3-inch caliper deciduous tree (minimum 6-foot to 8-foot height)
	2	1-1/2-inch caliper deciduous trees (minimum 6-foot to 8-foot height)
	14	2-foot-high shrubs (or 5-gallon minimum)

* Clump or cluster planting which will achieve a total diameter of 4 inches may be considered in lieu of 3-inch caliper tree.

1006.3 Medians

Plant material is prohibit in medians, unless otherwise approved by the County. Medians narrower than 4 feet wide must be paved with brick pavers or a County-approved stamped concrete finish in accordance with MAG Standard Details and Specifications.

1006.4 Grading

The completed landscape grading must be even and consistent. Soil or rock mounds should seamlessly integrate with the surrounding terrain, with mounds having a maximum slope of 4:1 (H:V) (25%).

1006.5 Mounding of Soil or Rocks

Mounding of rocks or soils in the County Right-of-Way is not permitted unless approved the County. If located within Sight Distance Triangles, mounds must adhere to height limitations and meet the criteria specified in the AASHTO Roadside Design Guide for slopes and clear zone. It is encouraged to utilize landscape areas for bio-swales and bio-retention to enhance water conservation and promote rainwater harvesting.

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1006.6 Ground Cover Material

Ground cover plant material and decomposed granite shall conform with the following requirements:

- All plant material in a groundwater Active Management Area is subject to the Groundwater Code.
- All plant material utilized in County right-of-way medians shall be in accordance with Section 1006.2.
- All areas of decomposed granite shall have a minimum depth of 2 inches.
- All decomposed granite utilized in medians and adjacent to sidewalks in County right-of-way, shall be smooth and uniform, and have a surface height of a minimum of ½ inch below the abutting top of curb or sidewalk.

1006.7 Boulders

Boulders are not permitted in County Right-of-Way without approval from the County.

1007 Irrigation Design

All plant material within the County Right-of-Way shall be irrigated, unless approved otherwise by the County. The responsibility of maintaining the irrigation systems lies with the property owner or owner's association. Landscape irrigation systems shall be separated from the water source by a backflow preventer.

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1008 Parking Lot Landscaping

Landscaping shall be evenly distributed across parking and driveway areas, both on the perimeter and within the parking area, to create a partial canopy as requested by the County. In cases where islands are necessary or already present, they shall be properly landscaped.

Table 1008.1 Parking Lot Landscaping Requirements

Parking Spaces	Minimum Landscaped Area Required	Minimum Plant Units
0 to 5	None	None
6 to 20	324 sq. ft.	1 unit
21 to 32	27 sq. ft / space	2 units
33 to 44	27 sq. ft / space	3 units
45+	40 sq. ft / space	3+ units[1]

[1] The number of plant units required shall be pro-rated for parking lots over 44 spaces at the rate of one plant unit per 324 square feet of landscaped area.

A 5-foot-wide strip of landscaping must be provided along the side or rear property lines where parking lots are located. This strip serves as a perimeter and should be landscaped.

To protect the landscaped areas next to parking and access points, a 6-inch vertical concrete curb, 6-inch bumper stops, or similar materials shall be installed. This is necessary to control stormwater flow and prevent damage from vehicles.

The curb or barrier around the landscaped areas can also serve as a wheel stop, as long as it doesn't exceed a vehicle overhang of 2½ feet and doesn't cause any damage or obstruction to the landscaping. For a single vehicle overhang, a minimum 5-foot wide planter is required, while a double vehicle overhang requires an 8-foot-wide planter.

It is not allowed to park vehicles, construct buildings, or store equipment in the required landscaped areas.

To ensure safety, trees used in parking islands must have a clear trunk height of 6 feet from the ground. Mature shrubs, groundcover, or any other landscaping material should not exceed 3 feet in height from the ground to avoid obstructing drivers.

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1009 Buffer and Screen Landscaping

Front and street side landscape areas shall be fully landscaped with a minimum of 1 plant unit for every 100 linear feet of frontage when requested by the County. Additional plant units may be necessary for greater buffer or screening as determined by Planning & Development Services.

Detention basins and drainageways within setback areas or other visible locations on sites shall be adequately landscaped. Two (2) plant units are required for every 100 feet of the basin perimeter, measured at the top of the basin. Native groundcover seed mix or lawn mix shall be used on detention basin surfaces, with the possibility of using river rock or a similar non-plant alternative subject to approval by the County.

1009.1 Screening

Where landscape screening is required by the County, such landscaping shall be in addition to the general landscaping requirements.

Any fences or walls adjacent to County roads or State Highways shall have a unifying theme and provide variation by using changes in height, different material combinations, offset angles, articulation, and/or plant materials.

1010 Site Landscaping

In addition to the required buffer and screen landscaping, as well as parking lot landscaping, the building site shall incorporate landscaping that visually integrates the structure(s) with the site:

- The site landscaping shall include one plant unit for every 100 linear feet of perimeter of the building footprint, and located within 50 feet of, and adjacent to, the perimeter of the building. In situations where the use or building design makes planting within 50 feet impractical, such as mini storage warehousing, it may be permitted to place some or all of their on-site building landscaping beyond the 50-foot limit, subject to the approval of the Planning and Development Services Director.
- If phasing is proposed or if only a portion of the parcel is being developed, the undeveloped area shall be maintained with existing native plants. If the area has been disturbed or the existing vegetation consists primarily of weeds, the area must be successfully revegetated with a substantial mix of native and/or

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drought tolerant grasses and ground covers. The density of the re-established vegetation must be adequate to prevent soil erosion and invasion of weeds after one growing season.

For Manufactured Home Parks or Multi-Family Developments, one plant unit per single residential unit or lot is required.

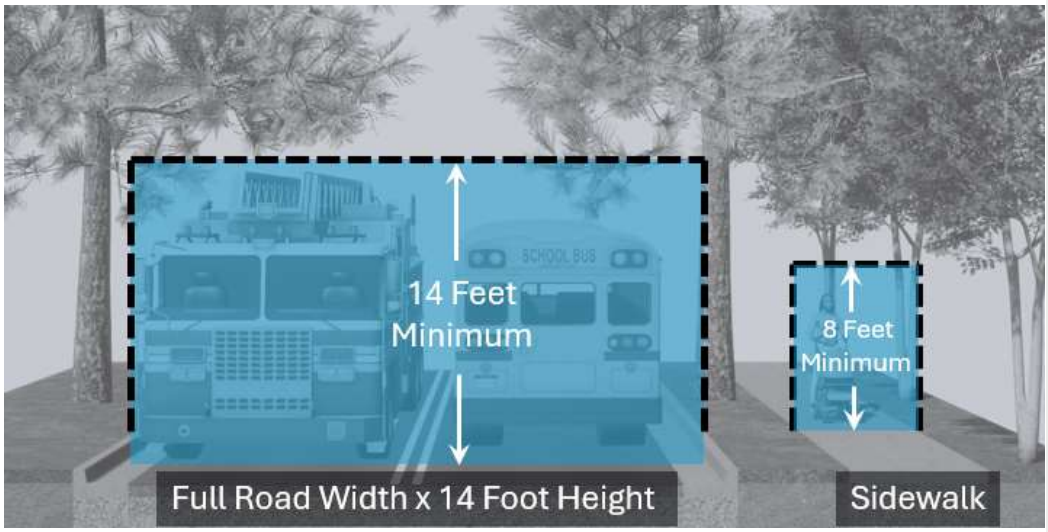
1011 Maintenance Responsibility

The property and/or business owner is responsible to maintain the site as approved and to provide for replacement of plant materials that have died or otherwise been damaged or removed, as well as the maintenance of all landscape elements such as fencing, paving, rocks, and retaining walls.

1011.1 Roadway and Sidewalk Clearance

Tree branches shall be maintained at a minimum height of 14 feet above the full width of the road and 8 feet above sidewalks. Small trees that are below this height shall be pruned to ensure unimpeded travel on roadway; see Figure 1011.1.

Figure 1011.1 Roadway and Sidewalk Clearance



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1012 Modification to Landscape Standards

The County has the authority to approve alternations to the standards in this Chapter if it is determined that:

1. The strict application of these standards is not possible due to existing physical conditions; and
2. The modification is consistent with the purpose of this Chapter; and
3. The modification is the smallest possible adjustment that would provide relief and would deviate the least from the relevant provisions of this Chapter.

1013 Compliance & Acceptance

The plan will not receive approval if the County finds that the proposed landscaping or irrigation designs do not meet this Standard.

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1100 General Information

The County administers all utility planning, permitting and construction processes within its right-of-way in accordance with the Arizona Utility Coordinating Committee (AUCC) Public Improvement Guide, the Maricopa Association of Governments (MAG) Specifications and this Manual.

The purpose of this Chapter is to present to those design professionals involved in private land development projects, County projects, other public utility projects, County franchisee's or County Licensee's that provide utility service, general information regarding the processes that are required during the construction document preparation, plan review, approval and permitting stages and provide construction guidelines for working in the County rights-of-way, public utility easements, and private streets.

The information provided in this Chapter is not intended to cover all situations that arise but shall provide general guidance. It is not a substitute for sound engineering and design principles.

Utilities are those companies, corporations, or entities that provide some type of utility service, whether it is electricity, telecommunications, water, sewer, or information services. Within the County, utilities are provided by, but not limited, to the following companies or utilities.

1101 Codes, Ordinances, Standards and Permits

The County is responsible for reviewing and granting permission for the placement of all proposed utilities and for all construction or maintenance work in public rights-of-way and public utility easements by issuing a permit.

Right-of-way encroachment permits shall be secured in advance of all work performed in County right-of-way. See Chapter 1300 and Appendix A.

Encroachment Permits for utility construction are required in County right-of-way, there is an implication and expectation that construction permitted and accepted by the County meets commonly accepted standards for safety and utility.

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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.

The applicant is responsible for obtaining approval from any other applicable agencies. If a regulatory conflict exists, the County may choose to impose additional or more restrictive requirements than those provided by other regulatory agencies.

1101.1 Pavement Cuts

The County requires all pavement cut activities to have an approved permit and location to be restored in accordance with this Manual.

1101.2 Construction Work Hours

General work hours are from 6:30 a.m. to 6:30 p.m. year-round. The contractor may submit a Waiver Request for work outside of the approved general work hours. The County will review each project and modify the general work hours based on project location, type and/or activities. Work hours shall be discussed at the Pre-Construction meeting when applicable.

Weekend/holiday or “off-hour” work is not permitted without the prior approval of the County.

1102 Public and Private Utilities

The County grants permission for placement of all proposed utilities and for all construction or maintenance work in public rights-of-way and public utility easements through the Right-of-Way/construction permits process. These permits are issued to utility companies, irrigation, power companies, governmental agencies, as well as other private companies providing cable television, communication lines, telecommunications, electricity, gas, irrigation, and wireless providers.

Utilities are provided by but not limited to the companies or utilities shown in Table 1102.1.

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Table 1102.1 Utility Providers In Navajo County

Utility Type	Utility Provider
Electrical Service 	Arizona Public Service (statewide) Navopache Electric Cooperative Navajo Tribal Utility Authority
Natural Gas Service 	El Paso Natural Gas Navajo Tribal Utility Authority UniSource Energy Services
Water and Sewer 	Arizona Water Company City of Holbrook Clay Springs Domestric Water Improvement District Fool's Hollow Water Company Heber Domestic Water Improvement District Mountain Glen Water Service Navajo Tribal Utility Authority Park Valley Water Company Pinetop Water CFD Pinetop-Lakeside Sanitary District Ponderosa Domestic Water Improvement District Porter Creek Domestic Water Improvement District Rim Country Water Systems Show Low Public Works Department Sky-Hi Domestic Water Improvement District Timberland Acres Domestic Water Improvement District Water Improvement District White Mountain Summer Homes Water Improvement District Wonderland Acres Domestic Water Improvement
Telephone and Cable 	Sparklight Optimum Navajo Tribal Utility Authority

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1102.1 Coordination Required

The County requires utility provides to coordinate the location of their facilities within County Right-of-Way and easements and within private streets. Reflect utility coordination on the plans submitted for review.

1102.2 Conflict Review

The County requires submittal communication with all potential utility conflicts within the project area. Provide proof of utility conflict resolution with each plan review.

1102.3 Underground and Overhead Utilities

The County recommends installing electric lines (69kV or less) and communication lines underground in accordance with the requirements of the Arizona Corporation Commission.

Comply with all utility company requirements for underground installation.

1102.3.1 Overhead Clearance

The minimum overhead clearance is 18 feet. Overhead lines shall not obstruct or interfere with traffic signal visibility.

1103 Water, Sewers, and Sewage Disposal

1103.1 Definitions

For the purpose of this Chapter, the following words, terms and phrases shall have the following meaning ascribed to them, except where the context clearly indicates a different meaning:

Act or "the Act": The Federal Water Pollution Control Act, also known as the Clean Water Act.

Approach mains: Those mains subject to repayment and defined as follows:

1. Mains extended beyond the limits of the project or mains constructed through the project or mains constructed along the frontage or boundary of the development; and
2. Mains which serve other property owners other than the owner who is developing the property; and

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3. Mains which are constructed to contain additional capacity to provide adequate fire flow and water pressure above and beyond that required by the development.

Approval authority: The United States Environmental Protection Agency (EPA), Arizona Department of Environmental Quality (ADEQ), County, or any other authority responsible for the administration and enforcement of all applicable Federal, State, and City laws, including the Act and general Pretreatment Regulations.

Approved: Accepted by the County as meeting an applicable specification stated or cited in this code, or as suitable for the proposed use.

AZPDES (Arizona Pollutant Discharge Elimination System: The regulatory program administered by the Arizona Department of Environmental Quality pursuant to Arizona law.

Best Management Practices (BMP): Schedules of activities, pollution treatment practices or devices, prohibition of practices, general good housekeeping practices, pollution prevention, waste minimization, educational practices, maintenance procedures, and other management practices or devices to prevent or reduce the amount of pollutants entering the sanitary sewer system, surface water, air, land or groundwater. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage. Best Management Practices may include a physical, chemical, structural or managerial practice or device that can help to achieve compliance with this Chapter.

Categorical Industrial User: An Industrial User subject to a Categorical Pretreatment Standard or Categorical Standard.

Categorical Pretreatment Standard or Categorical Standard: Any regulation containing pollutant discharge limits promulgated by the EPA.

Civil Sanction: That part of the law (i.e., this code) which is designed to secure enforcement by imposing a penalty. A punitive act taken by the County against an individual or customer, which has violated this code.

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Combined Sewer: A sewer receiving both surface runoff and sewage.

Commercial Unit: Non-residential units which are intended to facilitate all types of employment- generating or business uses, including, but not limited to retail and service establishments, neighborhood convenience stores, business parks and professional offices, research and development centers, storage warehouses and industrial units.

County: Navajo County, Arizona and/or the Public Works Department. For purposes of certain sections, the County shall be defined as the Public Works Department, Planning & Development Services, and the Engineering Department with the Engineering Department performing reviews on behalf of the Public Works Department to assure compliance with the Public Works Department standards and specifications.

County Engineer: The Director of the Engineering Department, or their deputy, agent, designee or representative.

Development Fees: A fee assessed by the County to offset costs to the County associated with a development.

Direct discharge: The discharge of treated or untreated wastewater directly to the water of the State of Arizona.

Director or Public Works Director: The Public Works Director of the County or their authorized deputy, agent, designee or representative.

Discharge: The disposal of sewage, water or any liquid from any sewer User into the sewage system.

Dwelling Unit:

Multiple-Family Dwelling Unit: Mobile home space within a mobile home park, a travel trailer space within a travel trailer park, a hotel, motel, rest home, apartment, condominium units served by a single meter, and any other building in which more than one (1) family may reside either temporarily or on a permanent basis.

Single-Family Dwelling Unit: Any unit attached or detached served by an individual meter in which only a single-family may reside, other than a multiple-family dwelling unit.

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Industrial Unit: A business use or an activity involving and/or including, but not limited to, resource extraction, manufacturing, fabrication, assembly, and warehousing.

Institutional Unit: A use or activity involving and/or including, but not limited to a pubic and public/private group use of a nonprofit nature, typically engaged in public service or a religious institution, hospital, public or private school or college, and public agency.

Environmental Protection Agency or EPA: The U.S. Environmental Protection Agency or where appropriate the term may also be used as a designation for the administrator or other duly authorized official of said agency.

Existing source: Any source of discharge, the construction or operation of which commenced prior to the publication by EPA of proposed Categorical Pretreatment Standards, which will be applicable to such source if the standard is thereafter promulgated in accordance with Section 307 of the Act.

Holding Tank Waste: Any waste from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks and vacuum-pump tank trucks.

Indirect Discharge or Discharge: The introduction of pollutants into a treatment works from any non-domestic source regulated under Section 307(B), (C), or (D) of the Act, (33 U.S.C. 1317), into the treatment works.

Industrial waste: Any liquid, free-flowing waste, including cooling water, resulting from any industrial or manufacturing process or from the development, recovery, or processing of natural resources, with or without suspended solids excluding uncontaminated water.

Minor Land Division:

1. The division of one parcel of land into five or fewer parcels.
2. Application for a building permit on a single lot, parcel or tract that is not a lot, parcel or tract located within a recorded subdivision, and which may be divided into one or more additional lots, parcels, or tracts, regardless of whether the property owner has indicated any intent to do so.

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National Pollutant Discharge Elimination System (NPDES) Permit: A national pollutant discharge elimination system permit, issued by the EPA, or an Arizona pollutant discharge elimination system permit (AZPDES), issued by the State of Arizona, which imposes standards governing the quality of the treatment effluent discharge into a navigable water of the United States.

National Pretreatment Standard, Pretreatment Standard or Standard: Any regulation containing pollutant discharge limits promulgated by the United States Environmental Protection Agency in accordance with Section 307 (b) and (c) of the Act, which applies to Industrial Users. This term included prohibitive discharge limits established pursuant to 40 CFR 403.5. Reference the standards located in 40 CFR Chapter i, Subchapter n., Parts 405–471.

National prohibitive discharge standard or prohibitive discharge standard: Any regulation developed under the authority of 307(B) of the Act and 40 CFR 403.5.

Natural outlet: Any outlet into a watercourse, ditch, or other body of surface or groundwater.

Permittee or permit holder: Any person who owns, operates, processes, or controls an establishment or plant being operated under a valid industrial waste permit to discharge wastewater.

Person: Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents, or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context. This definition includes all Federal, State, and local governmental entities.

Pollution: The man-made or man-induced alteration of the chemical, physical, biological and radiological integrity of water.

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Pollution prevention: Source reduction and other practices that reduce or eliminate the creation of pollutants through either or both of the following:

1. Increased efficiency in the use of raw materials, energy, water or other resources, or
2. Protection of natural resources by conservation.

Potable Water: Domestic water delivery system after treatment designated to meet the Environmental Protection Agency's and Arizona Department of Environmental Quality's drinking standards.

Property Owner: The person, company, entity or developer which is developing the property. A property owner may in certain circumstances also be the individual requiring an approach main extension and/or be a customer (or future customer).

Sanitary sewer: A sewer which carries sewage and to which storm, surface, and groundwaters are not intentionally admitted.

Septic tank waste: Any sewage from holding tanks such as vessels, chemical toilets, campers, trailers, and septic tanks.

Sewage: Human excrement and gray water (showers, dishwashing, laundry operations, etc.).

Sewage treatment plant: Any arrangement of devices and structures used for treating sewage.

Sewage works, sewer system or sewerage works: All facilities used for collecting, pumping, treating, and disposing of sewage.

Sewer: A pipe or conduit for carrying sewage.

Shall: Mandatory. May is permissive.

Storm sewer or storm drain: A sewer which carries storm and surface waters and drainage but excludes sewage and polluted industrial wastes.

Storm water: Any flow occurring during or following any form of natural precipitation and resulting from such precipitation, including snowmelt.

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Utilities or Utility: Water and wastewater services provided by a public or private company and all lines and facilities related to the provision, distribution, collection, transmission, or disposal of water and wastewater, singularly or collectively.

Waste minimization: An activity which eliminates or reduces the amount of any pollutant from entering the waste stream or the environment. This may include a change in raw materials, operational improvement, process improvement, product reformulation, reuse or reclamation.

Wastewater: Liquid and water-carried industrial wastes and sewage from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated.

Water: Any water (i.e., clear, colorless, nearly odorless and tasteless liquid).

Watercourse: A channel in which a flow of water occurs, either continuously or intermittently.

Water Distribution System: The network of waterlines, pumping and booster stations, storage facilities and related equipment/appurtenance, which compose the basic grid and distribution system for water service to the point of delivery.

Waters of the State: All streams, lakes, ponds, marshes, water courses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, draining systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the State or any portion thereof.

1103.2 Property Owner Responsibility

The property owner shall have complete responsibility for the installation and maintenance of adequate water and sewar facilities on their property and the County shall not in any way be responsible for the installation, maintenance, inspection, or damage of such facilities or damage caused by any defect in such facilities on the customer’s property.

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1103.3 Water and/or Sewer Main Extensions

If it becomes necessary to extend water or sewer mains from a distant point in order to serve a new development, the cost of the main extension will be the responsibility of the developer.

The plans and specifications for the approach main must be approved by the County.

The property owner must pay all costs for constructing mains of such sizes as to afford adequate service during peak demands for the entire area to be served by the extension main.

The property owner's engineer shall submit (i.e., recommend) for County approval the required size and layout of water mains that will meet domestic water needs and fire flow requirements as required by this code.

The field engineering, plans and specifications required shall be prepared by the developer and approved by the County prior to construction. The engineering costs for preparation of plans and staking of the water and/or sewer main extensions on the property which are incurred by the property owner. The County shall perform the inspections during construction.

The County may require the construction of the water and/or sewer main extension to meet additional specifications and requirements if such is determined to be in the best interest of the County and necessary to protect the public health, safety and welfare.

1103.4 Fire Hydrants

Fire hydrants, valves, pipes and fittings required for hydrant installation shall be installed by a licensed contractor on behalf of the property owner in accordance with plans approved by the County.

1103.5 Unnecessary Water Waste, Turnoffs and Water Leaks

Water running off a landscaped area to another area where the water is not beneficially used, such as on to streets, sidewalks, gutters, alleys, public utility easements, public or private parking areas is prohibited.

1103.6 Unsanitary Disposal of Waste

It shall be unlawful for any person to deposit, or permit to be deposited, in an unsanitary manner, upon public or private property within the County,

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or in any area under the jurisdiction of the County, any human or animal excrement or other objectionable waste.

1103.7 Treatment of Polluted Wastes

It shall be unlawful to discharge without a County permit to any natural outlet within the County, or in any area under the jurisdiction of the County, any wastewater, industrial wastes, or other polluted waters, except where suitable treatment has been provided and as authorized by the County.

1103.8 Private Sewage Disposal Systems (Septic)

All development within a wastewater service area and within a quarter of a mile (1,320 feet) from a sewer line is required to connect to that sewer system. The extension of a sewer line and the connection to the sewer line will be constructed in accordance with County standards and County approved plans. Such extension and connection shall be the sole financial responsibility of the developer and/or customer. The connection to the sewer system and the extension of the sewer line are a condition of issuance of a building permit. The County will have discretion to allow variances to this requirement for single lot residential developments if such development is on a major arterial road or if the connection is determined not to be feasible.

Where a public sanitary sewer is not available the building sewer shall be connected to a private sewage disposal system that is permitted and complies with Section 8.5 of the Subdivision Rules and Regulations. A private sewage disposal system shall be constructed, maintained, and operated at all times in a sanitary manner and in accordance with the terms of any private sewage disposal system permit issued by the state and county.

None of the provisions of this section shall be construed to interfere with any additional requirements that may be imposed by the state and county.

Refer to the ADEQ Onsite Wastewater Treatment Facility website for additional information.

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1103.8.1 Requirements

1. Determine the size and location of the septic system before setting up a house, structure, or well.
2. Hire a state certified evaluator to conduct a soil and site evaluation. Evaluator shall excavate at least 3 test pits (two in the primary sewage disposal area and a third in the reserve disposal field area) to a depth of 12 feet and determine the capacity of the soil to absorb water and any limiting conditions. The evaluator designs a septic system that matches the development's need and available space.
3. The soil and site evaluation must be completed before applying for a sewage disposal permit. Applications are accepted and processed through the County. If an alternative system (composting toilets are an alternative system) is necessary (due to limiting conditions, such as, lack of soil, high groundwater, impermeable layers, etc.), the evaluator shall recommend that you design a system to compensate for whatever the limiting condition is. The application for an alternative system may be reviewed by the Arizona Department of Environmental Quality or the Health Department, depending on the system chosen.

1103.8.2 Site & Soil Evaluator

A qualified Investigator/Evaluator can be either:

- Arizona registered professional engineer,
- Arizona registered professional geologist,
- Arizona registered sanitarian,
- Individual with a certificate of training from a course recognized by ADEQ

Refer to the County Building Information website for additional information.

1103.8.3 Care and Maintenance

Improperly maintained and failing septic systems are common sources of water pollution and potential public health hazards. Refer to the ADEQ | Be Septic Smart website for additional information.

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1104 Permits within County Right-of-Way

Obtain a separate right-of-way permit for projects where the (re)developer's contractor(s) will be installing facilities (i.e. conduit, water, sewer, etc.).

A contractor with the appropriate license, current County business license, and current Certificate of Insurance on file may obtain this permit from the County.

Any maintenance or repairs performed on facilities located in County Right-of-Way or public utility easements require:

- Submit construction plans to the County for review, comment and/or approval.
- The contractor to obtain a permit before repairs are made.

1104.1 Types of Permits

Permits are required for not only constructing and maintaining utility facilities within rights-of-way, but also for all barricading for traffic control and locating existing facilities in County Right-of-Way and public utility easements.

The County requires permits to ensure that all utility facilities are:

- Constructed in the proper location with adequate spacing
- Built with acceptable materials and in accordance with current specifications.
- Installed in a safe manner.

In addition, the permit ensures:

- Infrastructure is protected.
- Final completion is assured and accepted.
- Liability issues are properly addressed.

Submit engineered construction plans for review as part of the permit process. The objectives of this submittal are to make optimum utilization of the space available in the County's right-of-way and public utility easements to ensure compliance with all County policies; to coordinate with the construction work of other utility companies, agencies, and County projects; and to reduce risk and inconvenience to the public.

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A general list of the permits issued by the County for work in the Right-of-Way is as follows.

1104.1.1 Utility Permit

A Utility Permit is required for work, trenching, potholing, boring, and maintenance to take place within County Right-of-Way. This permit allows the utility company, or a contractor hired by a utility company, to conduct work within the County Right-of-Way and is required prior to submitting the Traffic Control Plan. Include the permit number on the Traffic Control Plan (TCP) so that County has all the information necessary to proceed with review of the TCP.

If the permit application is contingent upon a customer/developer provided trench and conduit, then the customer shall obtain a trenching permit. No work shall begin within County Right-of-Way until the customer's trenching permit has been issued.

1104.1.2 Pothole Permit

If the permit application is contingent upon a customer/developer needing to pothole within County Right-of-Way to verify utility depths or pothole for any other reason, then the customer shall obtain a pothole permit. No work shall begin within County Right-of-Way until either a miscellaneous trenching permit or pothole permit has been issued.

Perform vacuum excavation in the Right-of-Way as follows:

- A pothole permit is required for all utility location work, and an approved traffic plan must be with the crew at all times.
- Submit a site plan to the County showing the location and quantity of potholes.
- Potholes shall not exceed 12 inches x 12 inches and shall conform to MAG Standard Detail 212, and MAG Standard Specification 355.
- Within 7 working days, install a 6-inch-thick hot mix permanent patch, placed in 2 inch lifts, will be placed over one of the following backfill strategies:
    - Pea gravel for full depth on holes to be re-excavated.
    - ½ sack CLSM from 6 inches above the top of the highest utility to the bottom of the new asphalt.
    - No steel plates or plugs will be allowed.

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- Unauthorized nighttime/weekend digging is not permitted. Mark at least one hole at each location with the initials of the excavating company. A spray stencil is acceptable.

1104.1.2.1 Emergency Repair

Unscheduled emergency repair work generally resulting from weather storm damage, equipment failure, accidents, and other unanticipated causes where it is critical to restore/maintain distribution operating systems for the safety, health and welfare of the public and permission to set up traffic control for the performance of emergency work. If emergency repairs are to be made within County Right-of-Way and easements, the permit holder is required to contact Public Works as well as the Police Department prior to beginning work. The only exception to this requirement is when a temporary facility is being constructed for the purpose of continuing an unexpected service disruption.

1104.1.2.2 Routine Maintenance

1. Routine maintenance and upgrade of existing customer service connections to also include, voltage checks, fuse/insulator replacements, pole attachment adjustments, transformer upgrades, switches, power supplies, and replacement of existing anchors and attachments.
2. Maintenance and repair of telecommunications repeaters and gatekeepers and advanced metering infrastructure (AMI/Smart Power Communications and Grid Automation Equipment.
3. Design investigation within existing equipment and utility vaults.
4. Maintenance and splicing operations in existing above ground equipment and utility vaults.
5. Proof existing underground conduit less than 500 feet. Proofing shall include cleaning, testing and re-testing (after any repairs), and installing a mule line.
6. Pull wire/cable through existing proofed conduit/innerduct less than 500 feet.
7. Removal of underground wire/cable in existing conduit structures less than 500 feet.
8. Perform maintenance on existing aerial facilities. Maintenance shall include all line upgrades and scheduled replacements. Work is to be limited to 500 feet and to include all poles up to a height of 75 feet. Removal or replacement of sidewalk to accommodate

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maintenance can be done under this permit within the following stipulations;

a. Sidewalk restoration must be completed within 7 working days of the completed maintenance work, and
b. Full sidewalk panel replacement is required.

9. Survey work is allowed.
10. Trim trees in the County Right-of-Way according to County Standards.

1104.1.2.3 Work Not Covered by Routine Maintenance and Emergency Repair Blanket Permit

Types of work not covered under the Routine Maintenance and Emergency Repair Permit and requiring project specific permits to work within the County's Right-of-Way and easements include, but are not limited to, the following activities:

1. All new construction, except as described herein, as permitted.
2. Residential and Commercial service installation.
3. All work associated with the relocation and/or adjustment of existing utility facilities to accommodate County driven (CIP) projects.
4. Maintenance would not be valid for placement/replacement of above ground structures or utility vaults or excavations of any kind.
5. No potholing.
6. All pole replacements, including single pole direction replacements under emergency repair work.
7. All new attachment upgrades to existing pole lines, with the exception of what is described herein as permitted, by both the pole owners or companies holding pole occupancy leases.
8. All crossing of public and private streets.
9. All direct buried cable installations running parallel with the public and private street.
10. All service connections requiring new pole sets and/or jacking sleeves under the public or private street.
11. In general, any work within the County's Right-of-Way and easements or use of the County Right-of-Way or easements to access utility facilities not covered by issued permits for routine maintenance work.

1104.1.2.4 Annual Maintenance Permit

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1104.1.3 Traffic Control Plan

Prior to commencing construction, submit a Traffic Control Plan (TCP) to the County for review and approval. The TCP may be separate from the construction plans A completed TCP submittal form and the traffic control plan must be submitted to the County.

The County shall determine if traffic hazards at construction projects warrant the use of Certified Civilian or Law Enforcement Flaggers to provide traffic control services.

1104.2 Permit Application Plan Submittal and Approval

1104.2.1 Minimum Standards

Make all submittals of proposed utility construction documents via the MaintStar Permitting Center or at Public Works.

Submit public or private utility plans to the County for approval to place their facilities within County Right-of-Way and public easements. Utility facilities range from totally utility owned & provided to utility facilities within a developer provided conduit.

Include a permit application, filled out and signed by an appropriate and authorized representative of the utility provider, with the utility construction plan submittal.

Submit a complete set of construction plans (drawings, details, notes, etc.) in PDF format through the MainStar Permitting Center.

Prior to submitting a permit application, the utility company shall verify the address where the work will occur. The utility may verify addresses with Public Works. The County will perform a technical review upon receiving the application and plans to:

- Verify that the work is in County Right-of-Way or public utility easement;
- Check for compliance with construction standards and County requirements;
- Approve alignments;

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- Determine if the work is associated with a County Capital Improvement Program (CIP) project;
- Determine if other work is occurring at the same time or on the same site;
- Verify that all joint trench opportunities have been incorporated into the design;
- Check for facilities alignment conflicts;
- Determine if the work is in newly paved streets or alleys;
- Check traffic flow requirements;
- Verify that proper pavement replacement or horizontal drilling requirements have been incorporated into the plans.

The County requires that all permitted projects comply with the Arizona Utility Coordinating Committee project models, including the Joint Trench Use Model and the Western Underground Trench Formula.

1104.2.2 Telecommunications Cable Installation (Copper or Fiber Optic)

Install cable providing telecommunications service by connecting regions known as “Trunk Lines,” as described below:

- **Open Trench**: Install the cable within a schedule 40 PVC or an approved equivalent conduit. Install conduit at a minimum depth of 48 inches, as measured to the top of the conduit. Pour a 6-inch-thick colored concrete cap above the conduit. Install color coded plastic warning tape with a minimum thickness of 5 mil and a minimum width of 3 inches in the trench above and centered over the concrete cap at a depth of 12 to 18 inches below the surface.
- **Crossing Under Existing Paved Street:** Jack and bore or directional drill cable under paved unless open trenching is authorized by the County. Place cable in a schedule 40 PVC conduit, or approved equivalent, at a minimum depth of 48 inches.
- **Existing Duct Banks:** Install cables in a manner that provides the best protection for the cables and minimizes the chance for damage to the cables by excavation around the duct banks.
- **Fiber Optic Lines:** Install tracing wires with all fiber optic lines. Install tracer wire in the conduit or in the trench.

Install telecommunications cables other than “Trunk Lines” as described below:

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- **Within Local Street R/W, Not under Pavement:** Install cable in a schedule 40 PVC or approved equivalent conduit. Install conduit at a minimum depth of 36 inches.
- **Withing Local Street R/W, under Proposed Pavement:** Install cable in a schedule 40 PVC or approved equivalent conduit. Install conduit at a minimum depth of 48 inches.
- **Crossing Under Existing Paved Street:** Jack and bore or directional drill cable under paved unless open trenching is authorized by the County. Install cable in a schedule 40 PVC conduit, or approved equivalent, at a minimum depth of 48 inches.
- **Existing Duct Banks:** Install cables in a manner that provides the best protection for the cables and minimizes the chance for damage to the cables by excavation around the duct banks.
- **Fiber Optic Lines:** Install tracing wires with all fiber optic lines. Install tracer wire in the conduit or in the trench.

1104.2.3 Private Water Companies

Land development projects that provide water utility service from private water companies, are required to:

- Submit improvement plans for review that contains the water system design along with construction notes.
- Submit a copy of the approval from the private water company to install their water utility mains & facilities within the County's Right-of-Way or public utility easements.
- Obtain a separate Right-of-Way permit upon plan approval and prior to installation of these facilities.

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1105 Right-of-Way (R/W) and Easements

Utility companies that are recognized as a public utility or have been granted franchise agreements by the County to serve the citizens are allowed to place facilities within the dedicated public rights-of-way and public easements subject to the review and approval of the County. All franchise agreements are on file in the office of the County Clerk and may be reviewed upon request. All other private facilities are prohibited from utilizing the public rights-of-way and public easements without a separate instrument of permission or right.

The design professional and the non-County utility providers should be aware of, and become familiar with, the various regulations that pertain to land development within the County and its utility service areas. County ordinances provide for, and require that, all private land developments in the County be developed, operated, and maintained in accordance with applicable regulations, standards, and requirements.

The developer shall dedicate all public utility easements necessary to provide utility service to the proposed project, including any easements from other property owners. All Public Utility Easements (PUE) shall be granted by grantor to grantee on the recorded plat, survey, or separate instrument in the office of the County Recorder.

Emergency encroachments, including excavation for public utility repairs necessary to protect the public safety, are allowed without a permit provided a permit is applied for the next working day, all traffic control and safety devices necessary are used, and final repairs are not performed until authorized by the County.

Return existing improvements impacted by utility work performed in the County Right-of-Way to its original condition.

1106 Relocation of Existing Utilities

Relocation of existing utilities should be avoided, except where necessary due to construction or drainage requirements. Design of culverts, irrigation facilities, and/or storm drain systems should avoid or minimize any disruption of utility service.

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1107 Location of New Utilities

Except for minor service extensions to individual parcels, locate all longitudinal utility facilities in public utility easements. Where public utility easements do not exist, place utilities in the road right-of way in the following order unless otherwise approved:

- Water on one side of the right-of-way
- Sewer on the opposite side of the right-of-way
- Gas, electric and communications outside the pavement.
- All utilities within right-of-way crossing washes shall have protection against flood scour.
- All utilities must be traceable either tracer wire, metal pipe or a method approved by the County Engineer.

Unusual conditions or sites will be reviewed on a case-by-case basis as to the appropriate location of the facility. Utilize Record Drawings and physical verification to locate existing pavement and utility stubs and design to connect to the existing stubs where feasible.

1108 Bridges, Box Culverts, and Pipes

The placement of utilities on or attached to bridges is prohibited. The attachment of or running utilities through a culvert is prohibited.

1109 Utility Coordination

Close coordination with utility owners is very important to roadway and development projects to insure timely relocations. The design Engineer shall research utility information, determine the location and ownership of all utilities within the project limits and resolve each design issue associated with utilities. When two or more utility owners having the same type of facility within the project limits, the plans shall indicate the owner associated with each installation. Clearly identify utility ownership of all utilities within the project limits on construction documents.

1109.1 Utility Coordination on Capital Improvement Projects

Following approval of each submittal, the design engineer or utility coordinator shall furnish plan sets for each utility and agency impacted by the project. Direct contact with utility company engineers for design coordination will be initiated by the utility coordinator or design engineer. The design Engineer shall record minutes of all meetings and provide the

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County with copies of all minutes and correspondence directly received by the design Engineer.

The developer, engineer or contractor shall be responsible for utility designation, potholing, and manhole invert elevations. Show utility designation and potholing results on the paving plans, paving profiles, culvert profiles, storm drain profiles, private irrigation profiles, cross-sections, and other locations where a potential utility conflict may occur. Include northing/easting and station/offset from centerline of new construction to convey utility designation and pothole results.

The design Engineer shall evaluate the existing utility company as-built plans and pothole data to determine conflict locations and notify the County of these locations. The design Engineer shall provide utility conflict locations, preliminary utility company relocation designs, and show any associated right-of-way or easement requirements (for utility relocations) on the Preliminary Design (60%) plans noted above. Include final utility relocation designs on the Final Design (95%) submittal plans. The sealed plans shall reflect the new utility locations and all other existing utility locations.

1110 Design Requirements

1110.1 General

Locate all above ground utilities and signal poles behind future sidewalk in urban areas. Locate new or relocated above utilities as close to the right-of-way line as is practical.

Do not locate utility manhole frames and covers, clean outs, and valve boxes in any curb ramp, curb, or gutter.

1110.2 Road Cut Suspension

The County has established a road cut suspension on roadways under its jurisdiction. Newly paved roads shall not be cut for a period of 1 year. Newly chip sealed roads may not be cut for a period of 1 year. If work is required to cross these road sections under suspension, then all roadway crossing work must be bored or pushed under pavement. Water boring is not permitted under a paved roadway. Chip sealed surfaces include chip, fog, CLSM, scrub sealing and micro- surfacing. Paved surfaces include overlays, reconstruction, and new construction.

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If boring is not feasible then the designer or contractor may request suspension waiver from the County. If approved, then trench repair per ADOT Detail C-07.06 is required. An early cut fee in the amount of $300.00 plus $20.00 per linear footage of trenching is required. The asphaltic concrete trench repair shall meet the following requirements:

1. Replace asphalt longitudinally, as measured parallel to the roadway alignment, and extend from 10 feet downstream to 10 feet upstream as measured longitudinally along the road to the outermost trench limits.
2. Replace asphalt laterally from roadway centerline to edge of pavement if the pavement removal does not cross the road centerline. If the pavement removal crosses the centerline, full width of the road from edge of pavement to edge of pavement shall have the asphaltic concrete replaced.
    a. Asphaltic concrete shall be 4 inches thick or match existing pavement depth, whichever is greater.
    b. Small trench repairs that are less than one square foot in area, may be hot patched as approved by the County.

1110.3 Minimum Separation and Cover Depth

Maintain adequate separation between proposed utilities/facilities and all other utilities. Measure utility separation from the outer edge of conduits or structures.

1110.3.1 Horizontal Separation

The minimum horizontal separation between utilities within the County's right-of-way are as follows:

- Minimum separation between water and sewer lines shall be per ADEQ guidelines. Three (3) feet between power/communication line trench and water lines.
- Two (2) feet between power/communication line trench and sewer lines.
- One and a half (1.5) feet between gas line trench and water lines.
- Three (3) feet between gas line trench and sewer lines.
- For all other utilities, maintain two (2) feet separation.

The horizontal separation dimensions are minimums; therefore, additional clearances may be required depending on the number and size of utilities in a trench.

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1110.3.2 Vertical Separation

The minimum vertical separation between utilities within the County's right-of-way is:

- Two (2) feet between all crossing utility lines.
- Minimum vertical separation of water and sewer lines shall be per ADEQ guidelines.

The vertical separation dimensions are minimums; therefore, additional cover and/or clearances may be required depending on the number and size of utilities in a trench or utility owner criteria.

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1110.3.3 Minimum Cover Depth for Underground Utilities

Description	Paved Roads		All Unpaved Roads
	Arterial / Collector	Local	
Power [1]			
0-600 Volts	36”	24”	48”
601-7200 Volts	42”	42”	54”
12kV	48”	48”	60”
Street Light Circuit	36”	36”	48”
Gas [1]			
Low Pressure (<60psi)	36”	36”	48”
High Pressure (>60psi)	48”	48”	60”
Water [1]			
Line is less than 12” in dia.	36”	36”	48”
Line is more than 12” in dia.	48”	48”	60”
Sewers [1]			
Main or Service	48”	48”	60”
Storm Drains [1]			
Pipe	18”	18”	30”
Irrigation [1]			
Mains	36”	36”	48”
Telecommunications [1]			
Fiber Optic	48” [2]	48”	60”
Copper Cable	36” [3]	36”	48”
Service Drops	36”	36”	48”
Television [1]			
Fiber Optic	48”	48”	60”
Coaxial Cable	36” [2]	36”	48”
Service Drop	36”	36”	48”

[1] Minimum depths shall comply with current regulatory standards if different from those shown in this table.
[2] With warning tape, 60” depth when crossing or within fifteen (15’) of roadway.
[3] If direct buried, must be at least fifteen feet (15’) beyond the edge of roadway.
[4] The County may approve deviations from these standards under unusual and compelling circumstances.
[5] All roadway crossing shall be in conduit.
[6] All non-metallic facilities shall have tracer wire.
[7] Facilities under roadways: cover is defined as the difference in elevation between the top of the line or pipe and the top of existing or proposed finished grade (paved or unpaved).
[8] Facilities outside of roadway: cover is defined as the difference in elevation between the top of the line or pipe and the natural or regraded ground surface, whichever is less.

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1110.3.4 Horizontal Bores

Developers and contractors are encouraged to use jack and bore or directional drilling in lieu of pavement cuts. Designs with pavement boring shall include a boring profile to ensure proper separation is maintained from all existing utilities. Profiles of existing utilities shall be potholed prior to start of work and included on the boring profile. Utility potholes shall remain open and covered with a steel plate at the critical crossings in order to visually verify depth of bore and utility conflicts.

1110.4 Pavement Cuts and Trenches

Adhere to the following requirements of installing utilities within County roads:

1. Obtain necessary permits for work in County Right-of-Way.
2. Coordinate sawcutting, backfill, subgrade preparation, and/or placement and compaction of ABC and AC with the County prior to starting work to allow for observation by the County.
3. Trim existing pavement to a neat edge and seal the joint with tack coat in accordance with ADOT Standard Specifications Section 404 to insure a proper bond between the existing and new pavements.
4. Remove excavated pavement material from the site and dispose of in accordance with State and County laws and regulations.
5. Where trenching is through geogrid, membrane layers or chemical stabilizers, the material shall be replaced in kind or as approved by the County.
6. Disturbance of any survey monument is not permitted.
7. All aggregate base courses (ABC) shall be in accordance with ADOT Standard Specifications.

1110.4.1 Construction Requirements

1110.4.1.1 Clearing and Grubbing

Remove all trees, shrubs, other landscaping materials, and debris in the right-of-way within 5 feet of the edge of the trench and as necessary for construction of trench. Remove from the job site all rocks dug out of trench and within construction path unless the homeowner requests in writing they be moved to their property.

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1110.4.1.2 Paved Areas

1. Compact shading material to 95% (or to 90% if in sand) of AASHTO T-99 maximum density for a minimum depth of 6 inches over the utility.
2. Compact select backfill to 90% of AASHTO T-180 maximum density, or 95% of AASHTO T-99 maximum density.
3. Compact to 98% of AASHTO T-180 or 102% of AASHTO T-99 maximum density an 8-inch lift of ABC Class 2 to the bottom of asphalt elevation of the road.
4. Permit Holder's may request to use a County-approved, seasonally appropriate CLSM or lean concrete may be installed from finished shading material to bottom of SURFACE MATERIAL ELEVATION. Surface shall be restored as described herein.
5. The pavement shall be sawcut and removed back an additional 12 inches on each side of the trench from disturbed subgrade or to a minimum of 3 feet, the existing aggregate base moistened and compacted to 95% AASHTO T-180 maximum density or 100% of AASHTO T-99 maximum density and the pavement replaced to a minimum of one (1) inch thicker than the existing pavement or 3½ inches thickness whichever is greater. Placement of asphalt 4 inches or greater shall be in two (2) or more lifts.
6. At Permit Holder's option and with advance approval from the County, trench may be compacted to 100% of AASHTO T-180 maximum density, and pavement replaced to the thickness of existing pavement.
7. Complete street cut pavement patching work within 24 hours of completion of work. The use of steel plates set flush to pavement may be approved for use by County. Where the utility provider will be placing facilities in developer provided conduit, the developer is required to provide construction plans showing the alignments, trenches, and bore holes required to install the utility conduit. It is the responsibility of the project developer and utility provider to coordinate this requirement with each other.
8. Depending on the condition of the existing pavement, additional removal and replacement of pavement, wider than the trench, may be required. Full removal and replacement of the pavement area between the trench and lip of gutter is required when the distance between the trench and the edge of pavement or lip of gutter is 4 feet or less. In addition, should any raveling or damage occur to the existing pavement within the construction area, the damaged

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areas shall be saw cut, removed, and replaced. Damage to curb, gutter and sidewalk shall require full panel removal with saw cuts made at each joint. Removal and replacement of all existing infrastructure, damaged pavement, concrete, landscaping, and irrigation, etc. shall be at the contractor's or utility's expense.

Additional Requirements for Paved Areas within 1 foot of the Center of a Lane or the Centerline

1. Submit at least one compaction report every 200 feet for each horizontal 12-inch lift or every 200 feet at random elevations with diagonal backfilling. Diagonal backfilling is not permitted without County approval.
2. Ditches and fill slopes shall be brought to finished grade with select native materials and compacted.
3. Transverse trenches require in addition to item 1, at least one compaction test for each lift of the trench backfill, regardless of the length of the crossing.

Additional Requirements for Transverse Trenches

1. Compact each 8" ABC Class 2 lift to 100% of AASHTO T-99 maximum density, submit compaction report for each lift.
2. Replace aggregate surface (Class 6) as appropriate. Compact to 98% of AASHTO T-180 or 102% of AASHTO T-99 maximum density an 8-inch lift of ABC Class 6 to the bottom of asphalt elevation of the road. Submit certified compaction report for each lift every 200 feet.

1110.4.1.3 Unpaved, Gravel or Earth Surfaced Roads

1. Surface replacement of gravel surfaced roads shall be consistent with the existing surface material in place and consist of select material or ABC as directed by the County.
2. Fill placed on existing gravel surfaced roads or earth surfaced roads to obtain minimum allowable cover over the pipe for 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.
3. Submit at least one compaction report every 200 feet for each horizontal 12-inch lift or every 200 feet at random elevations with diagonal backfilling. Diagonal backfilling is not permitted without County approval.

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1110.4.2 Individual Excavations for Manholes, Sewer, Water or Gas Service Connections, etc.

1. Compact shading material to 95% (or to 90% if in sand) of AASHTO T-99 maximum density for a minimum depth of 6 inches over the utility.
2. Compact select backfill to 95% of AASHTO T-180 maximum density for each lift above the shading material and submit certified compaction report for each lift accomplished within the road prism. Lifts greater than one (1) foot thick will be tested every vertical foot. Backfill of such excavations shall proceed approximately level across the entire excavation.
3. Replace Base and Surface materials as described in the Paved Area, Longitudinal trenches section. Cold mix may be used as a temporary patch in paved roads until hot mix can be installed.

1110.4.2.1 Materials and Testing

Paved Areas

1. Conform to ADOT Standard Specifications for all pavement cuts with backfill consisting of either ABC or controlled low-strength material (CLSM) as approved by the County and utility.
2. Conform to ADOT Standard Specifications Section 409 for asphalt material used for replacement of pavement cuts or as directed by the County.
3. Replace the thickness of the pavement and aggregate base with a consistent thickness and thicknesses shall not be less than 2½” AC or 6” ABC. Minimum thickness requirements for asphalt pavement and aggregate base shall be measured compacted to 100% of AASHTO T-99 maximum density for the material.
4. Conform to ADOT Standard Specifications Section 401 for concrete pavement replacement. No on-site batched concrete is allowed. The thickness of concrete pavement replacement shall be consistent with the thickness of the existing section, but in no case less than 6 inches.
5. Conform to ADOT Standard Specifications Section 303 for all aggregate base courses (ABC).

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Unpaved Areas

1. Compact shading material to 95% (or to 90% if in sand) of AASHTO T-99 maximum density for a minimum depth of 6 inches over the utility.
2. Compact select backfill to 95% AASHTO T-99 maximum density.
3. Compact to 100% AASHTO T-99 maximum density an 8-inch lift of ABC Class 2 and a 4-inch lift of ABC Class 6 to the finished elevation of the road.
4. CLSM may be brought to surface as a temporary measure but shall be removed prior to replacement of surface material. Surface shall be restored as described above. CLSM used as backfill in drainage areas or ditches shall not be placed above the previously existing top of the grade.

1110.4.3 Within Primitive or Non-Maintained County Roads

Trenches and individual excavations within primitive or non-maintained county roads will be in accordance with the above, or as agreed in advance by the County and the Permit Holder.

1110.4.4 Requirements for Outside of the Roadway Prism

Trenches located in area from ditch bottom to outside right-of-way line shall be compacted to a minimum of 90% of AASHTO T-99 maximum density but with no compaction reporting required. However, the County reserves the right to have Permit Holder submit compaction rest report(s) on suspect trench compaction anywhere within the right-of-way.

1110.4.5 Additional Requirements

1. Trenches located within 5 feet of the downstream end of crossroad culverts shall be compacted to a minimum of 100% of AASHTO T-99 maximum density in 12-inch lifts, 15 feet each side of the culvert and the surface protected with at least 9-inches of rip-rap (D50 = 6 inches) on an appropriate geotextile, 5 feet perpendicular on each side of culvert opening by 5 feet away from the opening. As an alternative, CLSM may be used in the trench five (5) feet either side of the culvert.
2. Ditches and fill slopes shall be brought to finished grade with select native materials and compacted.
3. Shading material shall have a minimum thickness of 6 inches above the utility line, or as specified by the utility, whichever is greater.

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4. A concrete cap or CLSM backfill is required when a utility line is located within the road prism but outside of the paved area, and its depth is less than 36 inches below the subgrade grade. The concrete cap or CLSM backfill shall extend the edge of the road prism or until the utility's depth exceeds 36 inches below subgrade.
5. Utility lines shall have at least 36 inches cover under all surfaces within the right-of-way, in conformance with the agreements reached among the members of the County Utility Coordination Committee, unless excavation is in rock and CLSM or concrete protective cap is used. Concrete or CLSM shall be continuous in the area where there is less than 36 inches cover, or such other extra protection as is previously approved by the Engineer shall be provided. In no case shall a utility line have less than 24 inches of cover. The Engineer may require additional cover when anticipated or potential road or drainage improvements indicate the need for greater depth.

1110.4.6 Restoration

1. Permit Holder shall video the entire length of the project before starting work. This should be done in coordination with the Inspector. Video shall clearly identify roadway features, including, but not necessarily limited to, condition of surface, culverts, and signs. Special attention should be given to any existing damage or deterioration. This video shall be available to Inspector at the time of the final inspection.
2. All driveways and culverts shall be replaced to their original condition or better. Culvert pipes removed for utility installation shall be replaced with new 18-inch diameter pipe unless the County approves a different size in writing. The County may, at its option, furnish 18 inch diameter or equivalent culvert pipe to replace existing undersize culverts at the time the existing pipe is removed and also may restore all or portions of the drainage system with its own crews.
3. Street signs, traffic signs, delineator posts, mailboxes, etc., removed for construction purposes shall be re-installed by the contractor in their same location. Those posts/signs damaged during their removal or by Contractor's operations shall be replaced with new posts/signs at no cost to the County. If the Contractor cannot, for any reason, reinstall signs in their precise same

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location, the County will reinstall the sign at Permit Holder's expense.

4. Cleanup and restoration shall follow construction activities as soon as possible after the primary construction is complete. The Engineer reserves the right to limit the elapsed time and/or distance between the actual construction work and cleanup/restoration when conditions warrant.
5. At no time shall the Contractor have more than 2 acres of disturbed area, nor shall cleanup and restoration be delayed longer than one month or lag sufficiently behind the primary construction to cause restoration to be performed in the following year. (An area one mile long by sixteen feet wide is two acres.)
6. Restore all existing ditches to their original location and condition. Ensure they provide the same flow characteristics as existed prior to the construction. Damaged culverts shall be straightened or replaced as necessary, regardless of the cause or origin of the damage.
7. Cuts in pavement shall be patched to match existing or with cold mix as soon as possible. Cold mix may be used for temporary patches only, which shall be excavated and replaced with hot mix prior to the completion of the job. Exceptions to this may be authorized when the existing pavement is road mix or cold mix. Saw cutting the "Tee- top" should be delayed until the cuts are prepared for final patching. Hot mix asphalt shall be used for all permanent pavement restoration using a mix which has been approved in advance by the Engineer.
8. Pavement replacement shall be to the same standards as new or overlay pavement construction on county roads, including, but not limited to, the requirements for submitting a mix design for approval, weather limitations on pavement placement, and construction methods, equipment, and tolerances. All pavement replacement shall be true to line and grade and shall not deviate more than 0.01' from the approved profile, nor more than one-eighth (1/8) inch from a ten (10) foot straight edge. The crown (cross-slope) shall be 2% or shall match the adjacent pavement unless otherwise approved by the Engineer.
9. Asphalt replacement shall utilize a locally available hot-mix asphaltic (HMA) concrete produced in compliance with ADOT Standard Specifications Section 406, 409, or 416, or the County specifications. The HMA mix may be an off-the-shelf or stock mix

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design. For larger jobs, the Permit Holder shall submit a mix design to the County for approval prior to using the mix on the job. The Permit Holder may obtain the HMA from any supplier or multiple suppliers but shall not use more than one supplier for any contiguous work.

10. When work is along the edge of paved roads, within the shoulder or fore slope, and the pavement is damaged – such as being cut or broken - the remaining edge of pavement shall be saw cut at a distance of 2 feet from the damaged area and subsequently removed. The exposed aggregate base shall be compacted to 100% of AASHTO T-99 maximum density. The HMA mix shall be installed to meet the existing pavement edge and thickness. The cut shall extend at least 5 feet on either side of the affected area.
11. Pavements with chip seals shall have new chip seal placed by the County following completion of the permit work. The costs associated with the replacement of the chip seal shall be on a sliding scale, which takes into account the age of the existing chip seal and the extent surface disruption.
12. Return work area to a clean, smooth grade in original condition or better. Fences, light fixtures, shrubbery, and other vertical landscaping materials that may pose a hazard to traffic or maintenance operations within the road right-of-way will not be replaced without prior written approval from the Engineer.
13. Roadway surface shall be restored to equal or better condition than that existing prior to the construction, without a dip or bump at the patched section.
14. Marker posts shall be installed as per utility specification. Utility marker posts shall be off set when their required location is in or near the bottom of any drainage ditch. Such posts shall be marked with the off-set distance to actual pipe location. Marker post locations are subject to county approval.
15. Restoration of undeveloped, unmaintained, or primitive roads shall be in accordance with the specific requirements which shall be established at the time the permit is issued.
16. Shoulders and roadside ditches shall be restored with a road grader prior to final acceptance and permit closure. Ditch shaping with a backhoe or loader bucket is not sufficient for final restoration.
17. In certain cases, the County may, at its sole option, restore ditches, driveway culverts, and/or shoulders with its own personnel and equipment when it is deemed in the best interest of the public. This

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does not relieve the permit holder from any requirements for trench restoration or from the responsibility for repairs if the permitted work fails.

18. The County may, at its sole option, require the restoration of certain paved or high traffic roads on an accelerated schedule separate from other parts of the same project, may limit the time that a specific road may be obstructed or closed, and may require the work be terminated and surfaces restored prior to holidays or other high traffic periods.
19. Pavement replacement shall be to the same standards as new or overlay pavement construction on county roads, including, but not limited to, the requirements for submitting a mix design for approval, weather limitations on pavement placement, and construction methods, equipment, and tolerances. All pavement replacement shall be true to line and grade and shall not deviate more than 0.01' from the approved profile, nor more than one-eighth (1/8) inch from a ten (10) foot straight edge. The crown (cross-slope) shall be 2% or shall match the adjacent pavement unless otherwise approved by the Engineer.
20. Testing is not generally required for small jobs, such as isolated service line crossings, but the County reserves the right to require testing for specifications compliance on larger jobs and whenever conditions warrant. Testing of asphalt materials includes, but may not be limited to, gradation verification of the cold- or hot-feed aggregate, extractions to determine actual oil content, field density measurements, and coring of the finished work to verify thickness and material properties.
21. The minimum pavement replacement width for transverse trenches or longitudinal trenches in the interior of a pavement section is 3 feet. Patches along the edge of a lane shall be at least 3 feet wide. Patches shall not occur within 3 feet of a pavement edge or joint, in a visible wheel path, or at a marked “Stop-bar” at an intersection. In such cases, the additional pavement shall be removed, and the entire area patched as one unit at the permit holder’s expense.
22. All longitudinal patches and transverse patches eight feet or wider shall be placed with a paving machine unless otherwise approved in advance by the Engineer.
23. All gouges, scrapes, cuts, and/or cracks in the paved surface shall be repaired by the method approved in advance by the County. Any such damage greater than ½ inch deep, or 1 inch wide shall

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be repaired by saw cutting around the area to a minimum dimension of 3 feet, removing the damaged pavement, applying a tack coat (ADOT Standard Specifications Section 404) to the edges, and placing and compacting an HMA patch.

1111 Engineered Utility Plans

Engineered utility plans must be submitted for review as part of the permit process. The objectives are to make optimum utilization of the space available in the County Right-of-Way and public utility easements to ensure compliance with all County policies; to coordinate with construction work of other utility companies, agencies, and County projects; and to reduce risk and inconvenience to the public.

The purpose of this section is to provide the designer with information that is necessary to assist in the approval of utility plans. A list of common/generic items that must be included on all construction plans is provided below. This list should not be construed as an all-inclusive list as there may be specific information required by the reviewer to clearly identify scope of work. The following items are minimum requirements and should assist the designer in the development and approval of the utility plans.

Utility plans should contain as much information as possible to ensure approval. The following checklist is to offer comments on the plans submitted for approval for a utility construction permit. The checklist also serves to minimize comments on the plans and to maintain consistency among plan reviewers. Plan approval and issuing permits depend on following this section and providing all required and pertinent information on the construction documents.

1111.1 Utility Plan Requirements

Utility plans must comply with the requirements of Chapter 300 of this manual and the following:

- Job name/project name (development projects).
- Work order number.
- Existing and proposed rights-of-way/ tract(s) and adjacent easements with dimensions. Right-of-Way lines shall be labeled “R/W” or “ROW”.
- Dimensioned ties to monument lines in streets and to property lines in alley and easements.

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- Identify and dimension paving improvements. A typical detail is sufficient for every Right-of-Way on plan. Detail should include lip of gutter, curb, back of sidewalk, and front of sidewalk if not adjacent to the curb in areas with new development all existing and proposed paving improvement should be shown.
- A scale or dimension adequate to depict relationships among the physical features within the construction site and to identify potential conflicts. Scale should be no smaller than 1 in. = 40 ft.
- All existing and/or proposed facilities that the proposed construction would cross and/or parallel within the limits of the Right-of-Way.
- Storm drains, sanitary sewer lines, water lines, over 12 inches in diameter shall be drawn to scale. All conduit systems over 12 inches in diameter or wide shall be shown to scale if proposed construction is within 2 feet of existing conduit system.
- Locations and limits of proposed construction. Clearly differentiate between County and others' Right-of-Way including, but not limited to, State Land and ADOT.
- Aerial and underground utility crossings at a 90-degree angle to the road centerline.
- Current topography showing what exists in area of proposed construction that would be affected by that proposed construction.
- Vicinity map indicating major cross streets.
- North arrow, preferably with north up or to the right.
- A legend showing all symbols used on drawings.
- Blue stake note or symbol and information.
- Street names.
- Completed title block including job number and construction address.
- Utility company logo and job number.
- County General Notes for Utility Construction.
- Trench detail showing type, width, depth and number of conduit to be installed.
- Stationing and offsets for all existing and proposed facilities within the proposed construction site.
- Total linear trench/bore footage and total linear/bore footage in the Right- of-Way.
- Joint trench must identify all companies in trench.

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- Variance letters for clearance less than 6 feet from water and/or sewer mains and 3 feet from services; includes private drives per County standard details.
- Control point, distance/offset from control point.
- Existing utilities - show all existing utilities (above and below ground) per CAD standards. Include any relocations or abandonments required for installation.
- Match lines: include match lines to indicate continuation on another sheet (assure consistency between match points).
- Offset from centerline.
- All proposed equipment details shown and dimensioned on plan such as pedestals, transformers and pads, switching cabinets, manholes, etc.
- Trench pavement restoration.

1111.2 Utility Profile Requirements

- Elevations taken from existing surface grade at intervals of 100' or less in the same alignment as proposed construction.
- Continuous line on the plans throughout the project.
- Finish and/or natural grade profile if it is within the proposed construction site.
- Identify all existing and proposed facilities that the proposed construction would cross.
- Storm drains, sanitary sewer lines, water lines, and chilled water lines over 12 inches in diameter shall be shown drawn to scale.
- All conduit systems over 12 inches in diameter or height shall be shown to scale if proposed construction is within 2 feet of existing conduit system.
- Vertical scale that adequately depicts installation of existing facilities (1 in. = 2 ft. or 1 in. = 5 ft).
- Elevations shall be indicated on plans and comply with Chapter 300.
- Horizontal scale adequate to identify conflicts, no smaller than 1 in. = 40 ft. is acceptable.
- Size, number, and type of pipe or conduit to be installed.
- A profile of all horizontal borings required.

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1111.3 Special Requirements

- Minimum overhead clearance shall be 18 feet.
- The MAG Standard Specifications and Details, including current County supplements will be followed for the installation of both underground and overhead facilities. Permits for overhead lines must comply with any agreements with licensed or franchised utility companies.

1111.4 Above Ground Structures

- All structures height, width, length must be dimensioned.

1111.4.1 Cabinets under 3 feet in Height

- No structure to exceed 36 inches in height in front yard of residential homes.
- Dimensions of structure.
- 18-inch setback from back of sidewalk to face of structure.
- Flush to sidewalk elevation if adjacent to sidewalk.
- Pad size and location in detail.

1111.4.2 Cabinets over 3 feet in Height

- No front yard placement of structures over 36 inches in height allowed.
- Dimensions of structure.
- Three pictures (front, left and right views) of proposed site with cone at proposed structure locations.
- Four pictures if along a rear yard if structure could possibly affect swimming pools, etc.
- Pad size and location in detail.
- Structure cannot be placed in sight-triangle.

1111.5 Plan Review

County staff will perform a conflict review of the proposed utility plans for compliance with County Standards.

Plan review fees shall be collected at time of plan submittal and permit fees will be collected upon issuance of the permit.

The fee and insurance requirements may be satisfied by license or franchise agreement.

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Upon completion of the review, a permit will either be issued to the applicant, or the application will be returned for further modifications. If additions or corrections are required, the applicant will be notified and must resubmit after changes have been made.

Utility Permits are generally issued for 180-calendar days and extensions may be issued on a case-by-case basis. If more than two extensions are requested, a new plan and permit submittal will be required. Special conditions or stipulations may have been added to the permit application before compliance.

The following on the permit form evidences approval of the Utility application:

- Identification of the date of the original issuance.
- Identification of the date that the initial issuance of the permit expires.
- As with the correction reports, the approved permits are available from the MaintStar Permitting Center or pickup at the Public Works Department in Show Low.
- A conduit plan shall be shown on compliant developer or utility provider improvement plans prior to utility permit issuance.

1111.6 Permit Extensions

As stated on the permit, construction of the utility facility shall begin within 180-days of the permit issuance, otherwise the permit expires by limitation and re-application must reoccur. Two extensions of the same application/permit form are allowed if work has not commenced within 180-days of the permit issuance.

The utility provider shall provide a copy of the prior permit issued along with the utility plans.

Permits that have expired by limitation 2 (two) times and the utility facility is still required and/or necessary, the utility provider shall complete a new application form and submit 3 (three) copies of the plans, and 4 (four) copies if trenching is required, for review and/or approval.

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Other conditions that must be met:

- Contractors/subcontractors must be “approved” to work under utility permits. The County will maintain a list of approved contractors and subcontractors.
- The utility company is to inspect its work with the County providing periodic oversight. Requests for County inspections must be coordinated with the Inspector assigned to the project. Excavations may not be backfilled without satisfactory County inspection.
- Non-emergency work in or adjacent to, an arterial or collector street (in the Right-of-Way) requires an individual permit. This work is not covered under the blanket permit.
- An active permit is required.
- Must comply with Blue Stake Laws (AZ811).
- The contractor/subcontractor must maintain a copy of the permit on-site at all times.
- All work in County Right-of-Way or PUEs shall conform to applicable MAG Standard Specifications and Details except as amended by this Manual or Standard Details.
- Open pits (not in the street) are allowed to remain open for two weeks only.
- Open pits are to be properly secured (to the satisfaction of the County’s Inspector).
- The County requires coring, vacuum excavation, backfilling and reinstatement of the asphalt core in to asphalt pavement to comply with MAG Uniform Standard Specifications and Details, Section 355, Utility Potholes – Keyhole Method and Detail 212, Utility Pothole Repair unless otherwise approved in writing by the County.
- All water and sewer utility design must be per latest ADEQ requirements and submitted to them for approval.
- Profiles will be required on projects involving installation of sewer or water 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. Profiles may be required by the County Engineer for other facilities or in cases of alignment or grade conflicts, cover problems or crossing conflicts.
- Traffic Control Plan in accordance with MUTCD.

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1112 Utility Plan Submittal, Plan Review and Permitting

1112.1 Utility Plan Submittal and Review

Submittals of the construction documents for the proposed utilities shall be made to Public Works.

1112.2 Utility Conflict Review

In addition to County review, construction plans shall be sent to all applicable utility companies for a conflict review. The utility companies shall then sign the cover sheet of improvement plans or provide letter confirming that they have seen the plans, are aware of the scope of the project, have identified existing and proposed utilities conflicts in relation to the project and agreement to mitigate all conflicts with their facilities. The County Engineer shall not approve construction plans until all potentially affected utilities have signed the plans or provided this written correspondence.

It is understood and agreed that the Engineer and/or owner has considered all of the permanent and temporary utility appurtenances in their existing and relocated positions, as shown on the plans and specifications for the project. Therefore, the owner shall bear all risk and cost arising from problems associated with utility locations. County approval of plans and/or issuance of permits shall not affect this presumption.

1112.3 Encroachment Permit

1112.3.1 Permit Application

The Navajo County Encroachment Permit is to be filled out, signed by an appropriate and authorized representative of the utility provider, and included with the construction plan submittal. Copies of the application form are available in Appendix A, the Navajo County website, or from the County.

1112.3.2 Permit Issuance

Navajo County Encroachment Permit applications will only be accepted if all request information is supplied, or provisions are otherwise made. The approved permits are either e-mailed to the applicant or are available at

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from the Public Works Department The applicant is responsible for obtaining approval from any other applicable agencies.

1112.3.3 Condition Adherence

The applicant shall adhere to all Encroachment Permit General Conditions stated on the Navajo County Encroachment Permit and General Notes on the civil plans. Final acceptance of the work within County right-of-way will be as described in Chapter 300.

1112.3.4 Permit Extensions

As stated on the permit, Encroachment Permits shall be valid for one (1) year. A minimum of a pre and post inspection will be required. If after the one (1) year period the project is not complete, a renewal permit shall be obtained for the cost of the original permit. Prior to the permit's expiration, the original permit may be renewed upon applicant's request.

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1200 General Information

The County maintains approximately 720 miles of roads. These roads are maintained by preventing, reducing, and restoring deterioration of the roadway infrastructure through road surface and roadway structure maintenance and preservation activities. Work items include surface patching, depth patching, chip sealing, double chip sealing, asphalt overlays, crack sealing, snow and ice management, grading of gravel roads, road sweeping, shoulder work, and various pavement maintenance techniques. All traditional maintenance activities will be reviewed with attention to budget constraints on an annual basis. The maintenance schedules will be adjusted as necessary where the safety aspect of the work being performed will be the deciding factor.

The Public Works Department shall, under direction of the Board of Supervisors, provide road construction and maintenance services in an equitable and objective manner. To prioritize these services, a road classification system is used, taking into account the road's function and Average Daily Traffic (ADT).

All roadways within the County Maintained Road System are classified according to Federal Function Classifications (FFC), which serve as a guideline for construction and maintenance. For more information on FFC, see Chapter 400.

Maintenance activities are determined based on a road's FFC in the County Road Maintenance System.

Furthermore, the County may consider adding existing roads into the maintenance system, based on the County’s Improvement District policy, when it is deemed appropriate to do so.

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1201 County Maintained System

1201.1 County Highways

County Highways are the only category of public roads that the County is authorized to allocate public funds for new construction, alterations, or improvements. These roads must officially be established by the Board of Supervisors in pursuant to Arizona Revised Statutes (ARS).

All County Highways are included in the County Maintained Road System. The County is committed to maintain and improving these highways in accordance with the law. Considerable public resources have been invested in these roads, and it is the County's responsibility to ensure that they continue to meet the needs of the public.

1201.2 Improvement Districts

Public roads that meet the criteria outlined in the ARS or have been constructed or improved to current County standards, at no cost to the County, through the establishment of a County Improvement District may be eligible for maintenance. However, maintenance services are only provided to roads that have been accepted by the Board of Supervisors through a resolution for inclusion in the County Maintained Road System. Once accepted, these roads will be maintained in accordance with the assigned FFC.

1201.3 Primitive Roads

Primitive roads are not designed or constructed to any standard and are not regularly maintained. The County is not liable for damages as a result of using a primitive road.

1202 Public Right-of-Way not a part of County Maintained Road System

Roads currently in use that have not been officially incorporated into the County Maintained Road System, along with "paper" rights of way granted to the public through easements or other recorded documents but not yet accepted into the County Maintained Road System, fall outside the County's maintenance jurisdiction.

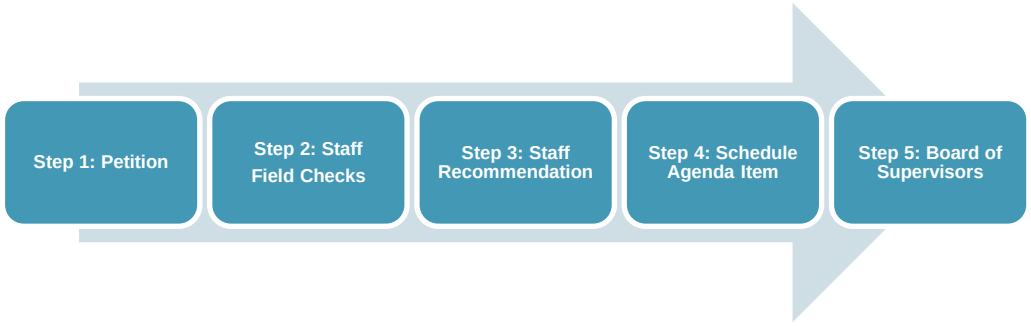
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1203 Process of Adding a Road into the County Maintenance System

For any routine maintenance work performed to make a roadway passable within a public easement that is not a County maintained roadway the owner performing the routing maintenance work may not need a permit unless the owner or its contractor is moving more than 50 cubic yards of roadway material, performing any permanent improvements, or creating permanent obstructions to the public easement.

Figure 1203.1 shows the typical process for adding a road into the County Maintenance system.

Figure 1203.1 Process of Adding a Road into the County Maintenance System



1203.1 Step 1: Petition the Public Works Department

Residents may request the County to add a public road to the Maintained Road System. Petitions shall contain the following:

1. Submit a petition to the County, signed by two or more residents who have direct access to the road in question.
2. Provide evidence of the existing right-of-way and obtain from a Registered Land Surveyor who is licensed to practice in the State of Arizona. This certification shall confirm that the existing road is located within a dedicated public right-of-way.

After receipt of a petition, eligibility will be assessed by the County.

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1203.2 Step 2: Staff Field Checks

County staff will conduct on-site inspections to assist in the determination of eligibility.

The County will review and verify the following:

1. A publicly dedicated easement.
2. Construction occurred at no expense to the County.
3. An Average Daily Trips (ADT) count exceeding 50 trips.
4. Compliance with minimum geometric standards.
5. Contains appropriate drainage features.
6. Roadway has sufficient surfacing material, such as aggregate base or approved materials, to allow for maintenance without damage to County equipment.

The minimum geometric standards shall be defined by either the AASHTO *Guidelines for Geometric Design of Low-Volume Roads*, or this policy, depending on which is more restrictive.

1203.2.1 Engineering Evaluation

The County is authorized to conduct traffic counts as necessary. The County will evaluate roads with more than 50 Average Daily Trips (ADT) to determine their safety and suitability for maintenance. Where a road meets maintenance and safety criteria, but lacks the required Right-of-Way or has inadequate Right-of-Way, the County may begin the process of acquiring Right-of-Way and incorporating the road into the maintenance system.

The determination of eligibility for County maintenance is the duty of the County Engineer or designee as per the ARS.

1203.2.2 Qualification Requirements

Achieving compliance with the regulations stated in this Chapter and abiding by the laws of the state can be accomplished using three methods:

1. **Subdivision Streets:** Public subdivision streets constructed to County standards, at no expense to the County, and in accordance with an approved plat as per the ARS may be accepted for maintenance within one year of their completion.
2. **Existing Dedicated Public Roads:** Existing roads dedicated to the public must conform to Section 1203.2.

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3. **County Improvement District Public Roads:** Public roads constructed or improved to County standards, at no expense to the County, and officially recognized that they are a County Improvement District are also eligible.

Private Streets are not eligible for County Maintenance under any circumstances.

1203.2.3 Maintenance Feasibility

Location	The road must be directly accessible from a publicly maintained road.
Drainage	Drainage along the road must be such that frequent maintenance is not necessary in wet weather.
Soil Conditions	Sufficient workable material is required for routine grading to maintain a safe and comfortable road. The surface material shall not cause excessive wear and tear on the grader during routine maintenance.

See the County's Improvement District Policy for additional information.

1204 Removal from the County Maintenance System

If it is determined that a road within the County Maintained Road System has not been significantly utilized by the public for a period of five (5) years, the County is authorized to initiate Board proceedings to remove the road from the system. Furthermore, the County has the ability to pursue appropriate Board action to relinquish all rights and interests in County Highways and other roads or sections that no longer meet the needs of the traveling public or were never accessible for public use.

1205 Snow Removal, Salt, and Cindering

Difficult driving conditions resulting from snow and/or ice necessitate an immediate response from County maintenance forces to mitigate these driving conditions until weather improves and driving conditions can return to normal. The goal of this work is to provide emergency service access.

1205.1 Driveways

Driveway snow clearing is the responsibility of the driveway owner and/or resident.

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1205.2 Vehicles in Roadway

For additional information, see the County's Snow Parking Ordinance No. 02-2024.

1205.3 Mailboxes

It is the responsibility of property owners and/or residents to ensure that the area around their mailboxes remains free from any obstructions, debris, snow, and other such items.

It is the responsibility of property owners and/or residents to replace mailboxes within County Maintained Right-of-Way that do not comply with the County's Mailbox regulations. Additionally, the repair or replacement of non-conforming mailboxes is the responsibility of the property owner and/or resident. See Chapter 1300.

1206 Commercial Pamphlets and Advertising Signs in County Right-of-Way

No residential or commercial signs, pamphlets, or other attachments are permitted on County maintained road posts. All residential and commercial signs must comply with zoning ordinances.

1207 Culvert Installation Program

The County has a program to ensure the proper installation of culverts within public Right-of-Way. Residents are responsible for any Illegal head walls constructed on pipe culverts without a County Right-of-Way use permit.

1207.1 Policy

County crews will install culverts within the County Right-of-Way which involves tasks such as digging, placing the culvert, filling, and compacting. The County will not provide any materials for the installation. To participate in this program, residents are required to acquire culverts with dimensions no less than of 18" x 20'.

1207.2 Eligibility

Residents requiring access between the edge of right-of-way and a County maintained road.

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1207.3 Procedure

To participate in this program, residents require a right-of-way permit and communicate their intention to participate. Right-of-way permits can be obtained using the MaintStar Permitting Center, or alternatively, from the Public Works Department in Show Low or Holbrook.

The County will then coordinate with the property owner to schedule a time for culvert installation.

1208 Adopt-a-Roadway

The County is actively involved in minimizing litter on County roads. This goal is achieved through regular litter clean-up activities and promoting responsible litter disposal among motorists. The County's Adopt-a-Roadway Program plays a crucial role in these efforts.

This program invites non-political groups and individuals to participate in litter clean-up along designated sections of County roads. The County installs signs acknowledging the contributions of these organizations or individuals, recognizing their ongoing commitment and assistance.

To express an interest in the Adopt-a-Roadway program, contact Navajo County Public Works at (928) 524-4100.

1208.1 Policy

Only County maintained roads sections that are considered suitable for this activity will be designated. Ensuring the safety of Adopt-a-Roadway workers is of the utmost importance. Adoptable segments should ideally be around two (2) miles long, although shorter lengths may be allowed in areas with heavy litter, provided they are not less than one (1) mile in length.

1208.1.1 Eligibility

Individuals, private corporations, non-profit organizations, and non-political organizations are eligible to participate in litter cleanup activities on a specified portion of a County road through a revised right-of-way Use Permit, provided they adhere to the regulations outlined in this Manual.

Permits will not be issued to political organizations in an effort to avoid what could be considered as endorsement signs.

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1208.1.2 Rules and Conditions

1. Children who are under the age of twelve (12) are prohibited from participating or being present in the right-of-way for any purpose. The organization responsible for the event must ensure that there is sufficient supervision, with at least one (1) adult aged 21 or above for every ten (10) members who are under the age of 18.
2. Alcoholic beverages are prohibited at the Adopt-a-Roadway litter pick up site.
3. The participating organization will designate an Adopt-a-Roadway supervisor from its members to oversee the work conducted in the right-of-way.
4. Adopt-a-Roadway workers are required to participate in ADOT's Safety Briefing, including watching the Safety Briefing Video before each litter pick up activity.
5. Before each litter pick up, the Adopt-a-Roadway supervisor must provide safety precaution training to all workers participating in the program.
6. The safety requirements linked to the Right-of-Way Use Permit must be followed by all Adopt-a-Roadway workers at all times.
7. Perform clean-up activities at least two times (2) per year.
8. The participating organization must coordinate their pick-up schedules with the County to prevent conflicts regarding the utilization of County roads or rights-of-way. This coordination also helps in facilitate the smooth removal of the filled litter bags.
9. Prior to beginning work in the right-of-way, every participant (or the parent or guardian of a minor) must sign the waiver for each pick up event.
10. The permit will be granted for a duration of at least two (2) years. It can be extended if the organization has satisfactorily complied with the conditions of the Right-of-Way Use Permit.
11. The County Engineer or designee has the authority to enforce any additional prerequisites and stipulations that may be deemed necessary.

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Right-of-Way and Access Management

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1300 Policy

Access management refers to the control and regulation of vehicular entry onto public roadways from adjacent properties. It encompasses legal, administrative, and technical strategies that a political jurisdiction employs to safeguard the well-being and security of its residents. Additionally, access management governs the level of control imposed on roadways and is crucial for supporting the capacity of public roadways and facilitating access to private land.

Different types of roadways fall under the administration of various entities, such as the State, a city, town, or county. The guidelines outlined in this document specifically pertain to access to properties and roadways within the jurisdiction of the County. In cases where access is managed by multiple jurisdictions, the responsibility for adhering to the guidelines or regulations is shared among all relevant entities.

Any access points onto County right-of-way shall be obtained through a permit. Depending on the circumstances, roadway accesses may necessitate a Traffic Impact Analysis/Statement and the construction of right and/or left-turn lanes. Additional traffic control measures or improvements to the roadway may also be required.

1301 Right-of-Way Use Permits

1301.1 Purpose and Authority

The Arizona Revised Statutes (ARS) authorizes the Boards of Supervisors to “lay out, maintain, control and manage” the public roads in areas of the county that are not incorporated. According to the ARS, the Board “may impose restrictions and limitations upon the use of the public roads as it deems best for the public safety or welfare.” Additionally, the ARS provides that the County, as the agent of the Board of Supervisors, “shall have charge of all highways, other engineering construction and improvements, alterations and repairs to county property.”

Case law has established that the utilization of public rights-of-way for purposed other than their primary intended use is subordinate to the utilization by the authority that controls the roadways.

On June 8, 1971, the County Board of Supervisors adopted a resolution imposing certain regulations for construction activities in the public rights-

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of-way in the unincorporated areas of the County. These regulations mandate that a permit shall be obtained from Public Works.

The public agency has the authority to periodically update permit requirements and construction specification to reflect changes in construction methods and liability exposure.

The purpose of these stipulations and specifications is to consolidate and standardize permit requirements for work within public rights-of-way under the control of The County to ensure adequate protection of lawful users of public rights-of-way. The intention is not to replace any other mandates imposed by Federal, State, or local regulatory agencies or codes, as well as those of individual utilities.

The specifications detailed herein are intended to serve as the minimum standards for all construction within existing or proposed County rights-of-way, whether they are already established or planned. When conducting work within existing public rights-of-way, the permit issued by County shall specify which sections of that shall be complied during the work.

Failure to conform to these specifications may be considered a violation of the ARS, and subject to the penalties therein specified. Encroachments installed without a permit are subject to removal and restoration of the right-of-way at the owner's expense.

The County may, in certain cases, require the permit holder to furnish a performance bond or other financial assurance for major or extensive projects, and/or may accept a financial assurance in lieu of certain testing requirements.

1301.2 Requirements for Work inside County Right-of-Way

1301.2.1 General Requirements

All work above, below or within County right-of-way requires a permit from the County, except for routine maintenance as defined in Section 1203. This requirement applies to any public right-of-way or easement. The permit will be issued to the owner of the encroachment, or alternatively, the contractor responsible for the work may apply for the permit. A physical copy of the permit must be kept on-stie for the duration of the project.

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Signs, such as business and personal advertising, real estate, and political campaign signs, are NOT permitted within the public right-of-way, and are subject to immediate removal when observed by County personnel.

All work within public rights-of-way, such as landscaping or driveway construction between the edge of the traveled roadway and the easement or property line, shall be performed by a licensed, bonded, and insured contractor, or a franchised or Improvement District utility. A property owner may install a driveway culvert, construct a driveway, or install minor landscaping materials for their own single-family residence.

Contractors shall hold a contractor's license of an acceptable grade and type, as determined by the County, when a significant portion of the work is within public right-of-way. However, if the work within the public right-of-way is minor or incidental to the main effort on a residential lot, any contractor licensed for the work may perform the work within the public right-of-way. Examples of minor work within the public right-of-way include the installation of short-side utility service(s) to a single-family residence, the construction of a driveway and culvert as part of a single-family residence, and landscaping outside the roadway prism. All road crossings, whether through boring, direction drill, or open cut, shall be made by a Licensed Contractor or a qualified crew from the local utility.

All utility work within the public right-of-way shall adhere to the requirements of the approved project plans, utility specifications and/or the County construction specifications, and this manual.

The permit holder shall ensure compliance with all applicable Federal, State, and Local laws, including but not limited to, OSHA, EPA, and utility protection (Blue Stake) requirements. Work shall be done in accordance with the latest edition of the Arizona Department of Transportation Standard Specifications for Road and Bridge Construction as modified herein, except as approved in advance by the County.

The County reserves the right to inspect the work periodically or continuously as it affects the public right-of-way, reduce or eliminate requirements and stipulations, and close the permit when all work and punch list items are finished. The Inspector's specific role is to ensure

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compliance with the permit requirements and specifications in relation to the public right-of-way, maintain public convenience and safety, and to serve as the primary point of contact between the County and the permit holder. The presence or absence of an inspector does not relieve the permit holder from any of the permit provisions. The Inspector is not responsible for conducting technical inspections of the permitted work, but solely for ensuring compliance with the permit's requirements. The Inspector has the authority to reject any portion of the work and require replacement of work that does not conform to these specifications.

Prior to commencing work, the permit holder must designate in writing a primary point of contact, as well as an alternate contact. These individuals may be either employees of the permit holder or the contractor, as determined by the permit holder. It is mandatory for at least one contact person to be present, either in person or reachable by radio or telephone, within a 15-minute timeframe whenever work is being carried out on the job site. The inspector serves as the sole point of contact for the County and can be reached via cell phone or radio from any of the County Public Works offices during regular working hours.

If the permit holder elects to work more than a 40-hour week, except in emergency situations, then work inspected after forty hours is considered as overtime. The County Engineer reserves the right to inspect such planned work and the permit holder shall reimburse the County for actual cost of inspection which includes wages at time-and-one-half (double time on Sundays and holidays) and mileage.

The permit holder is required to locate an adequate number of property corner pins along the right-of-way of each road included in the permit to ensure that work is done in the proper location. The County is not responsible for incorrectly located work.

Permit holders and/or contractors shall submit proof of insurance with the permit application or shall maintain an annual certificate of insurance on file proving coverage that is satisfactory to the County. All utilities shall maintain on file a current certificate of insurance listing the County as an additional named insured.

Major changes to the approved construction plans require the submission of revised plans to the County. Using the County's MaintStar Permitting

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Center, submit revised PDF plans at least three (3) working days prior to the scheduled start date of the revised work. AutoCAD files may also be submitted as part of the revision submission. Major changes include, but may not be limited to:

1. Changes of desired location:
    a. to opposite side of road
    b. into roadway prism
    c. into pavement
2. Changes to proposed traffic control plan or methods
3. Changes backfill or restoration materials.
4. Any changes to culvert or drainage facilities other than substituting an equivalent arched culvert for a round pipe culvert.

Minor changes may be approved by the Inspector on-site, or, at the Inspector's discretion, may be referred to the County Engineer or their designee.

All changes shall be documented on the "As-Built" drawings submitted at the close of the project.

The permit holder shall be responsible for and warranty any and all repairs to the roadway should any work done under the permit fail.

A Professional Engineer Licensed in Arizona must sign and seal the plans accompanying a Use Permit Application, which will be reviewed and accepted by the County. However, the County may waive this requirement for small projects if the applicant provides adequate justification. All work in the public right-of-way shall be performed under the supervision of a Professional Engineer unless otherwise waived by the County.

The County reserves the right to require the use of specific types or sizes of equipment and construction methods for any portion of the work within the public right-of-way when it is deemed in the best interests of the protection of public health, safety, and welfare. This specifically includes, but is not limited to, the backfilling and restoration operations, as well as ensuring protection and control of traffic.

Asphalt patches in roadway pavement shall conform to MAG Standards or match existing road section. Whichever is greater.

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The permit holder shall ensure that copies of all required test reports shall transmitted to the County through the Owner's Engineer in a timely basis. The County shall receive compaction test reports no later than the following working day after the test is performed. Late test reports shall constitute grounds for the County to impose more stringent construction requirements or suspend operations under the permit.

A Traffic Control Plan shall be submitted a minimum of 5 days prior to the start of construction for a Use Permit.

Failure to provide proper traffic control per the submitted plan may result in the issuance of an immediate STOP WORK order and/or revocation of the permit.

1301.2.2 Notices and Public Information

The permit holder shall notify homeowners in advance of work that will take place in front of their property and that extend beyond one (1) working day. This notification may be given through various means such as a letter, personal contact, or the use of "Doorknob Hangers," among others.

The permit holder shall inform the public about complete or partial road closures, as required by the County, through local radio station. This notice shall be given at least 24 to 48 hours in advance of the start of work. The notice shall include the specific location and duration of the travel restrictions, along with recommend alternative routes for the public.

The permit holder shall notify the County prior to removing or obscuring any traffic control device, such as signs, pavement markings or signals. Replacement of such devices shall be as directed by and under the supervision of the Engineer.

The permit holder is responsible for notifying utilities, local authorities, emergency service providers, and other relevant parties at least 48 hours before starting construction.

The permit holder shall notify the County Sheriff's Dispatch whenever road or lane closures are installed or removed on major roads.

The permit holder shall notify the County at least two working days in advance to the start of any work under an annual or one-time right-of-way

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use permit, or prior to the pre-construction meeting for major projects. In the case of emergency utility repairs, the advance notice requirement is waived, but the permit holder shall still provide notice as soon as possible regarding any work within the public right-of-way. This includes contacting the County or Sheriff's Dispatch outside of working hours while the emergency repair crews are enroute to or at the emergency site. The permit holder shall inform the appropriate County Departments prior to the approval of the permit.

1301.2.3 Driveways, Culverts, and Landscaping

Heated driveways, sidewalks, or other landscape features shall be clearly shown on the permit application if they are to be installed within the public right-of-way. The use of glycol or any other toxic or hazardous materials in these systems is prohibited within the public right-of-way. The County, its contractors, or agents, as well as other permit holders or their contractors shall not be responsible for replacing of any features that are installed in violation of the permit or without a permit.

New or restored driveway pavement shall conform with the established road grade and shall not extend above the plane of the extended roadway crown within the roadway prism.

Driveway culverts shall be at least 18 inches in diameter or equivalent arched corrugated metal pipe. Larger sizes may be required when local drainage conditions warrant. Smaller sizes or other materials are not acceptable unless approved in advance by the engineer. Arched, or "squashed" or "flat bottom" pipe shall be installed with the flatter side down, and in such a manner as to remove any bow or curvature of the pipe.

1301.2.4 Sanitary Provisions

The contractor is responsible for ensuring that there are appropriate sanitary facilities available for the workers at the job site. These facilities shall be maintained in a clean and sanitary condition, in accordance with the regulations set by the State and local health boards, as well as other relevant authorities.

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1301.2.5 Trenching Operations

During trenching operations, it is required that an OSHA certified Competent Person or a Registered Professional Engineer (Civil or Geotechnical) supervise the work. This person shall have the authority to stop the work if any unsafe trench conditions are identified. The County also reserves the right to stop trenching operations in the right-of-way if the trench is deemed unsafe, regardless of its depth, or if the contractor fails to have a Competent Person present when the trench exceeds 4 feet in depth.

During non-working hours, the maximum limit for open trenches is 50 feet. These trenches shall be protected in a manner approved by the County. Any specific variations to these requirements will be evaluated on a case-by-case basis.

1301.2.6 Safety Gear

ANSI/ISEA 107-210 Class II safety apparel is required working within in County right-of-way or easements. This includes the use of shirts, vests, jackets, and bibs, in addition to all necessary personal protective equipment. In cases where fire-resistant or non-spark-generating clothing is required, Nomex vests and/or shirts are available in the appropriate colors.

1301.2.7 Traffic Control

To ensure compliance with Part VI of the Manual of Uniform Traffic Control Devices (MUTCD), a Traffic Control Plan (TCP) shall be submitted to the County for approval at least three (3) working days before any work begins. **A copy of the approved TCP shall be available on the jobsite at all times while work is in progress.**

The permit holder is responsible for ensuring that at least two (2) ATSSA, or equivalent, certified flaggers are present and actively working whenever work equipment is within the roadway prism or when equipment is entering, exiting, or working on the roadway. For short periods of time not exceeding ten (10) minutes out of any one (1) hour on low volume roadways, flaggers shall be equipped with a STOP/SLOW sign on a 72" staff.

Flaggers, other than uniformed police officers, shall not direct traffic to operate contrary to any visible regulatory signs. For example, if there is a

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STOP sign at a flagged intersection, traffic must stop even when moving under flagger control. Requests to remove or cover up regulatory signs shall be shown on Traffic Control Plan (TCP) and approved by the County in advance.

Traffic control takes precedence over all other construction activities within the right-of-way, especially in emergency situations. If construction equipment, materials, or operations obstruct one lane of traffic, flaggers shall be present and active at all times. If there are not enough workers to flag traffic and carry out construction tasks simultaneously, work must cease until substitute flaggers are available, all signs are visible, and adequate flaggers are present. Sufficient flaggers must be on hand to ensure continuous flagging during operations that require it.

The set-up of flagging and traffic control must start with the least restrictive measure (the flagger or road closer) and shall be removed in reverse order.

All personnel involved in setting up or removing traffic control must have at least one vehicle with flashing lights positioned between them and the oncoming traffic for protection.

1301.2.8 Blasting

No blasting activities are permitted within the right-of-way without the explicit approval of the County and local authorities and must be carried out by a blasting contractor who is duly licensed, bonded, and insured. All requests for blasting approval shall be submitted IN WRITING at least two (2) weeks before the planned start date.

Coordination with the County is required for any blasting within 1000 feet of a road to ensure adequate warning for motorists. Additionally, blasting zones shall display the necessary warning signs as outlined in Section I of the MUTCD.

During non-working hours, roads may only be closed with the prior approval of the County. The permit holder is responsible for providing adequate lighting, detour signs, maintenance, changeable message signs, and advance notice to users of the road. In exceptional cases where one lane of a road needs to remain closed during non-working hours, the County may approve the posting of the roadway for one-way traffic with

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proper advance notice and appropriate signs. When one-way traffic or overnight road closure is in effect, flaggers are required to be on site twenty-four (24) hours per day, with adequate flood lighting of their positions. Temporary traffic lights and signals with auto start backup generators are also acceptable for 24-hour control of single lane operations.

1301.2.9 Temporary Facilities and Maintenance of Work Area

No soil processing shall take place in County rights-of-way without the County's written approval in advance.

STOP and YIELD signs that are removed or covered up by construction activities shall be replaced with temporary ones on a support as shown on the TCP when flaggers are not present. The permanent replacement of these signs shall be reviewed and approved the County.

Soil disposal or processing on private property is only allowed with the property owner's written consent. If the disposal exceeds fifty (50) cubic yards or is within a wash or flood plain, the written approval must be accompanied by a copy of the approved grading plan and permits.

Trenching spoil shall be removed from the traveled portion of the right-of-way prior to the end of each workday to ensure unobstructed two-way traffic. If this is not feasible, then traffic control measures shall be implemented in accordance with an approved TCP prepared in accordance with the MUTCD and approved by the County.

Temporary ditches shall be constructed to divert stormwater away from the work area, taking into account weather conditions, in order to prevent erosion or sedimentation downstream of the project. If necessary, erosion barriers may be required. Drainage facilities shall be restored daily when the National Weather Service predicts a 50 percent or higher chance of precipitation within the next 72 hours, regardless of other project activities such as cleanup and restoration, or when any work is being carried out within the right-of-way between November 1 and March 1.

All paved surfaces shall be power swept and/or washed clean at the end of each workday, or as necessary based on conditions. The surfaces shall be sufficiently clean to prevent the formation of dust or the occurrence of muddy or slippery conditions.

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Unpaved roads within the work area shall be graded using a road grader at least once a week to ensure they remain accessible to all passenger vehicles throughout the duration of the permitted work. This maintenance shall also be done as needed to address any ruts, bumps, mud, or mud holes. It is important to note that back dragging with a bucket is not an acceptable alternative method.

If the permitted work is not completed before winter weather, the permit holder shall be responsible for winter maintenance, including snow removal and ice control, 24 hours a day. The permit holder shall have snow removal and ice control equipment with operators ready on-site within two (2) hours of being notified by the County.

During cold months when snow or ice conditions are present, the permit holder shall ensure that the permitted work does not impede public snow removal and ice control operations. Additionally, trench plates shall not be left in place beyond the end of the working day if the US Weather Service predicts snow or ice before the next working day.

1302 Access Control

Access within the County shall be subject to the following guidelines.

1302.1 Access to State Highways

- Access to state highways is regulated by the Arizona Department of Transportation (ADOT).
- Encroachment permits for access to State Highways must be obtained from ADOT.

1302.2 Access to City/Town Streets

Access to city streets within incorporated areas is subject to regulation by the relevant city or town. Encroachment permits for access on these streets shall be obtained directly from the appropriate city or town.

1302.3 Access to County Roads

The County regulates access to roads and streets owned and maintained by the County. Any new construction intended to connect into County roads shall first obtain approval through a valid County encroachment permit.

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Existing accesses to County roads, regardless of their current usage, shall not be modified or rebuilt without a County-issued encroachment permit.

Encroachment permits shall be required for the following:

- Property division, creating new parcels
- Change in zoning
- Significant change in structural modifications, remodeling, or business expansion
- Use of the access increases in actual or proposed vehicular volume by 20 percent or more.
- Directional characteristics, such as left turns, increases by 20 percent or more.
- Change in property use causes an impedance to the flow of traffic on the County road.
- Relocations or realignments to existing driveways.
- Changes in the type of traffic utilizing the access (usually an increase of larger heavier vehicles) increases by 20 percent or 10 vehicles per day.
- Modification of existing access
- Private streets accessing County roads.
- Direct access onto a County road has been in a state of non-use for more than four (4) years, and improvements are needed.

The number of access points shall be minimized. Access points will only be approved if they are accompanied by an approved project site plan.

Changes in advertising, landscaping, general maintenance, or aesthetics that do not impact internal or external traffic flow or safety do not require a new driveway permit. In general, any proposal that necessitates a discretionary review will be considered a potential change of use.

1302.4 Access to County Roads within National Forest, BLM, or State Trust

Access to County roads within National Forest, BLM, or State Trust shall comply to Section 1302.3 and the following: obtaining prior approval from the landowner is required for access that connects to federal or privately owned land outside of County right-of-way, or if the access is solely within County right-of-way on federal or privately owned land. Furthermore,

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advanced coordination is required when approval from the landowner is needed for driveways.

1302.5 Access Management Summary

The speed and functional classification of the roadway, as well as the abutting land use, are taken into consideration for access policy. Table 1302.1 presents some basic guidelines or spacing of access points from roadways to abutting properties depending upon the functional classification and design speed of the roadway.

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Table 1302.1 County Access Management Guidelines

	Speed (mph)	Intersection Spacing (ft)	Private Direct Access	Minimum Driveway Spacing (ft)	Private Access Geometry	Private Access Notes
Arterials (FFC 3 & FFC 4)	35 – 45	660	Allowed	250	Right turns allowed, turn lanes may be required	One access per parcel. Two for large developments when spacing standards can be met.
	50 – 60	1320	Limited	450		
	60+	2,640	Limited	660 – 1,320		
Major Collector (FFC 5)	35 – 45	660	Allowed	330	Right turns allowed, turn lanes may be required	One access per parcel. Two for large developments when spacing standards can be met.
	50 – 60	1,320	Limited	450		
Minor Collector (FFC 6)	35 – 45	330	Allowed	165	Right turns allowed, turn lanes may be required	One access per parcel. Two for large developments when spacing standards can be met.
Local (FFC 7)	25 – 35	250	Allowed	50	Right turns allowed.	One per parcel.

Any deviation from the County's Access Management Policy is subject to approval by the County through a Waiver Request.

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1303 Intersections

See Chapter 600 for intersections located within County Right-of-Way.

Subdivision intersections shall be located per the County Subdivision Regulations.

See Chapter 400 for traffic impact analysis associated with proposed developments.

1303.1 New Intersections or Modifications to Existing Intersections

A proposed development's impacts to the capacity of an existing or proposed intersection shall be determined as part of the TIA. The TIA will identify the necessary improvements that need to be made. Unless there is a prior development agreement in place, full build-out improvements are required.

1304 Driveways and Turnouts

A driveway, also known as a turnout, refers to any access built within County right-of-way that connects the roadway to neighboring property without obstructing any sidewalks, border areas, streets, or roadways. See Chapter 600.

1305 Mailboxes and Newspaper Delivery Boxes

No mailbox or newspaper delivery box (hereafter referred to as mailbox) is allowed in the County's rights-of way if it interferes with the safety of the traveling public or the function, maintenance, or operation of the highway system. A mailbox installation that does not conform to the provisions of this regulation will be considered a safety hazard. Any violation could result in a written order requiring the owner to remove the safety hazard. If the safety hazard is not removed, the County will remove the hazard and bill the owner.

The mailbox owner is responsible for and shall hold the County harmless and defend any and all claims for personal injury and property damages that might be brought as a result of the installation and existence of mailboxes within County right-of-way.

The property owner is solely responsible for mailbox maintenance.

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All mailbox units, attachments, details, supports, and installation shall be in strict accordance with the United States Post Postal Service rules and regulations and in compliance with this Manual.

1305.1 Mailbox Material

Mailboxes shall be of light sheet metal or plastic construction conforming to the requirements of the U.S. Postal Service and attached to a support structure (post) with sufficient strength to prevent the box from separating from the post if struck by a vehicle. Newspaper delivery boxes shall be of light sheet metal or plastic construction of minimum dimensions suitable for holding a newspaper. Heavy steel, cast iron, or decorative mailboxes are not allowed in County right-of-way.

1305.2 Types of Mailboxes

Table 1305.1 Typical Post Mounted Mailbox Size

Size	Typical Dimensions (inches)			Maximum Weight (pounds)
	Length	Width	Height	
Small	19 ½	6	7	5
Medium	22 ½	8	11 ½	7
Large	23 ½	11 ½	13 ½	10

- **Single:** One mailbox on a single support.
- **Double:** Two mailboxes on a single support.
- **Multiple:** three to five mailboxes on a single support. A multiple mount is typically used if there are three or more mailboxes at a single location.
- **Neighborhood Delivery and Collection Box Units:** NDBCUs, or community mailboxes, are a type of mailbox installation that serves a large number of residents, such as at an apartment complex or mobile home part.

1305.3 Mailbox Placement Considerations

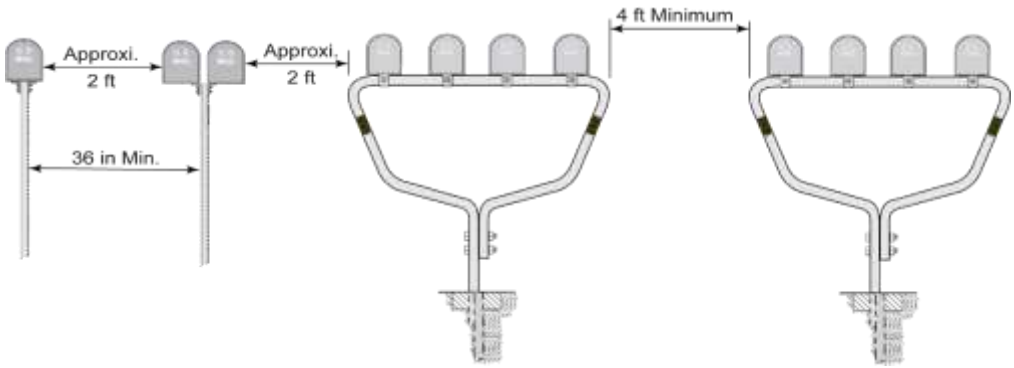
Proper placement of mailbox supports is the key to reasonable ease of service by postal carriers and the safety of carriers and other motorists. There are three placement considerations for mailboxes: the height of the mailbox above the road or shoulder surface, the lateral offset from the edge of the road, and the longitudinal placement within a turnout or from an intersection.

1305.3.1 Longitudinal Placement

Longitudinal mailbox placement relates to the distance between a mailbox and other mailboxes, the beginning or end of the mailbox turnout, and an intersection (if the mailbox installation is close to an intersection).

Distance between Individual Mailboxes and Mailbox Installations: There should be a separation of approximately 2 ft between single and multiple mount mailboxes or between a single/double mailbox installation and a multiple mailbox installation. There should be approximately 4 ft between adjacent multiple mailbox installations. Figure 1305.1 illustrates mailbox separation distances.

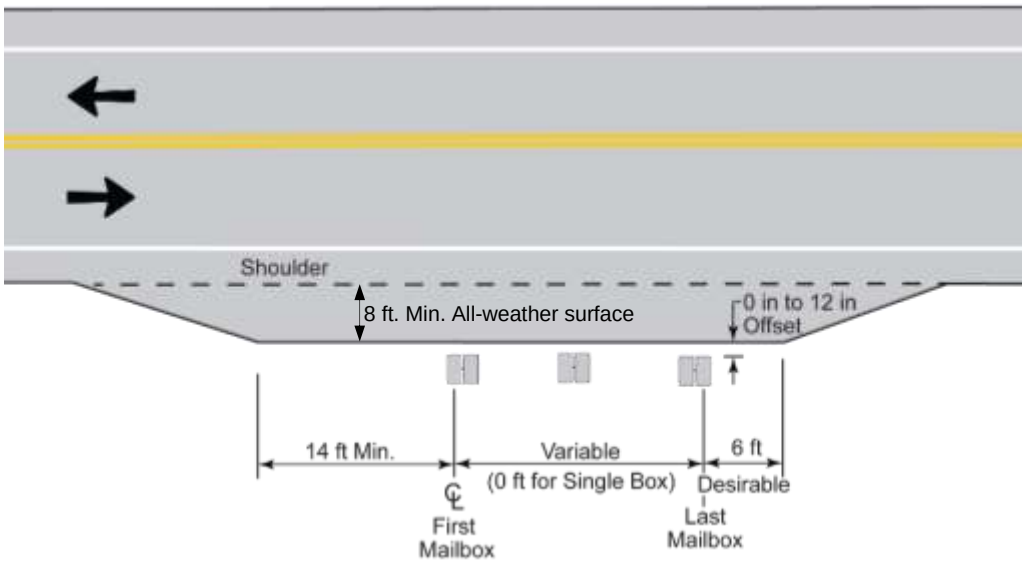
Figure 1305.1 Approximate Distance between Mailbox Installations



R*oad with Mailbox Turnout:* There should be a minimum of 14 feet from the mailbox to the beginning of the 8-foot-wide all-weather surface and a desirable distance of 6 feet from the last mailbox to the end of the 8-foot-wide all-weather surface. Figure 1305.2 illustrates the longitudinal placement within a mailbox turnout.

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Figure 1305.2 Mailbox Placement within a Mailbox Turnout



Driveway Entrances: Where a mailbox is located at a driveway entrance, it shall be placed on the far side of the driveway in the direction of the delivery route.

Intersections: Mailbox placement at intersections depends on whether the through road has a speed of less than 55 mph or 55 mph or greater. See Figure 1305.3 and Figure 1305.4 for mailbox locations near a rural intersection for these two cases.

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Figure 1305.3 Rural Placement Speed ≥ 55 mph

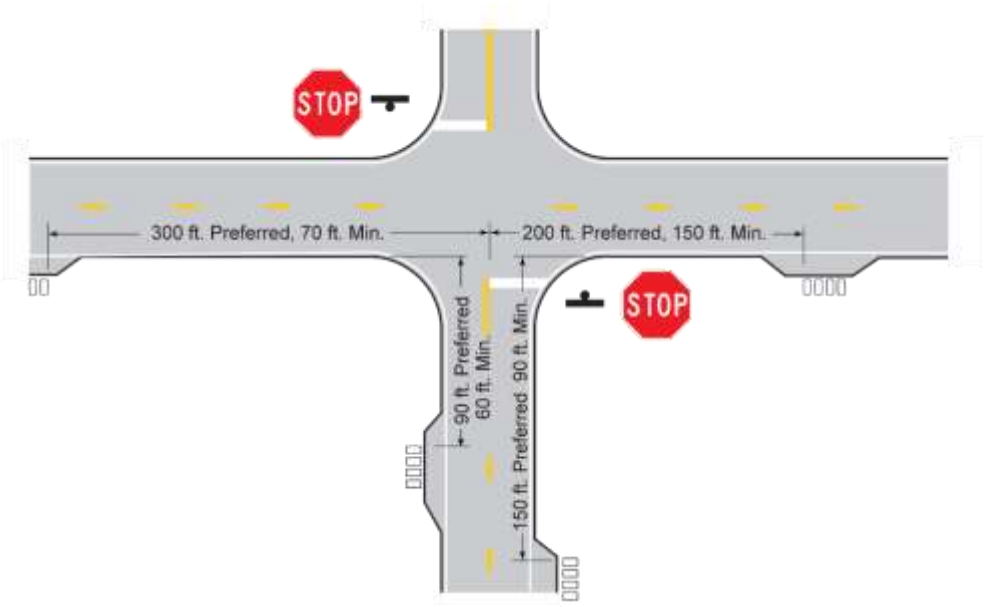
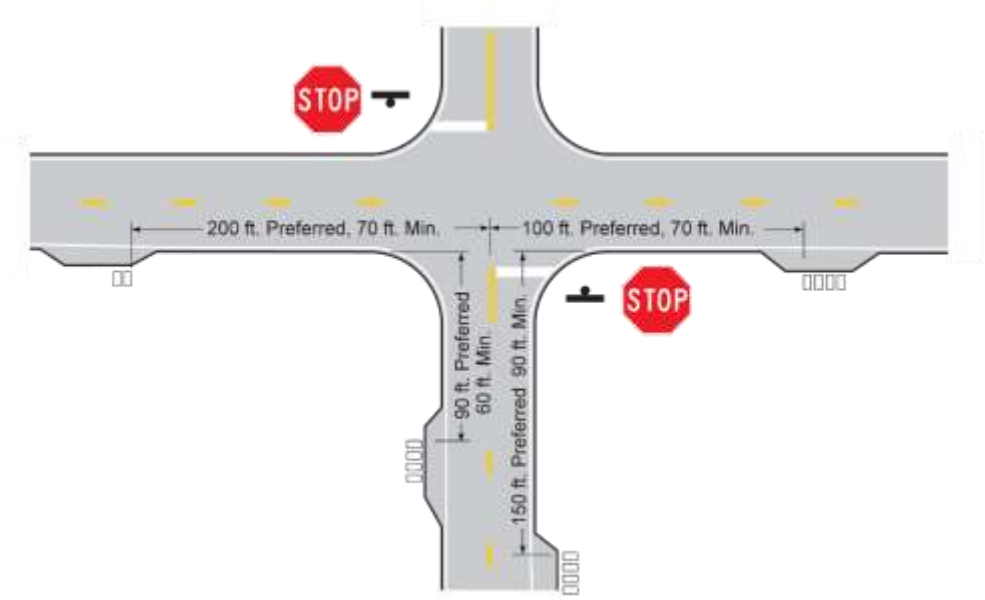


Figure 1305.4 Rural Placement Speed < 55 mph



1305.3.2 Lateral Offset from Access Point

The lateral offset of the mailbox should be close enough to the shoulder or curb or other access location to allow the mail carrier to deliver mail from the mail vehicle. This distance is a function of the road cross section; see Table 1305.2.

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Table 1305.2 Lateral Placement of Mailboxes Guidelines

Highway Type and Traffic Conditions	Width of All-Weather surface of Turnout or Available Shoulder at Mailbox (feet)		Offset between Roadside Face of Mailbox and Edge of Turnout or usable Shoulder (inches)	
	Preferable	Min	Preferable	Min
Rural Highway ADT over 10,000	12	10	8 to 12	0
Rural Highway ADT 1,500 to 10,000	12	8		
Rural Highway ADT 100 to 1,500	10	8		
Rural Road ADT under 100	8	6		8 inches[1]
Residential Street without curb or all-weather shoulder	6	0		
Curbed Residential Street	Not Applicable		8 to 12 inches behind traffic face of curb	8 inches behind traffic face of curb

ADT = Average Daily Traffic

[1] If a turnout is provided, this may be reduced to zero.

[2] Mailbox installation shall be in conformance with US Postal Service requirements and shall require a permit if the installation is within the roadway prism as herein defined. Mailboxes shall be installed in a configuration, manner, and location that does not constitute a traffic hazard. Navajo County reserves the right to reject and remove at owner's expense any mailbox installation that interferes with the safe use of the roadway.

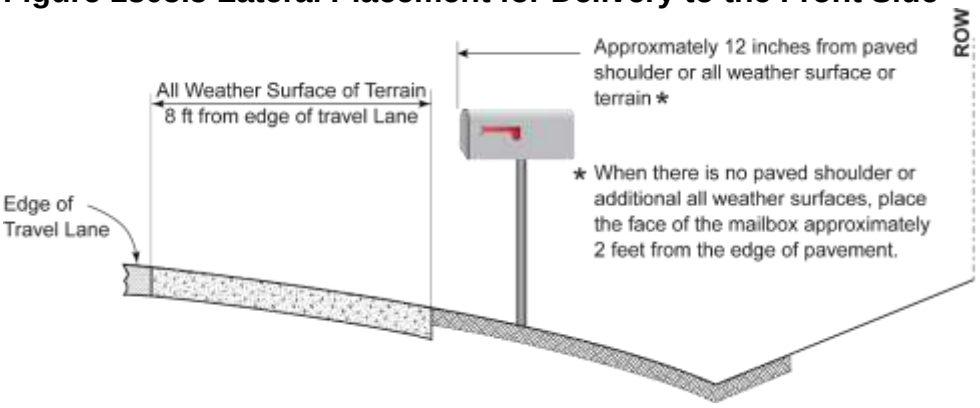
[3] Mailboxes within the roadway prism shall be installed in accordance with USPS Form 4056, and the AASHTO, "A Guide for Erecting Mailboxes on Highways" Mailbox supports shall not exceed strength of a 4-inch by 4-inch wood post, a 2" standard strength steel pipe, or 2 lb/ft steel "U" post embedded 2 feet in the ground. Mailbox supports shall not be set in concrete and the mailbox should not separate from the support upon impact.

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Figure 1305.5 and Figure 1305.6 illustrate the lateral placement of mailboxes. There are three conditions for lateral offset of mailboxes:

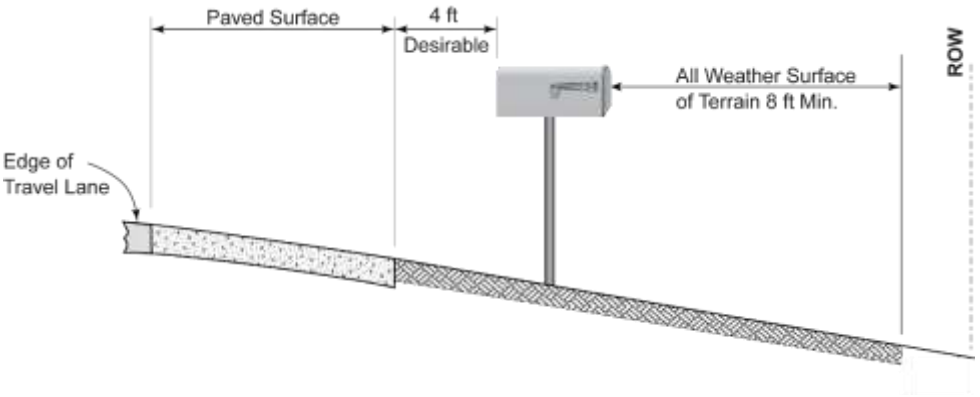
Delivery to Front Side: Mailbox is installed so that mail can be accessed from an all-weather surface or terrain adjacent to the travel lane. See Figure 1305.5.

Figure 1305.5 Lateral Placement for Delivery to the Front Side



Delivery to Back Side: Mailbox is installed so that the mail can be accessed from an all-weather surface or terrain on the side of the mailbox away from the travel way. See Figure 1305.6.

Figure 1305.6 Lateral Placement for Delivery to the Back Side



Delivery Near Right-of-Way Line: *Due to their size and weight,* Neighborhood Delivery and Collection Box Units *(NDCBUs) should be installed outside of County right-of-way and on low volume intersecting roadways or on private property. If a NDCBU must be located in County right-of-way, then the County shall be contacted to designate an*

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acceptable location, preferably outside the clear zone and directly adjacent to the right-of-way line.

1305.3.3 Exceptions

Exception to the lateral placement criteria above may exist on residential streets and certain designated rural roads where the County deems it in the public interest to permit lesser clearances or to require greater clearances.

1305.3.4 Very Low Volume Rural Roads

Rural roads falling under this classification with low-operating speeds, the County may find it acceptable to offset mailboxes a minimum of 7 feet from the traveled ways and under some low-volume, low-speed conditions may find clearances as low as 30 inches acceptable.

1305.3.5 *Height*

The base of the mailbox should be installed at a typical height of 42 inches above the outside edge of the travel lane, shoulder, or turnout. Figure 1305.7 illustrates the height of mailboxes.

Figure 1305.7 Height of Mailbox



1305.4 Mailbox Hardware

This section contains common information associated with mailbox hardware.

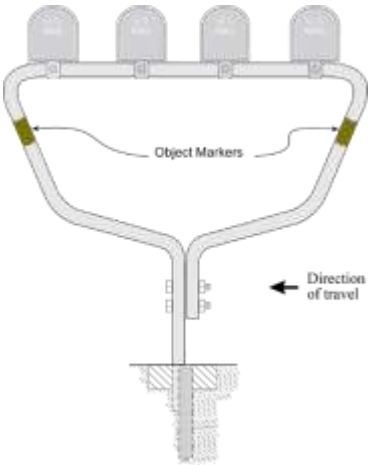
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1305.4.1 Types of Supports

There are two general types of mailbox supports and specific hardware associated with each type of support:

- ***Single Mailbox Support:*** Any of these supports can be used to support a single mailbox.
  - ***Square Wood:*** *A 4 x 4-inch square pressure treated wood post.*
  - ***Round Wood:*** *A 4-inch-diameter round pressure treated wood post.*
  - ***Thin-wall Steel Tube:*** A 2- to 2½-inch diameter thin-wall steel tube. This type of post can be used with a small, medium, or large sized mailbox.
  - ***Channel Post:*** A 2 pound per foot channel post. This type of post can be used with a small or medium sized mailbox.
- ***Double Mailbox Support:*** This support is used to support two mailboxes on a single support.
  - ***Thin Wall Steel Tube:*** A 2- to 2½-inch-diameter thin wall steel tube.
  - ***Channel Post:*** A 2 pound per foot channel post.
- ***Multiple Support:*** Either of these supports can be used for three or more mailboxes.
  - ***Coat Hanger Support:*** A 2-inch-diameter thin-wall steel tube support frame that has a shape similar to an upside-down coat hanger. See Figure 1305.8.

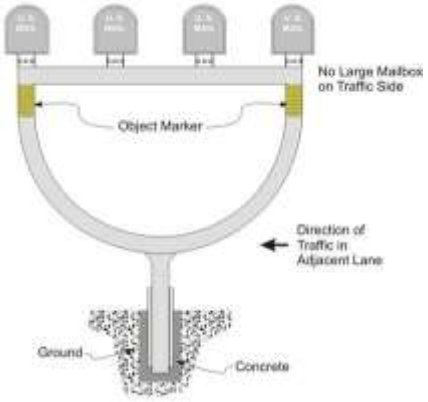
Figure 1305.8 Coat Hanger Multiple Support



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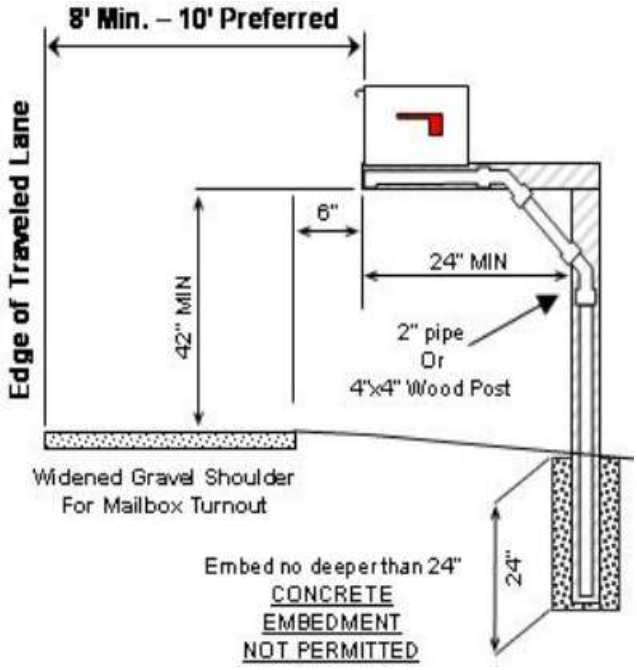
- ***Constant Radius Support:*** A 2 3/8-inch-diameter semi-circular pipe with a constant radius. See Figure 1305.9.

Figure 1305.9 Constant Radius Multiple Support



Cantilever Mailbox Support: A cantilever type mailbox support is recommended in areas with snow removal operations, which allows snowplows to sweep near or under mailboxes without damaging supports. Height of mailbox is 42 to 48 inches above roadway surface. Support is is embedded 24 inches deep in the ground surrounded by 36 inches of compacted sand or gravel. The post offset from the edge of shoulder should not be less than 24 inches and preferred offset of 48 inches

Figure 1305.10 Cantilever Mailbox Support



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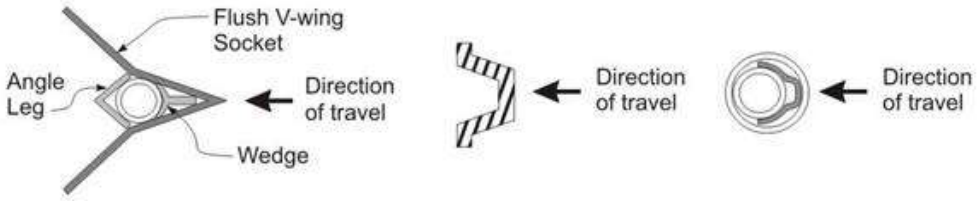
1305.4.2 Types of Foundations

Type of Support	Type of Foundation				
	V-Loc	Wedge Anchor	Driven	Concrete	Embedded
Thin-Wall Steel Tube	Yes	Yes	No	No	No
Thin-Wall Multiple (Coathanger)	Yes	No	No	No	No
Channel	No	No	Yes	No	No
Steel (Constant Radius)	No	No	No	Yes	No
Wood (4 x 4 square or 4-inch-diameter round)	No	No	No	No	Yes

1305.4.2.1 Orientation of Supports/Anchors

Figure 1305.11 illustrates the orientation of the supports/anchors relative to the direction of traffic. Where a wedge is used, it is installed on the side of the support nearest the direction of traffic.

Figure 1305.11 Orientation of Supports/Anchors



1305.4.1 Support Restrictions

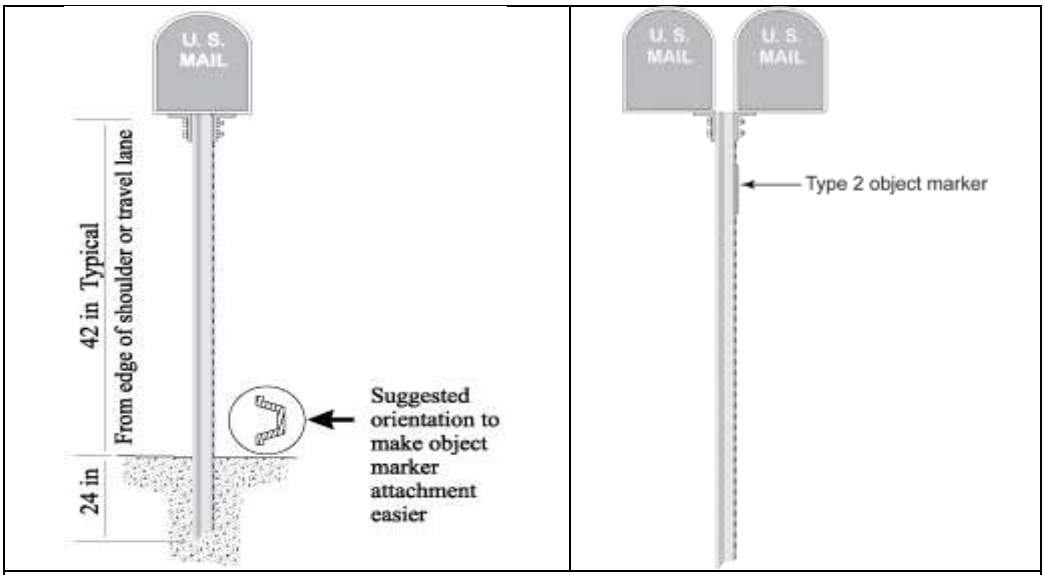
Supports shall not be set in concrete, except as shown in Table 1305.1.

No concrete, brick, masonry, or other like material shall be used as a mailbox post or decorative post surround.

1305.5 Mailbox Installation

Figure 1305.12 illustrates the installation of a single and a double mailbox on a wing channel support and Figure 1305.13 illustrates the installation of multiple mailboxes.

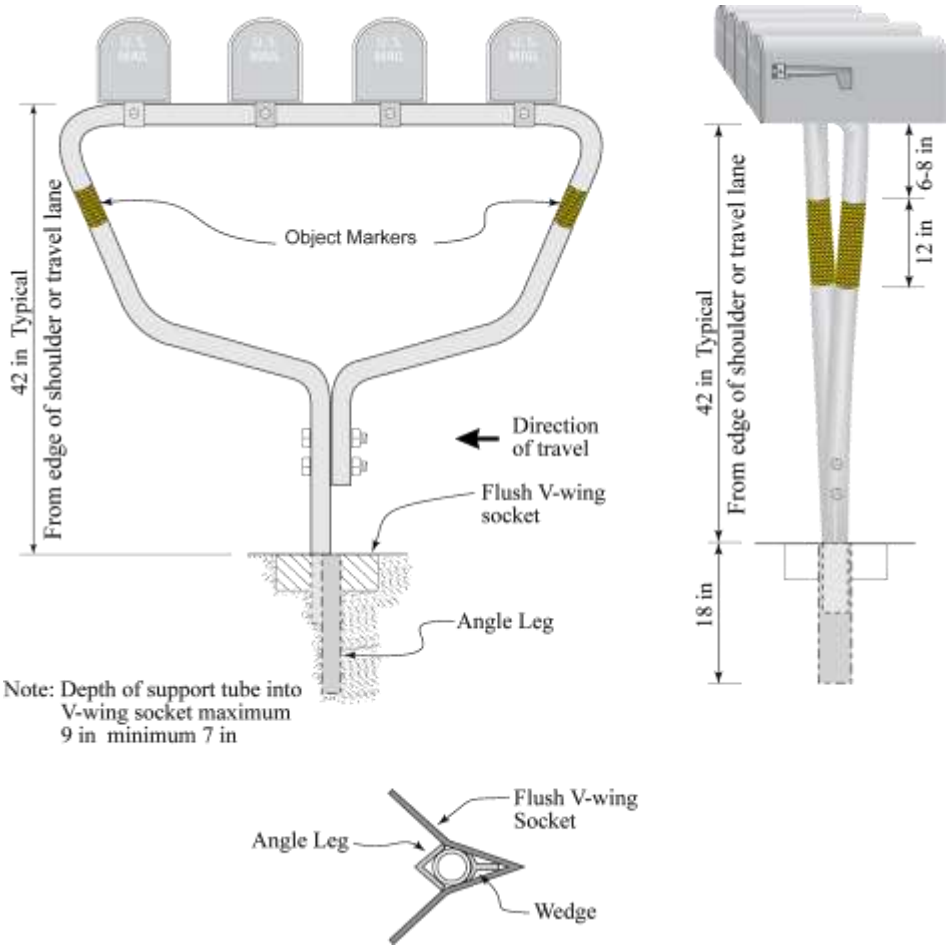
Figure 1305.12 Single & Double Mailbox Installation on Channel Support



Multiple mailbox units of more than two (2) shall not be mounted on one support; however, lightweight newspaper tube may be mounted below.

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Figure 1305.13 Multiple Mailbox Support Installation



1305.5.1 Mailbox Bracket

The mailbox bracket details should be of sufficient strength to prevent the box from separating from the post top if the installation is struck by a vehicle. The exact support hardware dimensions and design may vary, such as having a two-piece platform bracket, or alternative slot and hole locations. The product must result in a satisfactory attachment of the mailbox to the post, and all components must fit together properly.

1305.6 Mailbox Attachments

Several items can be attached to a mailbox or mailbox support, including an object marker, emergency location number, and newspaper tube.

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1305.6.1 Object Markers on Mailbox Supports

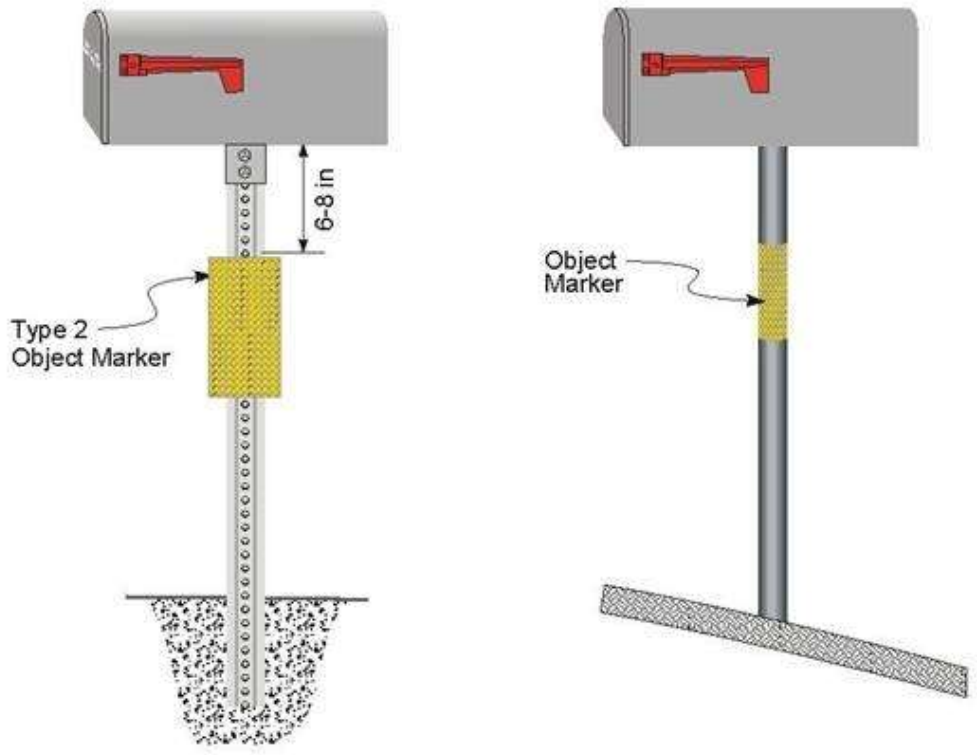
Object markers shall comply with the MUTCD.

On two-lane, two-way roads, object markers shall be placed on both sides of the mailbox support. In other cases, mailboxes shall have a yellow Type 2 object marker facing traffic on the near side of the roadway. The Type 2 object marker can be either of the following:

- A 6-inch-wide by 12-inch-tall rectangular unit with reflective sheeting bolted or affixed to the support.
- A 12-inch strip of sheeting wrapped around the support post.

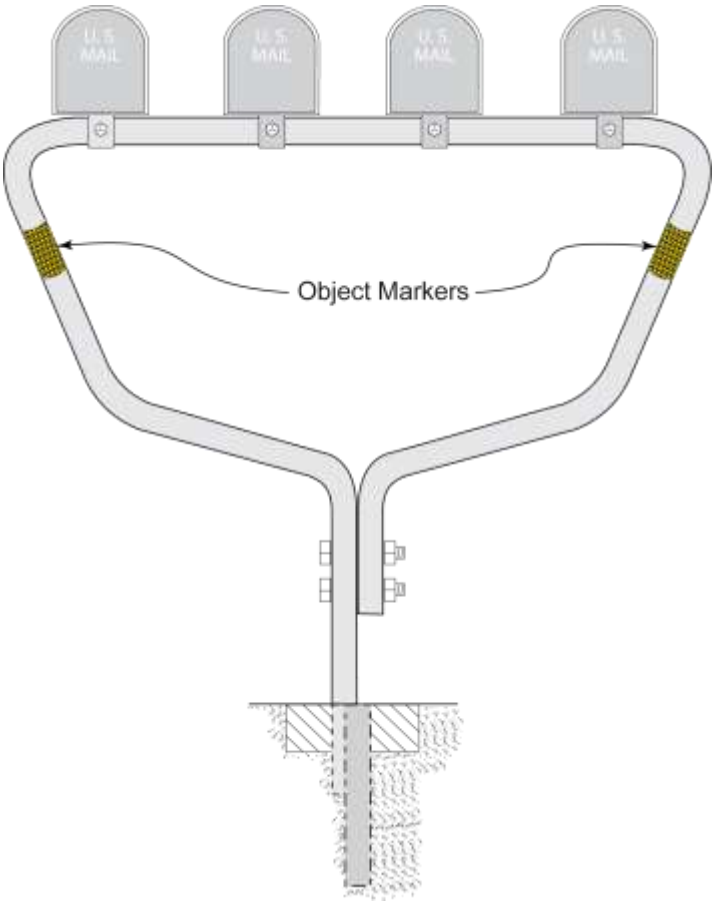
The top of the Type 2 object marker should be 6-8 inches below the bottom of the mailbox. Figure 1305.14 and Figure 1305.15 illustrate the use of the object marker on mailbox supports.

Figure 1305.14 Type 2 Object Marker Installation (Single Post)



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Figure 1305.15 Type 2 Object Marker Installation (Multiple Post)

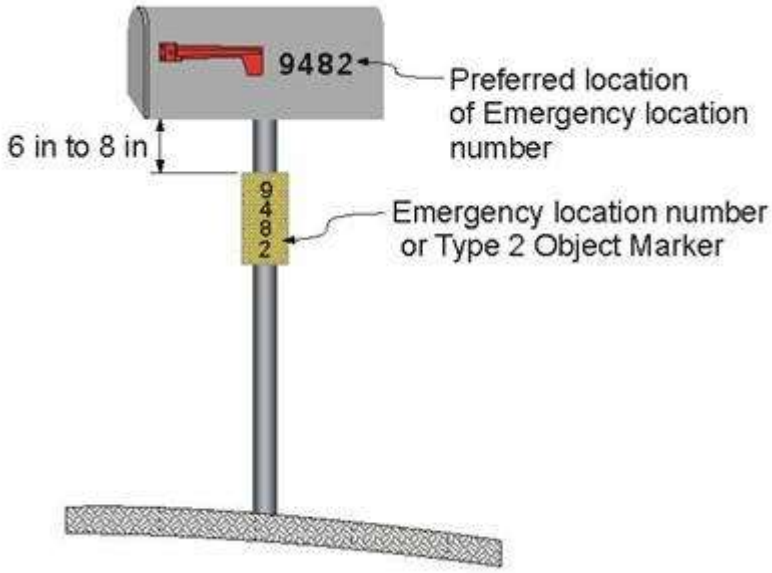


1305.6.2 Emergency Location Number

An Emergency Location Number is recommended on a mailbox installation to indicate the address. The number is the street address for the mailbox. The preferred location is on the mailbox. The alternative location is in place of the Type 2 object marker on the support. When used in place of the object marker, the Emergency Location Number shall be black numbers on a yellow Type 2 object marker panel. See Figure 1305.16.

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Figure 1305.16 Emergency Location Number Placement



1305.6.3 Newspaper Tube

A lightweight tube for newspaper delivery can be attached to a mailbox support if the tube meets all of the following conditions:

- It does not touch any mailboxes.
- It is mounted below the mailbox and above the object marker.
- It does not extend beyond the front of the mailbox.
- It does not display any advertising other than the name of the newspaper.
- It does not present a hazard to traffic or to mail delivery.

The newspaper tube should be placed on the downstream side of the post so that an object marker can be placed on the side facing traffic. See Figure 1305.17.

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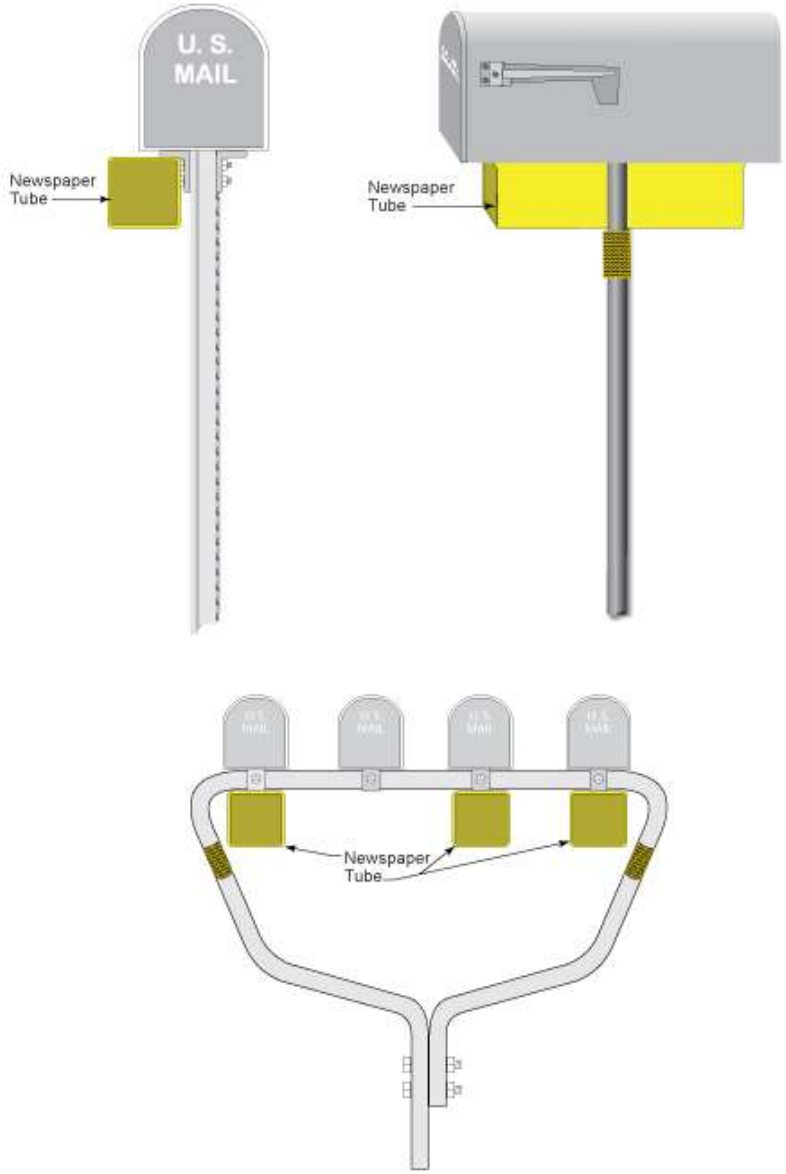
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Figure 1305.17 Newspaper Tube Placement



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1400 General Information

The County Drafting Guidelines sets forth requirements and regulates all CADD production by County personnel, consultants, and contractors.

This manual is a living document. The County will update this manual when necessary.

All plan sheets shall be 22” x 34”.

1400.1 Purpose

The purpose of this document is to define the rules and regulations, and guidelines for visually communicating a project design.

1400.2 Applicability

These standards shall apply to electronic drafting files associated with construction and reconstruction plans of transportation facilities or as required by the County.

1400.3 Software

All files shall be submitted in AutoCAD DWG file format. AutoCAD version shall be verified with the County prior to commencing work.

1401 Submittals

Most projects will require two types of submittals. The first is a hard copy submittal and the second is an electronic file submittal. For specific submittal requirements, refer to the project scope of work.

For most projects, there are two types of submittals required with a submittal. The first is a hard copy submittal and the second is an electronic file submittal. For specific submittal requirements refer to the project scope of work.

Electronic submittals consist of an “electronic project” on approved media. Refer to the “electronic projects” section of this Chapter and the project scope of work for specific requirements.

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Submittal Media

- External hard drive with USB interface connection
- External thumb drive with USB interface connection
- Compact Disc (CD)
- Digital Versatile Disc (DVD)
- Alternatively, files can be sent via secure FTP site.

Note: Submitted media will not be returned and other media may be delivered as approved by the County.

1402 Electronic Projects

Digital information associated with a project from conceptual design to as-built plans will be stored in an electronic project. The directory structure of an electronic project will be used to store the CADD graphics files, survey, and engineering data files. Digital terrain models, project transmittals, letters, memos, and spreadsheets are also stored in an electronic project. The directory will be archived in its entirety to preserve the complete project.

1402.1 Electronic Project Components for Submittal

At the highest level, an electronic project consists of four main directories and their files below a project directory (the picture below shows an example directory structure of an electronic project).

Table 1402.1 Project Organization

- Project
  - _data
  - DesignSupport
  - DWG
  - Plot

Electronic project directories group together a general type of project file. The table below lists the directory name and a description of the type of file that the directory contains.

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Table 1402.2 Project Directory Names and Descriptions

Directory Name	Content / General File Type Description
Project	The top-level directory of an electronic project.
data	Used for Civil 3D shortcut information, survey files, and other related files.
DesignSupport	Files that are used in coordination with design graphics, such as block libraries, custom linetypes, aerial inages etc.
DWG	Design graphics that are used in the plan set production and contains the plan sheets. Additional folders may be added.
Plot	A PDF for each sheet in a set of plans or files used to configure a printer/plotter.

1402.2 Electronic Project Directories

1402.2.1 Project Directory

For County projects, the project folder name shall use the project number assigned by the County.

No files will be placed directly under the project directory folder.

1402.2.2 Data Directory

The data directory contains project data not specifically associated with the design file graphics (i.e., correspondence, memos, transmittals, reports, etc.).

Any file type or content may be placed in this location and subdirectories may be used.

1402.2.3 Design Support Directory

The Design Support directory includes all files used to support the design file graphics. Examples of design support files include all existing and proposed digital terrain models, geometry alignments, ASCII survey files, etc.

Files should be limited to those used in the creation and/or modification of the design file graphics.

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1402.2.4 Design File Directory (DWG)

The design file directory is where all AutoCad and Civil3D files are stored. It provides a single location for all project DWG files with the intent that no files will have broken paths if they are all located in the same directory.

1402.2.5 Plot Directory

The plot directory contains PDF files that are created.

Only PDF files should be located here and must exactly match the hard copy delivered.

1403 File Naming Conventions

File names shall include the project number followed by a file category designation and a file description. Optionally, a file name might include a sequential file number.

Figure 1403.1 File Naming Convention

00000_BB_Project Name_ File Content.EXT				
Project No.	File Category	Project Name • 63 characters max • No Spaces	Brief Content Description • May include sequential number associated with file	Extension

1403.1 Project Number

The first section of the file name shall be the project number assigned to the project by the County. An underscore character follows the project number.

If a County project number is not available, then the designer may use 00000.

1403.2 File Category

The file category is based on the file type and/or the design file category.

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Table 1403.1 File Categories

Base Files		**Sheet Files**	
BB	Base Bridge (Structures)	SS	Standard Sheets
BC	Survey Control Points	SD	Detail Sheets
BD	Road Design	SC	Construction/Design Sheets
BE	Existing Topographic Survey	ST	Traffic Sheets
BH	Drainage	XS	Cross Sections, Earthwork
BN	Sheet Index		
BP	Profile	**Design Support / General**	
BR	Right-of-Way	DS	Design Support
BS	Design Surface	GN	General (Not related to design graphics)
BT	Traffic	WK	Working File (not a part of project plans)
BU	Utilities		

1403.3 File Description

A description of what is included in the file. The description shall not be longer than 63 characters. The description shall be set by the user and shall provide enough information to adequately describe the contents of the file to someone unfamiliar with the project.

1403.4 File Number

The file number is an optional sequential number associated with the file, i.e., 00000_SS_QuantitySummary_01.dgn.

1403.5 File Extension

A standard Windows file extension. The user shall use the default file extension for the program unless approved by the County.

1404 Electronic Project File Content

There are four types of files associated with an electronic project: data, design support, design file (dwg) and plot. A description of each is located at the beginning of this Chapter.

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1404.1 Design Support Files

Design Support files create or modify the design graphics. They can be Civil3D files or AutoCAD resource files that modify the look of the design graphics. This section deals only with symbology and feature names inside Civil3D files.

1404.1.1 Geometry Naming

It is recommended to have one alignment per file and the name of the file shall be named using a two-letter identifier, the road name or clarifying description, and a numeric designation.

XX-Description_##

For instance, the first centerline alignment for First Street would be called CL-FirstStreet_01. The approved two-letter identifiers are shown in the table on the following page.

Vertical alignments and superelevation designs may be named the same as their parent horizontal alignment or simply named Profile.

It is recommended to include metadata when creating any horizontal alignment, vertical alignment, or superelevation. The following information should be included: Creation date, designer name, start station location, or any additional information that is easily understood by any future designer or reviewer.

Table 1404.1 Geometry Naming

Identifier	Description
CL	Roadway Centerline Alignment
CC	Culvert Centerline Alignment
CH	Channel Centerline Alignment
DW	Driveway Centerline Alignment
EP	Proposed Edge of Pavement
EX	Existing Edge of Pavement
FL	Proposed Ditch Flowline
PL	Property Line
RW	Right-of-Way Line
SC	Sawcut Line
SL	Section Line

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1404.1.2 Templates

Templates are divided into three zones:

- Zone 1: points used in creating the roadway pavement (a.k.a. backbone)
- Zone 2: points used to construct roadway shoulders.
- Zone 3: all other points used for creating end conditions.

Point names should be designated as right or left. For instance, a right roadway shoulder point name would be SH_Rt and a left shoulder point name would be SH_Lt.

If more than one of a particular point type is given within a zone, a numeric qualifier should be added to the point name before the left or right designation.

Table 1404.2 Template Point Naming

Base Point Name	Description
01	Slope 1:1
02	Slope 2:1
03	Slope 3:1
04	Slope 4:1
06	Slope 6:1
10	Slope 10:1
20	Slope 20:1
AB	Aggregate Base Course
AC	Asphalt Cement
AR	Asphalt Rubber
BB	Bottom Back (Curb)
BN	Bench
BT	Back Top (Curb)
CB	Curb
CL	Centerline
CT	Cut
DB	Ditch Bottom
EP	Edge of Pavement
FC	Face of Curb
Fl	Fill
GB	Gutter Bottom (Curb)
GT	Gutter Top (Curb)
IB	Inside Bottom
IN	Inside
IT	Inside Top
LB	Lip Bottom (Curb)
LT	Lip Top (Curb)
MD	Median
OT	Outside
RK	Slope (Rock) 1.5:1
SC	Sawcut
SG	Subgrade
SH	Shoulder
SP	Slope (Special) #.#%
SW	Sidewalk
TE	Thickened Edge
VS	V-Swale

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1404.1.3 Corridors

Corridor names should match the associated alignment name. Additional information should also be included to assist future designers or reviewers in understanding the purpose and location of the corridor.

1405 Design File Content

1405.1 Base Files

The concept of base files is important because a design change made to the base file is reflected on each of the sheet files. Base files contain graphical data that is created during the design of a project. Base files are always created on a one-to-one scale. Each base file contains elements of a certain type. For example, a utility base reference file contains data such as telephone lines. When deciding what belongs in a base file versus what belongs in a sheet file it is helpful to think of the base file as “what is existing” or “what will be built” and a sheet file as “instructions on how to build it”. The table below lists all base files.

Table 1405.1 Base File Naming

Discipline Base File	Abbr.	Purpose
Structures	BB	Structures BB Proposed Structures (bridges, box culverts, etc)
Project Control	BC	Existing Survey Control Points
Road Design	BD	Proposed Roadway Design and Earthwork
Existing Topo	BE	Existing Topographic Survey (all existing surveyed items)
Drainage/Pipes	BH	Proposed drainage including irrigation, and storm drain pipes
Sheet Index	BN	Plan set sheet index
Profile	BP	Alignment Profiles
RW	BR	Existing & Proposed Right-of-Way
Design Surface	BS	Proposed Surface Features
Traffic	BT	Proposed Traffic Items
Utilities	BU	All existing and proposed utilities
Cross Section	BX	Cross Sections

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1405.1.1 Base File Restrictions

There are a few content guidelines that apply to all base reference files.

1. Base files may be broken into multiple files or models.
2. All base files shall be drawn at 1:1 scale in a design model.
3. Base files shall not include plan details or annotation that will appear in the plans.
4. All linestyles shall be drawn with a 1.0 scale factor.

1405.1.2 Base File Layers

Each layer shall begin with a two-letter identifier, followed by a name and an optional description.

XX_Name_Description

The two-letter identifier and name can be found in Table 1405.2 for each discipline.

Table 1405.2 Layer Identifier & Name

Discipline	Identifier (XX)		Name	Note
Structures	BB	_	Anno	Annotations
	BB	_	BoxCulvert	
	BB	_	Bridge	
	BB	_	Wall	

Discipline	Identifier (XX)		Name	Note
Project Control	BC	_	Alignment	
	BC	_	Anno	Annotations
	BC	_	Boundary	
	BC	_	Mon	Monuments
	BC	_	PLSS	

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Discipline	Identifier (XX)		Name	Note
Roadway Design	BD	_	Barrier	
	BD	_	CrossRd	
	BD	_	Curb	
	BD	_	Gutter	
	BD	_	Driveway	
	BD	_	Earthwork	
	BD	_	Fence	
	BD	_	Guardrail	
	BD	_	Road	
	BD	_	Shoulder	
	BD	_	Sidewalk	

Discipline	Identifier (XX)		Name	Note
Existing Topo	BE	_	Anno	Annotations
	BE	_	Barrier	
	BE	_	Bridge	
	BE	_	BlueStake	
	BE	_	Curb	
	BE	_	Gutter	
	BE	_	Sidewalk	
	BE	_	Drainage	
	BE	_	Hydro	
	BE	_	Fence	
	BE	_	Gate	
	BE	_	Ground	
	BE	_	Irrig	Irrigation
	BE	_	StormDrain	
	BE	_	Improv	Improvements, such as lighting, signs, etc.
	BE	_	Railroad	
	BE	_	Road	
	BE	_	Traf	Traffic
	BE	_	Tree	
	BE	_	Util	Utilities
	BE	_	Veg	Vegetation

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Discipline	Identifier (XX)		Name	Note
Drainage	BH	_	Anno	Annotations
	BH	_	Channel	
	BH	_	Drainage	
	BH	_	Dam	
	BH	_	FloodHaz	Flood Hazard
	BH	_	Flow	
	BH	_	Irrigation	
	BH	_	MnrStrct	Minor Structure
	BH	_	Spillway	
	BH	_	StormDrain	

Discipline	Identifier (XX)		Name	Note
Sheet Index	BN	_	PlotShape	

Discipline	Identifier (XX)		Name	Note
Profile	BP	_	Anno	Annotations
	BP	_	Design	
	BP	_	Exist	Existing
	BP	_	Grid	
	BP	_	Point	

Discipline	Identifier (XX)		Name	Note
Right-of-Way	BR	_	Alignment	
	BR	_	Anno	Annotations
	BR	_	Cogo	
	BR	_	Boundary	
	BR	_	Esmt	Easement
	BR	_	Point	
	BR	_	Property	
	BR	_	RW	Right-of-Way

Discipline	Identifier (XX)		Name	Note
Design Surface	BS	_	Anno	Annotations
	BS	_	Contour	
	BS	_	Corridor	
	BS	_	Point	
	BS	_	Subgrade	
	BS	_	Superelevation	
	BS	_	Surface	
	BS	_	Tmpl	Template or Assembly

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Discipline	Identifier (XX)		Name	Note
Traffic	BT	_	Anno	Annotations
	BT	_	ITS	
	BT	_	Signal	
	BT	_	Signing	
	BT	_	Striping	
	BT	_	MOT	Maintenance of Traffic

Discipline	Identifier (XX)		Name	Note
Utilities	BU	_	TV	Cable TV
	BU	_	Tel	Telephone
	BU	_	FO	Fiber Optic
	BU	_	Gas	
	BU	_	Elec	Electrical
	BU	_	Irrig	Irrigation
	BU	_	Reclaim	Reclaimed Water
	BU	_	StormDrain	
	BU	_	Sewer	Sanitary Sewer
	BU	_	Unk	Unknown
	BU	_	Water	

Discipline	Identifier (XX)		Name	Note
Cross Section	BX	_	Anno	Annotations
	BX	_	Design	Proposed Features
	BX	_	Exist	Existing Features
	BX	_	Grid	

These guidelines apply to the naming of new levels created in a base file.

- The name of the new level must start with the name of an existing level in the base file.
- Append the new level with a plus (+) sign. “Bd_Barrier+Cones” is an example of appending “Cones” to the existing level “Bd_Barrier”.
- Do not create levels with duplicate purposes within the same base file. If the level “Bd_RoadEdgeUnpaved” exists don’t create a level named “Bd_Road+EdgeDirt”.
- Place all nouns before adjectives when naming new levels. Put “Edge” (noun) before “Unpaved” (adjective) when creating the Bd_Road+EdgeUnpaved level.

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- Do NOT use catchall words such as miscellaneous (misc), general or other non-descriptive words when creating new level names. All parts of the level name shall add to the meaning.

1405.2 Sheet Files

Sheet files are the eventual products of a CADD-produced design. A sheet file represents the assembly of several of the base files to present the data required for a plan sheet. Each sheet file has a one-to-one correlation with a physical plan sheet. To produce the plan set, reference base files are created, then sheet files. Annotation and symbols placed in sheet files must be placed at a set scale corresponding to the desired plot scale.

1405.2.1 Sheet File Layers

Table 1405.3 Sheet Base Layers & Descriptions

Annotation (S_Anno)
Border
Construction Notes
Detail
Dimensions
Map
Pattern
Symbol
Table
Title
Traffic

Details (SD)
Drainage
Road Design
Structures
Traffic
Utility

Construction (SC)
Plan
Profile
Table

Border (S_Border)
Grid
Review Block
Table
Title Block

Traffic (ST)
Plan
Profile
Table

A description may be added to the end of a layer name to further enhance sheet production.

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1406 Plan Sheet Layout

The sheets shall appear in this order if they are included in a plan set.

Table 1406.1 Order of Plan Sheets

Sheet Description	Drawing Number
Face Sheet	G-01.01
General Notes and Index of Drawings	G-02.01 to G-02.##
Quantity Summary Sheets	G-03.01 to G-03.##
Typical Sections	G-04.01 to G-04.##
Roadway Special Details	G-05.01 to G-05.##
Survey and Geometric Control	C-01.01 to C-##.##
Paving Plan and Profile Sheets	C-02.## to C-##.##
Grading Plans	
Intersection Detail Sheets	
Driveway Profiles	
Paving Details	
Storm Drain Plan and Profile Sheets	D-01.01 to D-##.##
Connector Pipe Profiles	
Culvert Profile Sheets	
Drainage Detail Sheets	
Bridge Sheets	S-01.01 to S-##.##
Landscape Sheets	L-01.01 to L-##.##
Irrigation Sheets	
Traffic Signal Sheets	TS-01.01 to TS-##.##
Signal Interconnect Sheet	
Signing and Pavement Marking Sheets	T-01.01 to T-##.##
Traffic Control Quantity Summary Sheets	TC-01.01 to TC-##.##
Sequence of Construction Sheets	
Traffic Control, Detour and Temporary Drainage Plan Sheets	
Utility Notes, Plans & Detail Sheets	U-01.01 to U-##.##

1407 Drafting Workspace

The County does not maintain a workspace. Designers are encouraged to use Autodesk “out of the box” when feasible.

1407.1 Fonts

Arial true type font must be use for all CADD files. Text size shown in the Table 1407.1 is based full size or 1:1. The required text height for each scale can be calculated from the displayed full-size value with the following formula:

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$$Full\ Size \text{ x Drawing Scale Factor} = Text\ Size$$

Table 1407.1 Sheet Text Parameters

Drawing Scale	Drawing Scale Factor	Plotted Text Height				
		1/16" Small (Min)	3/32" Existing	1/8" Proposed (Italics)	3/16" Large	1/4" X-Large
Full Size 1:1	1	0.0625	0.09375	0.125	0.1875	0.25
1" = 10'	120	7.50	11.25	15	22.50	30
1" = 40'	480	30	45	60	90	120
1" = 100'	1200	75	112.50	150	225	300

Small text is reserved for utility labels, topo labels, etc. Existing text shall be used for callouts related existing features and proposed for new design features. Large and X-Large shall be used for titles, table names, etc.

1407.2 Gray Scale and RGB Values

Gray scaling is a method used in a CAD file to "gray out", or dither, a specified portion of the design to visually depress the boldness of the features. For example, this method is used to reference existing survey features, to "dull" their appearance visually on the screen, and to additionally invoke the plotting output to be "shaded". This proves beneficial in diminishing the focus on the existing survey while enhancing the proposed design, allowing the designer to see existing and proposed features together on the same design plan sheet.

All gray scaling should be done in the CAD file by modifying the ByLayer symbology and/or overrides.

Table 1407.2 Gray Scaling Values

% Shading	RGB Value
50%	140,140,140
40%	153,153,153
30%	178,178,178
20%	254,254,254

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For AutoCAD deliverables, the standard color index shall be used. All layers should only be assigned colors based on index numbers and not RGB values.

1407.3 Line Weights

The line weight assignment is designated a thickness that is noticeable in the final printing/plotting of the design file. These preassigned values have been calculated to properly display the line weights in a PDF file at full scale and at half scale.

(ANSI D Size – 22” x 34”, Half scale plot ANSI B Size – 11” x 17”)

Using plot styles is recommended. Color-dependent plot style tables set style based on the color of the object. CTB files manages line weight through the graphic use of colors. Entity colors are mapped to logical pens, and each pen has an assigned value for thickness and tone. The designer is then capable of visualizing a plotted drawing by looking at the colors on the screen. Named plot styles (STB) can be assigned to an object independent of color. This allows objects to have a specific line weight and color by layer. Table 1407.3 is an example of a typical Color Table.

Table 1407.3 Plot Style Color Table

Color No.	Color	Width (mm)	Width (inches)	General Use
1	Red	0.127	0.0050	Hatching, Center Lines
2	Yellow	0.254	0.0100	Drawing Text and Fine Line Work
3	Green	0.508	0.0200	Drawing Medium Text and Fine Line Work
4	Cyan	0.762	0.0300	Prop. Drainage or Secondary Lines
5	Blue	0.381	0.0150	Existing or Proposed R/W
7	White	0.381	0.0150	Medium Linework such as edge of pavement
8	Gray	0.191	0.0075	Existing linework – Screened 50%
21	Beige	0.191	0.0075	Existing Major Contours
35	Brown	0.127	0.0050	Existing Minor Contours/Features
153	Light Blue	0.127	0.0050	Profile Grid

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Gray scaling is a method used in a CAD file to “gray out”, or dither, a specified portion of the design to visually depress the boldness of the features. For example, this method is used to reference existing survey features, to “dull” their appearance visually on the screen, and to additionally invoke the plotting output to be “shaded”. This proves beneficial in diminishing the focus on the existing survey while enhancing the proposed design, allowing the designer to see existing and proposed features together on the same design plan sheet.

All gray scaling should be done in the CAD file by modifying the ByLayer symbologies and/or overrides.

Table 1407.4 Gray Scaling Values

% Shading	RGB Value
50%	140,140,140
40%	153,153,153
30%	178,178,178
20%	254,254,254

1407.4 Custom Linetypes

Fundamental line work in drawings consist of the following linetypes: Continuous, Centerlines, Hidden lines, Dashed lines, multiple Fence and utility lines and Phantom lines. There are any number of linetypes that may be incorporated into drawings.

Custom linetype symbologies shall follow the latest edition the Maricopa County Department of Transportation (MCDOT) CADD Standards OpenRoads Designer Version.

LTSCALE is the AutoCAD line scale variable. In drawings with decimal units the Ltscale is normally set to the scale in which the drawing will be plotted, i.e 1’=40’ LTSCALE =40. In architectural drawings the LTSCALE is a multiplier used to scale up line definitions to fit the drawings plotted scale. For example, a drawing scale of 1/16"=1'-0" will have a LTSCALE of 192 for model space, 1/4” = 1’-0” a LTSCALE of 48 and so forth. The zoom factor will then be 1/192 XP or 1/48 XP in the paperspace viewports to achieve the appropriate scale and linetype. The LTSCALE is applied to the linetype definitions used in the drawing to provide proportional spacing for all linework.

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PSLTSCALE is an AutoCAD system variable in Realease12 and above. AutoCAD drawings that use single viewports should set this variable to 0. Hence the linetype scale will be the same as the model ltscale. The PSLTSCALE shall be set to "1" on drawings with multiple view ports with multiple scales. This will enable all linetypes to be plotted according to the viewport scale factor (zoom XP). Drawings such as Detail Sheets may have numerous viewports of varying scales. All the linetypes will look the same when handled in this manner.

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ADOT Structure Detail Drawings (SD-Stds)

ADOT Signing and Marking Standard Drawings (S & M Stds)

MAG Specifications and Details

APPENDIX A

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Appendix A Table of Contents

Petition for County Road Maintenance

Adopt-A-Roadway Application

Adopt-A-Roadway Special Event

Engineering Waiver Request Form

Engineering Waiver Type

Engineering Waiver Approval Criteria

Record Drawings Checklist for Civil Improvements

Go to Table of Contents.

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Page _____

Petition for County Road Maintenance

Dated this day of_____, 20_____.

The undersigned Resident Taxpayers in Navajo County here by request the Board of Supervisors of Navajo County to accepted _____into the Book of Maintain Roads in accordance with ARS §28-6705. Said road begins at_____and goes to_____, as shown in the attached map.

#	Printed Name	Parcel(s)	Address	Phone #	Signature
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

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Adopt-A-Roadway Application

Date Stamp	For Office Use Only	
	Permit #	
	Issued to	
	Date Issued	
	Date Expired	

Applicant Information

Application is hereby made for a permit to enter in upon use a portion of the County Right-of-Way

(Please print or type)

Name of Organization: _____

Address of Organization: _____

Name of Applicant: _____

Mailing Address (if different from above): _____

City: _____ **State:** _____ **Phone:** _____

Roadway or Highway Name: _____ **From Milepost:** _____ **To Milepost:** _____

City (in or near): _____

Purpose: ***To pick up litter as part of the Navajo County Adopt-A-Roadway Program***

This application is to pick up litter at least two times a year on roadway/highway segment identified above.

1. Permittee shall on each work occasion notify the County's representative or the authorized Adopt-A-Roadway liaison _____ at telephone number_____5 working days prior to the start of any work authorized by this permit. County furnished litter bags and safety vests shall be obtained at_____during normal business hours.
2. Work shall not be conducted between dusk and dawn, only during daylight hours.
3. Work shall not be conducted on holiday weekends, or within twenty-four hours proceeding a holiday weekend unless specifically authorized as an amendment to this permit.
4. Litter pickup shall not be performed within six feet of the traveled way, upon bridges, culverts, medians or structures of any kind.
5. Workers shall not cross the traveled way or access-controlled roadways, except for the designated crossing locations designated by the supervisor and appropriately signed.
6. If weather or other adverse circumstances cause a public hazard, work shall be immediately discontinued.
7. Volunteers performing work under this permit shall wear personal protective clothing including safety vests, gloves, and closed toed shoes while on County Roadway Right-of-Way. County furnished protective equipment shall be returned upon completion of the project.
8. Permittee shall designate a coordinator who shall represent the group. In addition, one adult supervisor shall be assigned by the volunteer organization for each ten children between the ages of twelve and eighteen years of age. No child less than twelve years of age shall be allowed to participate or to remain in the right-of –way assigned to the permittee.
9. Participants personal vehicles shall not be parked within the right-of-way of an access-controlled roadway and on all other roadways shall be legally located off the travelled way so as not to interfere with the free flow of traffic or pedestrians; except, approved vehicle(s) used to transport participants or materials to and from work site may be parked off the roadway on access-controlled roadways.
    a. Map attached: yes no
10. This permit is valid for two calendar years from date of issue and may be renewed at the request of the organization and with the Department's approval.
11. Each individual shall attend a safety orientation conducted by Navajo County Public Works Department's trained group leader prior to entering the County roadway right-of-way. The orientation shall include a discussion and explanation of the attached safety requirements. Individuals must participate in a safety orientation prior to each pick up event.
12. Each participant (or parent or guardian of a minor participant) shall sign a waiver form for each pickup event. The permittee has volunteered to pick up litter in the right-of-way at its own risk. Navajo County and its officers and employees shall not be liable for death, injury or property damage claims and all the costs associated therewith which may arise.
13. This permit may be cancelled by Navajo County Public Works for non-conformance with permit provisions.
14. Navajo County Public Works will provide safety training, litter bags and safety vests. Navajo County Public Works will pick up filled litter bags. Navajo County Public Works will erect signs showing the participation of the named organization in the Adopt-A Roadway program. The work order for the sign will be processed as soon as this permit is approved, and the sign will be installed in approximately eight weeks.
15. Upon non-compliance with this permit causing the revoking or if this permit is not renewed. Navajo County may remove Adopt-A-Roadway signage associated.

I,_____, the applicant have read and understand this document in its entirety and agree to abide by the conditions set forth herein.

Applicant Signature: _____Date: _____

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Adopt-A-Roadway Special Event

Date Stamp	For Office Use Only	
	Permit #	
	Issued to	

Participant Waiver

Application is made by the undersigned to participate in the Navajo County Adopt-A-Roadway litter pickup event within the Roadway Right-of-Ways.

Location (In or near): _____ **Road Name:** _____

From Mile Post: _____ **To Milepost:** _____ **Date:** _____

Hold Harmless Clause:

The permittee, all Roadway participants, or where the participant is a minor his/her parent or guardian, shall indemnify, defend, save harmless Navajo County from any and all claims, demands, suits, actions, proceedings, loss, cost and damages, of every kind and description, including. attorney's fees and litigation expenses, which may be brought or made against or incurred by Navajo County on account of loss of or damage to any property or for injuries or death of an person caused by, arising out of, or contributed to in whole or in part by reasons of an act, omission, professional error, fault, mistake, or negligence of permittee, its employees, and or representatives, or subcontractors, their employee's, agents or representatives in connection with or incident to the performance of this Agreement, or arising out of Workman's compensations claims, Unemployment Compensation claims, or Unemployment Disability Compensation claims of employees of permittee and /or its subcontractors or claims similar such law and obligations. Permittee's and its participant's entire obligation under the Section shall not extend to any liability caused by the sole negligence of Navajo County or its employees.

Waiver:

The permitee, all its participants, or where the participant is a minor his/her parent or guardian, hereby waives the right to any claim for any damages or of an kind accruing to the permittee or to any participant arising out of or as a result of the use of this permit except said waiver does not extend to any such claim which is caused by sole negligence of Navajo County or its offices and employees.

Signature	Date

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Engineering Waiver Request Form

for

Navajo County Improvements

January 2025

Project Name: _____

Project No.: _____

Date: _____

The intent of this form is to provide guidance for deviations from the approved Engineering Design and Construction Manual. Specifically, this outline details the three waiver types (Administrative, Technical and Design) and the respective fees for each type of request, accompanying timelines, the decision appeal process, acceptable justification for a waiver, as well as specific examples of types of waivers. The fees shown below cover the County staff time to administrate the application. All fees are non-refundable regardless of whether the County approves the waiver request. All engineering analysis is required to be sealed by a Professional Engineer in good standing in the State of Arizona.

The following is required to be submitted with Waiver Request Form:

☐ **Fees associated with the application.**
- Administrative Waiver ($100)
- Technical Waiver ($250)
- Design Waiver ($450)

☐ **Completed and signed Waiver Request Form.**
County staff will determine if the Waiver Request Form is Technically Complete. If so, a notice of Technical Completion and a receipt for the filing fee will be sent to the applicant within fifteen (15) days of submittal of the form. Also, if the form is deemed to not be Technically Complete, the applicant will receive notice within fifteen (15) days of submittal of the form.

2 copies of the following:

☐ **Narrative** describing the project as well as the proposed deviation submitted with the Waiver Request Form. The narrative shall include the following:

a. Section of Navajo County Engineering Design and Construction Manual and/or the Technical Specification or Standard Detail which relates to the proposed deviation.
b. Justification for the proposed deviation - A detailed explanation stating the extraordinary factors that does not allow for the strict adherence to the County standard(s) or code justifying approval according to the Approval Criteria (See Page EW-3).
c. Address the potential impact on the public infrastructure system (safety, functionality, maintainability).
d. Any additional documentation and background information that is required to support the request.

☐ **Engineering Analysis** including supporting documentation, (i.e., traffic studies, structural analysis, hydraulic and hydrologic assessment, water and sewer reports, typical sections, alternative designs, etc.) for technical or design waivers.

Forms without the required information will not be accepted. If you have questions regarding submittal requirements, you may call the 928-524-4100.

Engineering Waiver Type

(please check the appropriate box)

☐ **Administrative Waiver**

Minor deviations a) do not involve safety or offsite impacts, b) involve minimal review, c) do not involve broad public interest, d) are similar to other approved modifications, and e) occur routinely.

Examples of Administrative Waiver include:

- Minor access spacing changes when no alternative is feasible.
- A minor increase in the maximum number of lots served by driveways.
- Reduced cross sectional requirements, in order to match existing roadway and curbs.

Filing fee in the amount of: Contact County for Waiver Fees

☐ **Technical Waiver**

Moderate deviations a) require limited engineering analysis and County review, b) have minimal expected safety impacts, c) have minimal potential offsite impacts, and d) generate minimal public interest.

Examples of a Technical Waiver include:

Use of attached sidewalk in lieu of detached sidewalks based on site conditions.
Use of roll curb and gutter in lieu of vertical curb and gutter.
Removal of on-street parking.
Modification to medians, access locations or lane channelization when no offsite impacts result.

Filing fee in the amount of: Contact County for Waiver Fees

☐ **Design Waiver**

Major deviation are unique cases that have the potential for significant impacts to the public or County and require extensive analysis and documentation.

Examples of a Design Waiver include:

- Alternative roadway pavement design.
- Reduced left turn or right turn pocket storage.
- Cross circulation or roadway spacing changes when the obligation may be passed on to other properties.
- Design changes concerning traffic or pedestrian safety.
- Access changes with potential material impacts to other parties.
- Pre-development versus post-development detention or retention requirements.

Filing fee in the amount of: Contact County for Waiver Fees

The initial ruling will be made by the County Engineering Department. The initial ruling will include a verification that the applicant has appropriately classified the waiver type (i.e. Administrative, Technical, or Design). Appeals can be made to County Engineer by including a copy of the waiver request and all supporting documents and calculations, along with a letter describing in detail the reasons for the appeal.

Failure to comply with the approved or conditionally approved waiver will be cause for

1. Denial or revocation of engineering plan approvals and permits.
2. Withholding or release of financial assurances.
3. Removal and reconstruction.
4. Delay of final inspection.
5. Delay or denial of final approval.
6. Denial of occupancy certificates (temporary and permanent).
7. Notice to surety or other financial institution and/or legal action for forfeiture of financial assurances.
8. Code enforcement.
9. Any other applicable penalties as provided by law.

Engineering Waiver Approval Criteria

(for County use)

In reviewing a Waiver request, the County shall consider the applicable factors that include, but are not limited to, the following:

Yes	No	
☐	☐	Does the waiver violate or circumvent Federal or State Regulations?
☐	☐	Would granting the waiver create an undesirable precedent?
☐	☐	Will the proposed alternative provide a reasonable alternative to the current Standards and comparable level of protection to the public and County staff?
☐	☐	Does the strict application of the code requirement or Standard place an undue burden on the property inconsistent with the burden placed on other properties in similar situations under similar circumstances?
☐	☐	Does the strict application of the code requirement or Standard have an unreasonable adverse impact on the property owner's ability to the reasonably use their property?
☐	☐	Will the proposed alternative adversely impact the operation and maintenance of the drainage, transportation, or utility infrastructure?
☐	☐	Is the proposed alternative consistent with the adopted regional, area or neighborhood plan?
☐	☐	Did applicant provide necessary documents to evaluate the proposed variance? See list of some possible documents under Engineering Analysis on Page 1.
☐	☐	Does the proposed waiver create a public health and safety issue?
☐	☐	Does the proposed waiver create undo financial hardship to the general public?

All circumstances of the situation will be considered.

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Record Drawings Checklist for Civil Improvements

for

Navajo County Improvements

January 2025

Project Name: _____

Project No.: _____

Date: _____

All items listed below shall be provided on Record Drawings unless identified with N/A.

General (applies to entire plan set)

_____ Record Drawings plan set shall contain all improvement plan sheets from the approved design/construction plan set (cover sheet to last sheet including details). The Record Drawings shall contain all horizontal and vertical design information, sizes, thicknesses, and material types of improvements shown on the design/construction plan set (even if unchanged during construction). Include supplemental sheets for exhibits, ESIs, etc. issued during construction, as appropriate

_____ All plan sheets shall be certified and sealed by a Professional Engineer or Registered Land Surveyor with knowledge of practice in the field of practice for the elements they are certifying. Refer to Arizona Revised Statute 32-152.

_____ If the entity preparing the record drawings is different from the Design Engineer / Firm, provide contact information on cover sheet.

_____ Place “Record Drawing” lettering and date in lower right-hand corner of all sheets.

_____ Improvements deleted in the field shall be crossed out with an “x” and labeled “not built”.

_____ Major Improvements changed from the approved design plans shall be reflected and clearly called out by “clouding”.

_____ Plan sheets that represent improvements that were not changed from the approved design plans shall have “Per Plan” indicated clearly for the elements that were actually constructed without variance from the original design plans.

_____ All elevations shall be based on the same benchmark as the project plans.

Sanitary Sewer Plans

_____ Sanitary Sewer improvements built exactly per design plan shall have the elevations/stations/locations identified as constructed “per plan”. As built improvements which vary from the original design information on the plans shall be marked “AB”.

_____ Stations and offsets for all services and lateral stub-outs (station and invert elevation)

_____ Manhole stations, cleanout stations, pipe invert elevations (in and out) and manhole rim elevations shall be determined by field surveying

_____ Pipe lengths and diameters indicated on both plan and profile.

_____ Recalculate longitudinal pipe slopes for all pipe segments.

_____ Stations and length of pipe encasements/extra protection.

_____ Utilities discovered during construction including type, size, station, offset & elevation.

_____ Lift Station, force mains, sewage valves, air valves, etc. locations and details.

Water Plans

_____ Water system improvements built exactly per design plan shall have the elevations/stations/locations identified as constructed “per plan”. As built improvements which vary from the original design information on the plans shall be marked “AB”.

_____ Stations and offsets of all water services including landscape and fire lines.

_____ Stations and offsets of all fire hydrants.

_____ Stations and offsets of all valve boxes, blow-offs, reducers, and air release valves.

_____ Stations and offsets of all bends, tees, and dimensions and type of joint restraints.

_____ Profile view of all pipeline vertical alignments, including stations of all fittings, depth to finish grade, and pipe separation dimensions.

_____ Stations and length of pipe encasements/extra protection.

_____ Utilities discovered during construction including type, size, station, offset & elevation.

_____ Booster station details, tank details, control valve details, system logic and/or SCADA details.

_____ Verification that water services are live to the property line (i.e., the corp stop at the waterline main is open).

Grading and Drainage Plans

_____ Grading and Drainage improvements built exactly per design plan shall have the elevations/stations/locations identified as constructed “per plan”. As built improvements which vary from the original design information on the plans shall be marked “AB”

_____ Stations, offsets, inverts for storm sewer pipes at inlets, outlets and manholes shall be determined by field surveying.

_____ Recalculate longitudinal pipe slopes for all pipe segments.

_____ Flow line slopes and elevations.

_____ Stations and offsets, Culvert lengths, headwalls, slopes and pipe size and material.

_____ Channel lengths, stations, locations, slopes, cross sections and materials.

_____ Constructed and design Storage volumes for detention/retention facilities.

_____ Building pad elevations, swales, berms, slopes and footing and top of retaining walls.

_____ Details and Inverts of outlet structure(s), headwalls and weir elevation(s).

_____ Location and depth of underdrain system and cleanouts and pond liners, as applicable.

_____ Cut and Fill, import and export volumes.

_____ Areas of non-engineered fill placement

Street/Trail Plans

_____ Street/Trail projects built exactly per design plan shall have the elevations/stations/locations identified as constructed “per plan”. As built improvements which vary from the original design information on the plans shall be marked “AB”.

_____ Stations and offsets of all survey monuments

_____ Location and area/limits of geogrid, chemical stabilization, interlayers or other pavement enhancements.

_____ Location and approximate area of unsuitable material removal and replacement.

_____ Sleeve/conduit/casing types, sizes, locations and stations.

_____ Centerline, edge of pavement (or top of curb), Vertical and horizontal curve data.

_____ Stations, offsets, and elevations of all curb angle points and curb return radii.

_____ Stations, offsets, bottom elevation and wing dimension of all catch basins.

Streetlights and Traffic Signal Plans

_____ Locations of all street illumination lights

_____ Locations of all traffic signal poles, cabinets, J-boxes and related conduits.

_____ Abandonment of existing conduits and facilities.

Miscellaneous

_____ Unforeseen underground structures exposed during construction such as vaults, pipes or culverts.

_____ Dry utilities and/or their conduits with depth and location based on surveyed positions or swing ties (2 minimum) to permanent structures or other acceptable method of measurement.

_____ Verification that gas services are live to the property line (i.e., the corp stop at the gas main is open)

NAVAJO COUNTY

STANDARD DETAILS

2025 Edition

RESOLUTION ___-2025

January 2025

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Index of Standard Details

300 Series: General Notes

Detail	Revised	Title
308.00	2024	Plan Notes: General
308.01	2024	Plan Notes: Paving
308.02	2024	Plan Notes: Water and Sewer

600 Series: Typical Sections

Detail	Revised	Title
600.00	2024	Typical Sections General Notes
603.01	2024	Other Principal Arterial (FFC3) Urban
603.02	2024	Other Principal Arterial (FFC3) Rural
604.01	2024	Minor Arterial (FFC4) Urban
604.02	2024	Minor Arterial (FFC4) Rural
605.01	2024	Major Collector (FFC5) Urban
605.02	2024	Major Collector (FFC5) Rural
606.01	2024	Minor Collector (FFC6) Urban
606.02	2024	Minor Collector (FFC6) Rural
607.01	2024	Local (FFC7) Urban - Residential
607.02	2024	Local (FFC7) Rural - Residential
607.03	2024	Local (FFC7) Urban – Commercial/Industrial
607.04	2024	Local (FFC7) Rural – Unpaved
608.01	2024	Context Sensitive/Primitive (Non-FFC) - Unpaved

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GENERAL NOTES:

1. Approval of these plans by the County Engineer is for a two-year period, subsequent to the date of approval. If construction work is not started within the two-year period or has been discontinued for any reason for longer than two years, the plans shall be resubmitted for review and re- approval in accordance with Arizona Technical Board of Registration.
2. Plan review by the County does not extend to material quantities shown on the plans.
3. An encroachment permit, issued by the Public Works Department, is required for all work in County rights-of-way or easements.
4. The County shall be notified forty-eight (48) hours prior to beginning different phases of construction so that County Inspector may be scheduled.
5. For construction purposes, the following precedence of standards will prevail: Current Navajo County Public Works Engineering Department Standards; current MAG Standards, International Building Code (IBC), project specific plans and specifications, ADOT Standards -- or other specifications approved by the County Engineer and with generally accepted good construction practice. All work and materials which do not conform to the standards and specifications are subject to removal and replacement at the contractor's expense.
6. Any work performed without the knowledge and approval of the County Engineer, is subject to removal and replacement at the contractor's expense.
7. The County Engineer may suspend the work by written notice when, in their judgment, progress is unsatisfactory, work being done is unauthorized or defective, weather conditions are unsuitable, or there is danger to the public health or safety.
8. The County Engineer may order any or all materials used in the work to be tested according to MAG or ADOT Material Testing Requirements, American Association of State Highway and Transportation Officials (AASHTO) and the American Society for Testing and Materials (ASTM) Standards. The Contractor shall, at their expense, hire a qualified testing laboratory to perform Quality Control (QC) during all phases of construction, as stated in Navajo County Standards, or as directed in the Special Provisions.
9. Local Fire Department, County Engineering Division and other emergency responder's approval is required for obstruction of access or water system shutdown - submission of traffic control plans is required.
10. The Contractor shall be responsible for maintenance of the streets and of partially completed portions of the work until final acceptance of the work. Any roads required to be closed for the construction activity shall be reopened within a reasonable time or upon order of County Engineer. The regulation and control of this traffic shall be as directed by the County Engineer.
11. Approval of a portion of the work in progress does not guarantee its final acceptance. Testing and evaluation may continue until written final acceptance of a complete workable unit. Any defects which appear in the work within one year from the date of acceptance and which are due to improper workmanship or inferior materials supplied shall be corrected by or at the expense of the owner/developer or the contractor.
12. Acceptance of completed public improvements will not be given until defective or unauthorized work is removed, and final clean-up is complete.
13. Location of underground utilities before work is begun is to be accomplished in accordance with ARS 40-360.22.
14. If work is done on private property in relation to a project constructed under these standards, the contractor will provide the County with written authorization from the property owner to do so.
15. The establishment and use of temporary construction yards shall require written authorization from the County Public Works Department.
16. County approval of these plans is for concept only. All liability resulting from errors or omissions is the responsibility of the permittee and/or his consultants and employees. Navajo County does not verify or guarantee the measurements, calculations, ownership, or conclusions indicated by the creator of these plans.

	STANDARD DETAIL	PLAN NOTES	REVISED	DETAIL NO.
			01-07-2025	**308.00**

PAVING NOTES:

1. The exact point of matching termination and overlay, if necessary, shall be determined in the field by the County Engineer.
2. No job will be considered complete until:

   a. All curbs, pavements, sidewalks, ditches, and manholes have been cleaned of all dirt and debris.

   b. Survey monuments are installed and stamped.

   c. All frames, covers, and valve boxes are adjusted to grade.

2. No paving construction shall be started until all utility lines under proposed paved area are completed and approved.
3. Asphalt shall not be placed before base course has been approved and base course will not be placed until subgrade has been approved by the County Engineer.
4. The location of all water valves, fire hydrants, and manholes must at all times during construction be referenced and made accessible to the County.
5. Utility facilities in conflict with this work will be relocated by the permittee or the utility owner. This activity shall be coordinated with the owner of the utility to prevent any unnecessary interruption of service to existing customers.
6. Existing street and traffic signs will be maintained during construction and relocated by the permittee as directed by the County Engineer.

N.T.S.

	STANDARD DETAIL	PLAN NOTES	REVISED 01-07-2025	DETAIL NO. 308.01

WATER AND SEWER NOTES:

1. Rough grading shall be completed within 0.1 feet of plan grade prior to installation of underground utilities.
2. No trench shall be filled with bedding material or backfilled until the excavation and pipe laying, respectively, have been approved by the County Engineer.
3. A water pressure test is required of all water lines and a hydrostatic or air test is required of all sewer lines. Tests are to be conducted after backfilling is complete and compacted. All testing will conform to standards established by the responsible utility.
4. Water line disinfection is to be accomplished as outlined in Arizona Department of Environmental Quality (ADEQ) —Bulletin No. 8 or per requirements of the local utility.
5. In order to protect public water systems from possible contamination, a water main shall not:

   a. Infringe upon an area which is within six feet of either side of a sewer main and shall not be below, at the same level as, or less than two feet above the top of the sewer main, unless extra protection is provided. Extra protection shall consist of constructing the sewer main with mechanical joint ductile iron pipe or with slip- joint ductile iron pipe. If joint restraint is provided it shall consist of encasing both the water and sewer mains in at least six inches of concrete.

   b. Under any circumstances, infringe upon an area which is within two feet of either side of or two feet below the sewer main.

6. No water pipe shall pass through or come into contact with any part of a sewer manhole. The minimum horizontal separation between water mains and manholes shall be six feet, measured from the center of the manhole.
7. The minimum separation between force mains or pressure sewers and water mains shall be two feet vertically and six feet horizontally under all conditions. Where a sewer force main crosses above a water line, or less than six feet below it, the sewer main shall be encased in at least six inches of concrete for 10 feet on either side of the water main.
8. All distances are measured perpendicularly from the outside of the sewer main to the outside of the water main. These separation requirements do not apply to building plumbing or individual house service connections.
9. No water settling of trench fill material is allowed.
10. All water and sewer design and construction shall conform to the current Arizona Department of Environmental Quality (ADEQ) requirements. When ADEQ. requirements conflict with these standards, the more restrictive shall apply.
11. Tracer wires and tapes shall be installed prior to testing the water or sewer main.
12. Cathodic Protection shall be required as instructed by the County.

N.T.S.

	STANDARD DETAIL	PLAN NOTES	REVISED 01-07-2025	DETAIL NO. 308.02

TYPICAL SECTIONS GENERAL NOTES:

1. Sidewalks: MAG Detail 230, W = 6'
   - 1.1. Sidewalks shall be detached from the back of curb or as approved by the County.
   - 1.2. Cross slope: 1.5% preferred, shall not exceed 2%.
   - 1.3. Width: County approval for reductions in sidewalk width and shall not be less than 5'.

2. Buffer Zone:
   - 2.1. An area between back of curb and sidewalk for signs, lighting, snow removal, etc. Not a part of the pedestrian access route.
   - 2.2. County approval required for reductions in the buffer zone width.

3. Curb & Gutter: See Typical Sections for type to be used.
   - 3.1. MAG Detail 220, Type A, H = 6" or
   - 3.2. MAG Detail 220, Type C, H = 4"

4. Roadside Slopes & Ditches:
   - 4.1. Fill Slopes (Fill): 6:1 preferred, 4:1 max within clear zone.
   - 4.2. Cut Slopes (Cut): 6:1 preferred, 4:1 max within clear zone.
   - 4.3. Behind Sidewalks: 6" min swale with 4:1 side slopes
   - 4.4. Drainage Ditches: shall be designed as required and shall comply with the following:
     - 4.4.1. AASHTO Roadside Design Guide preferred channel cross section unless located outside of the recommended clear zone.
     - 4.4.2. Foreslope (F.S.) shall be 6:1 for the width noted on the typical section.
   - 4.5. Roadside slopes & ditches not meeting the above criteria shall be protected, see ADOT Standards and AASHTO Roadside Design Guide for roadside slopes, barrier warrants and installation.

5. Shoulders:
   - 5.1. Shoulder width includes paved and unpaved outside of the travel lane.
   - 5.2. Shoulders adjacent to sidewalk shall be 1' Min and have a slope of 20:1 Max, see Typical Sections for locations.

6. See Section 612 of the Design & Construction Standards & Specifications Manual.
7. Sections may be flared at intersections or other locations, as approved by the County, to provide dual left turn lanes and/or right turn lanes.

TYPICAL SECTIONS LEGEND:

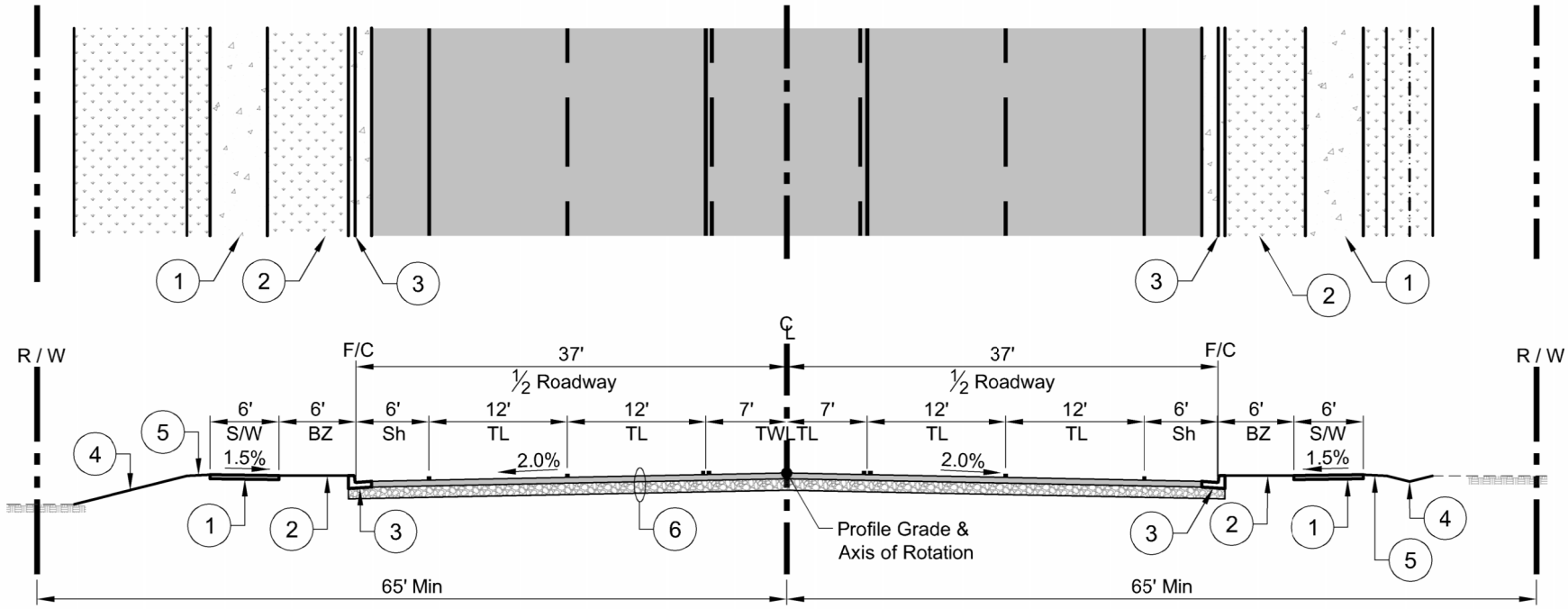
- Disturbed or Graded Area
- Concrete Sidewalk, Curb & Gutter or Pavement
- Aggregate Base Course (ABC)
- Asphalt Concrete Pavement

GENERAL ABBREVIATIONS:

Abbreviations shall be per ADOT Std Dwg C-01.30, except as shown below

Aggregate Base Course	ABC
Back Slope	B.S.
Buffer Zone	BZ
Construction Centerline	CL
Face of Curb	F/C
Fore Slope	F.S.
Parking Lane	PL
Pedestrian Access Route	PAR
Sheet	Sht
Shoulder	Sh
Travel Lane	TL
Two-Way Left Turn Lane	TWLTL

	STANDARD DETAIL	TYPICAL SECTIONS GENERAL NOTES	REVISED 01-07-2025	DETAIL NO. 600.00

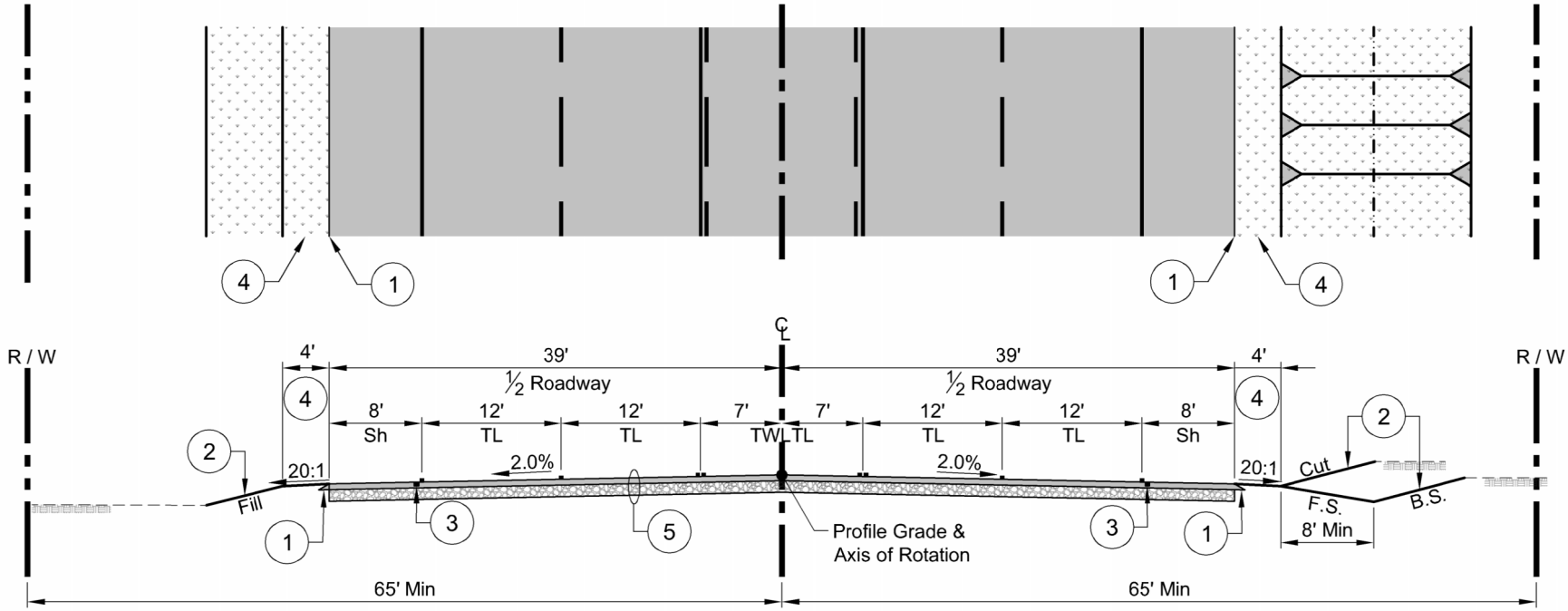


NOTES:

1. Sidewalk, MAG Detail 230
2. Buffer Zone
3. Curb & Gutter: MAG Detail 220, Type A, H = 6"
4. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
5. Shoulder adjacent to sidewalk: width = 1' min and slope = 20:1 max.
6. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
7. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	OTHER PRINCIPAL ARTERIAL (FFC3) URBAN	REVISED 01-07-2025	DETAIL NO. 603.01

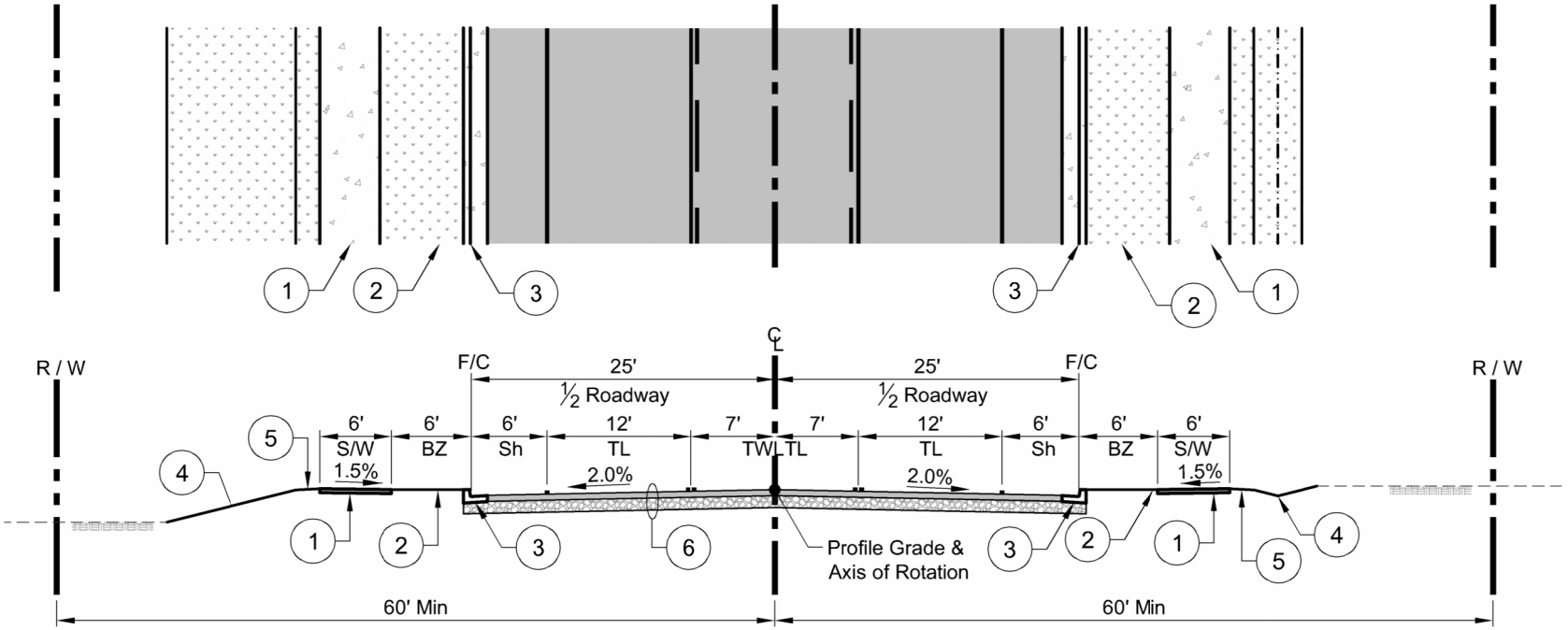


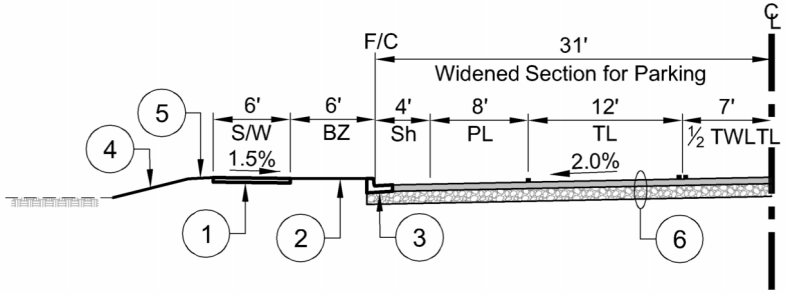
NOTES:

1. Safety Edge: MAG Detail 201
2. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
3. Rumble Strip: ADOT Dwg No. M-22, applies to roads with posted speed of 40 MPH or greater.
4. Unpaved shoulder, 4' Min.
5. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
6. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	OTHER PRINCIPAL ARTERIAL (FFC3) RURAL	REVISED 01-07-2025	DETAIL NO. 603.02



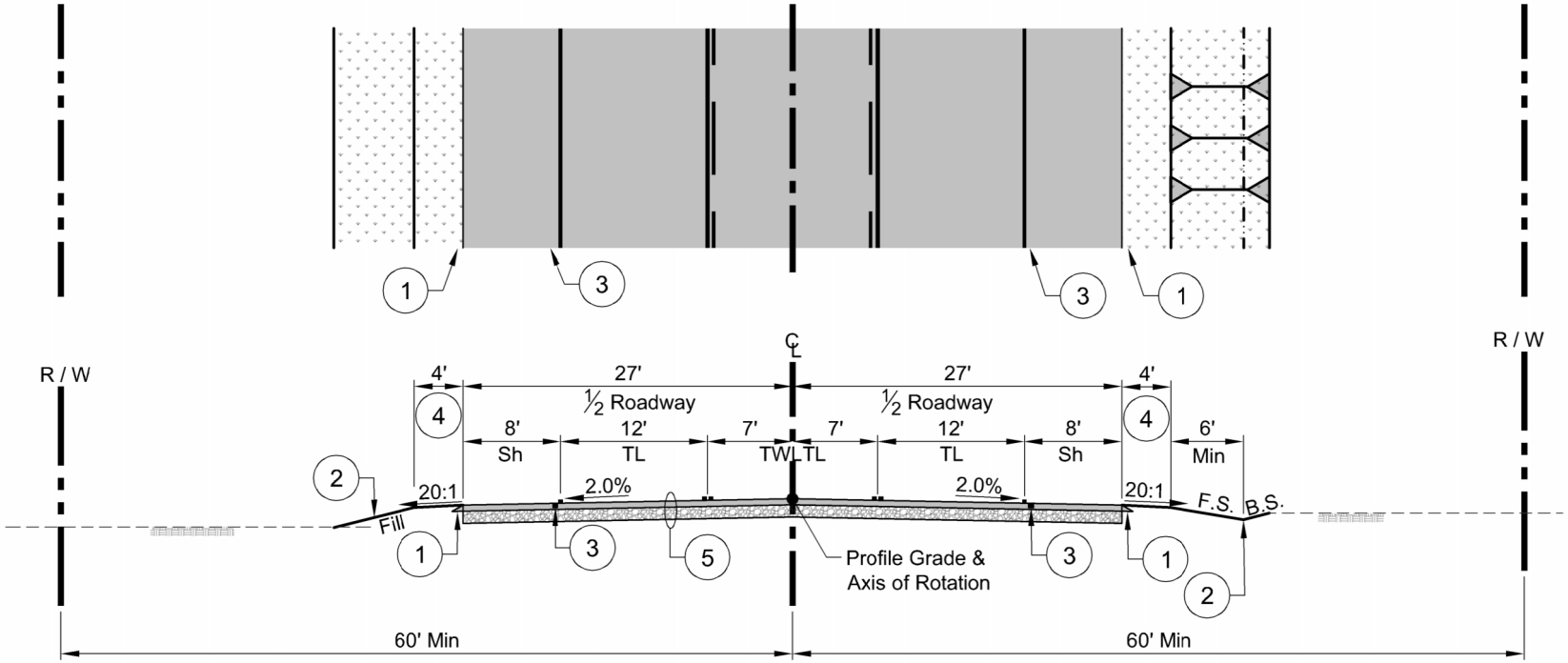


NOTES:

1. Sidewalk, MAG Detail 230
2. Buffer Zone
3. Curb & Gutter: MAG Detail 220, Type A, H = 6"
4. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
5. Shoulder adjacent to sidewalk: width = 1' min and slope = 20:1 max.
6. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
7. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	MINOR ARTERIAL (FFC4) URBAN	REVISED 01-07-2025	DETAIL NO. 604.01

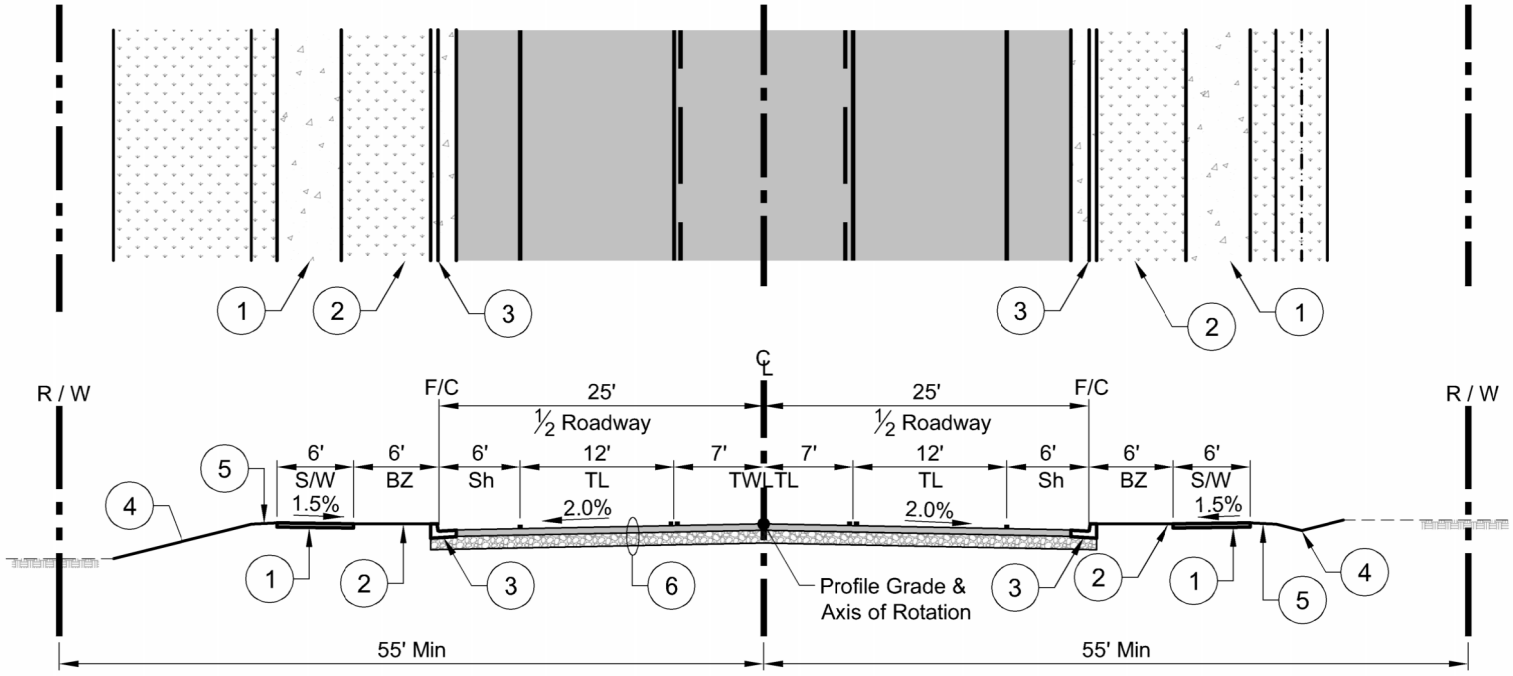


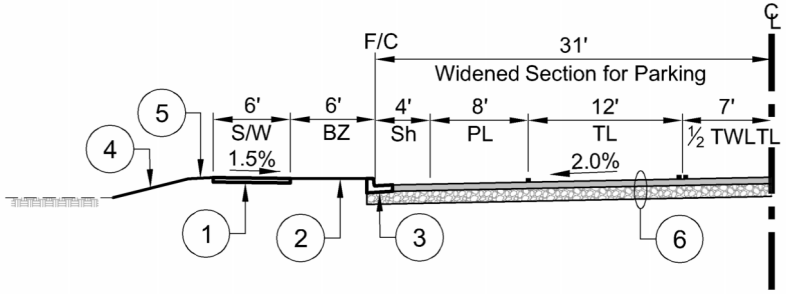
NOTES:

1. Based on design speed use either Safety Edge: MAG Detail 201 or Thickened Edge: MAG Detail 201, Type B
2. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
3. Rumble Strip: ADOT Dwg No. M-22, applies to roads with posted speed of 40 MPH or greater.
4. Unpaved shoulder, 4' Min.
5. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
6. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	MINOR ARTERIAL (FFC4) RURAL	REVISED 01-07-2025	DETAIL NO. 604.02



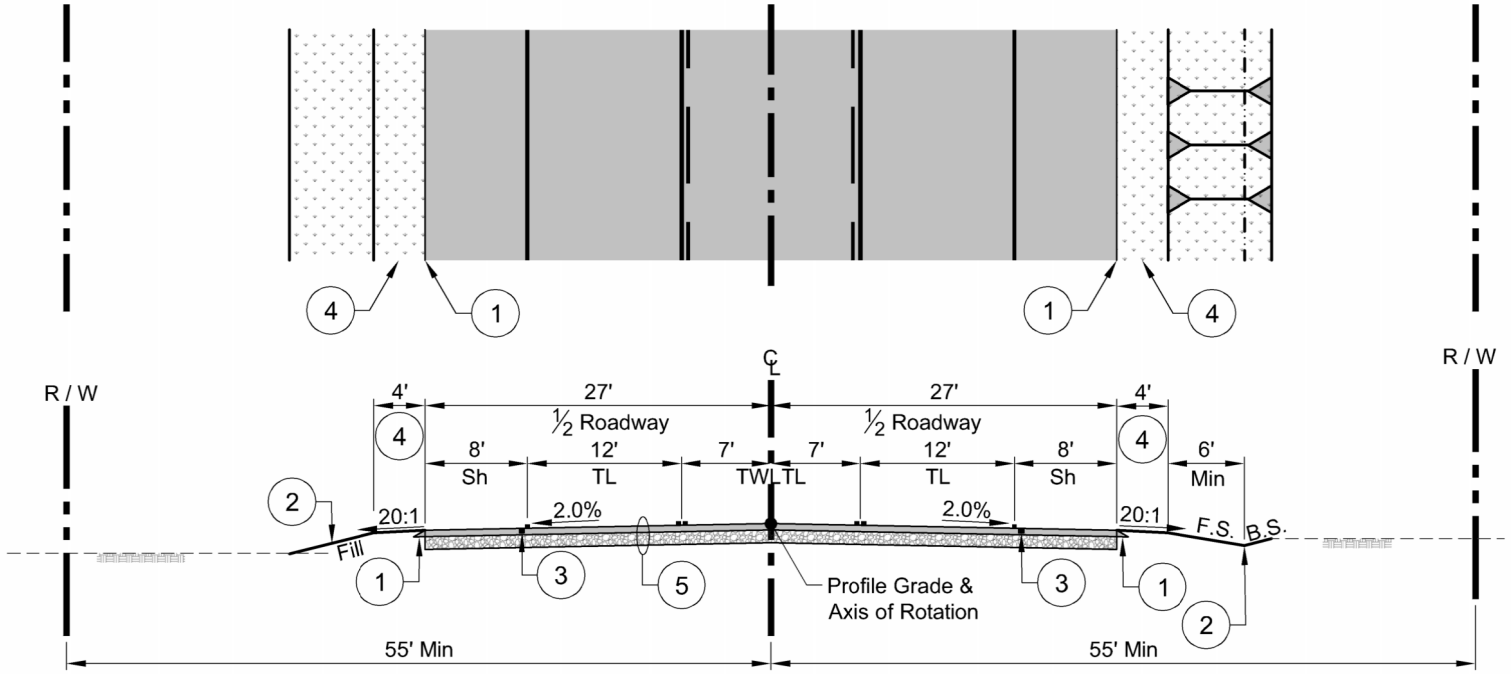


NOTES:

1. Sidewalk, MAG Detail 230
2. Buffer Zone
3. Curb & Gutter: MAG Detail 220, Type A, H = 6"
4. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
5. Shoulder adjacent to sidewalk: width = 1' min and slope = 20:1 max.
6. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
7. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	MAJOR COLLECTOR (FFC5) URBAN	REVISED 01-07-2025	DETAIL NO. 605.01

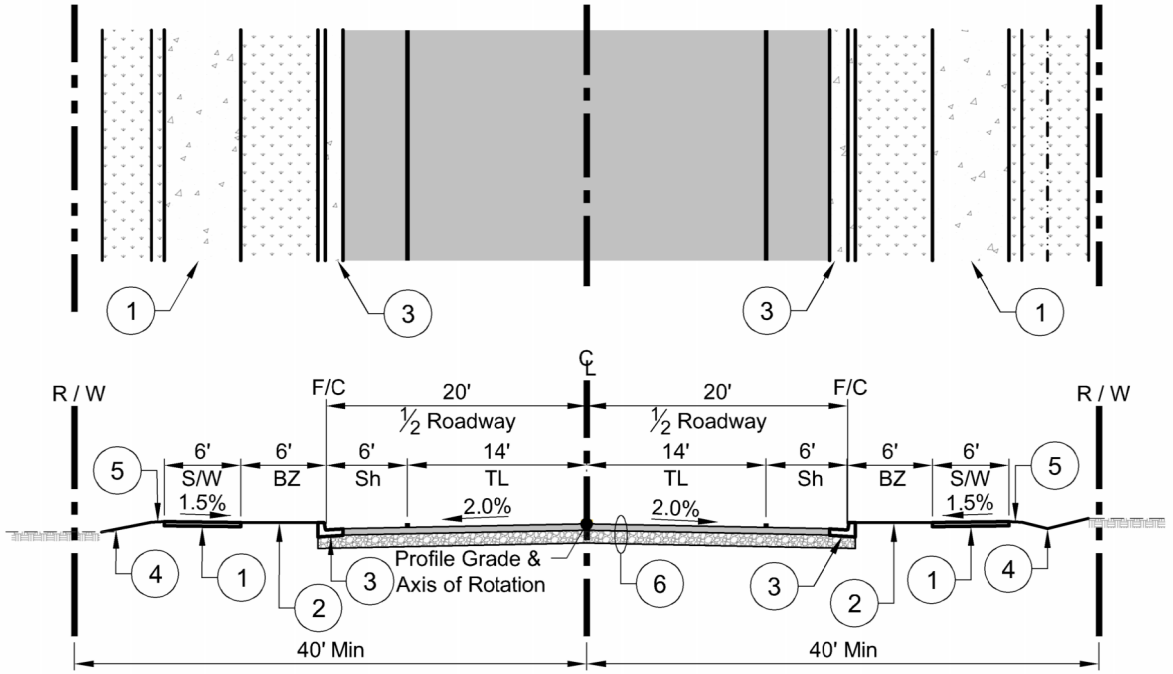


NOTES:

1. Based on design speed use either Safety Edge: MAG Detail 201 or Thickened Edge: MAG Detail 201, Type B
2. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
3. Rumble Strip: ADOT Dwg No. M-22, applies to roads with posted speed of 40 MPH or greater.
4. Unpaved shoulder, 4' Min.
5. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
6. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	MAJOR COLLECTOR (FFC5) RURAL	REVISED 01-07-2025	DETAIL NO. 605.02

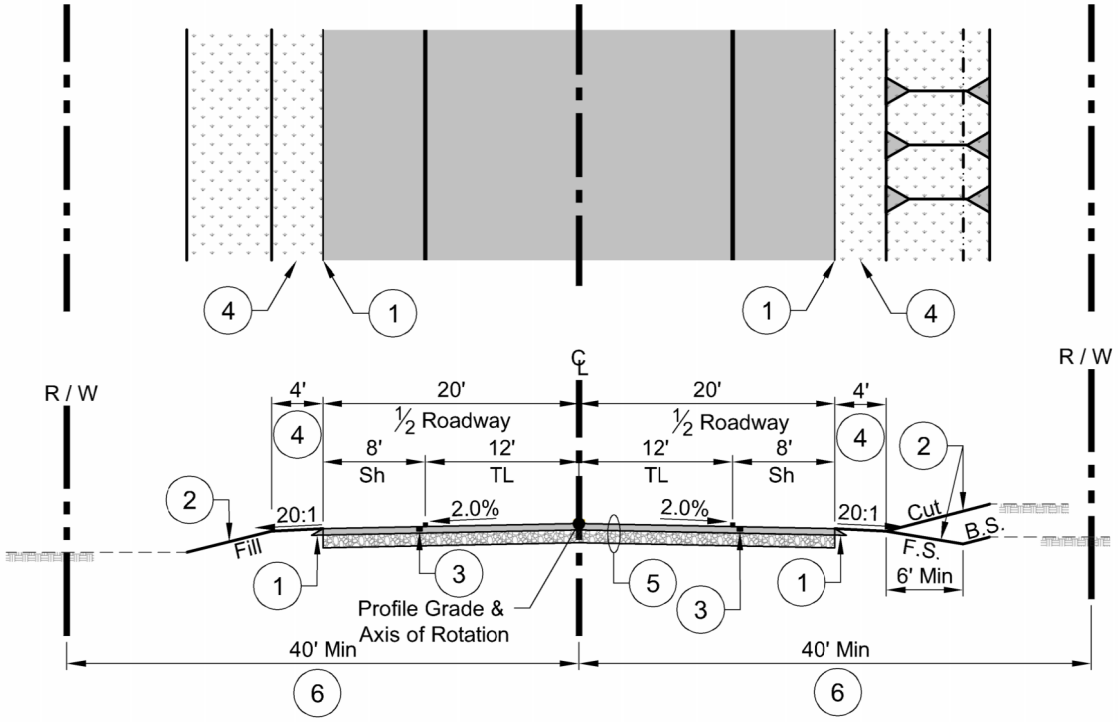


NOTES:

1. Sidewalk, MAG Detail 230
2. Buffer Zone
3. Curb & Gutter: MAG Detail 220, Type A, H = 6"
4. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
5. Shoulder adjacent to sidewalk: width = 1' min and slope = 20:1 max.
6. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
7. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	MINOR COLLECTOR (FFC6) URBAN	REVISED 01-07-2025	DETAIL NO. 606.01

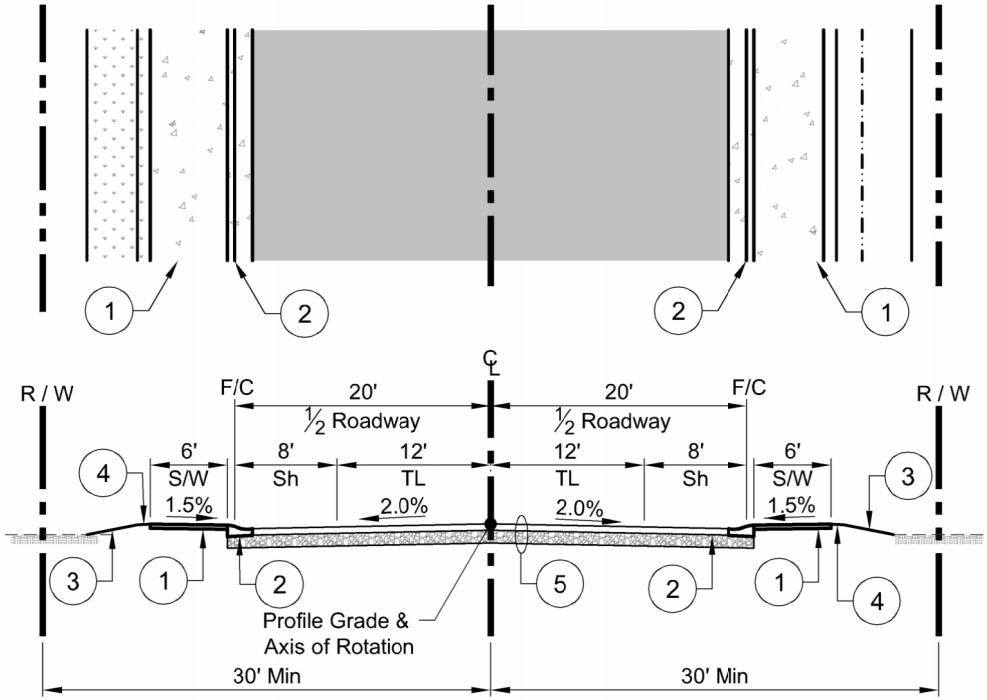


NOTES:

1. Based on design speed use either Safety Edge: MAG Detail 201 or Thickened Edge: MAG Detail 201, Type B
2. Roadside Slopes & Ditches, see Detail 600, Note 4.
3. Rumble Strip: ADOT Dwg No. M-22, applies to roads with posted speed of 40 MPH or greater.
4. Unpaved shoulder, 4' Min.
5. Structural Section, see Section 612 of the Design and Construction Standards & Specifications Manual.
6. Minimum half width R/W Requirement = 30' except for:
   - 6.1. Mid-Section Line or Mid-Section Line Alternate Location the minimum typical half width R/W = 40'
   - 6.2. Section Line or Section Line Alternate Locaton the minimum typical half width R/W = 65'
7. See Typical Section General Notes, Detail 600

N.T.S.

	STANDARD DETAIL	MINOR COLLECTOR (FFC6) RURAL	REVISED 01-07-2025	DETAIL NO. 606.02

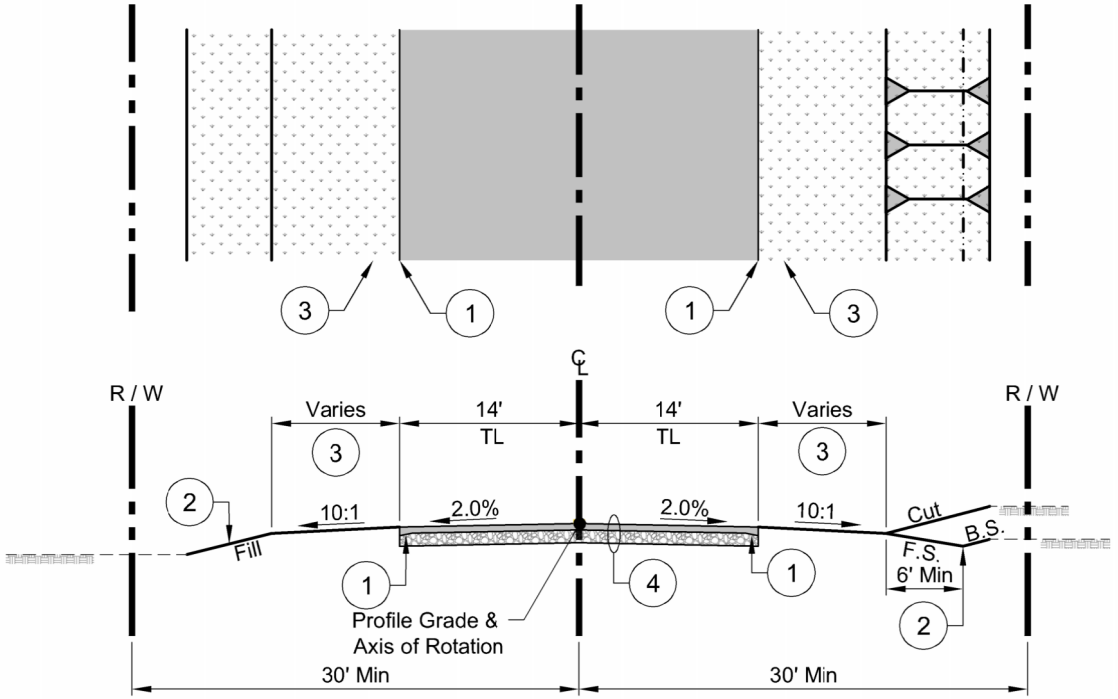


NOTES:

1. Sidewalk, MAG Detail 230, Attached to back of curb
2. Curb & Gutter: MAG Detail 220, Type A (H=6") or C (H = 4")
3. Roadside Slope: 4:1 preferred or vary to match existing grade at R/W.
4. Shoulder adjacent to sidewalk: width = 1' min and slope = 20:1 max.
5. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
6. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	LOCAL (FFC7) URBAN - RESIDENTIAL	REVISED 01-07-2025	DETAIL NO. 607.01



NOTES:

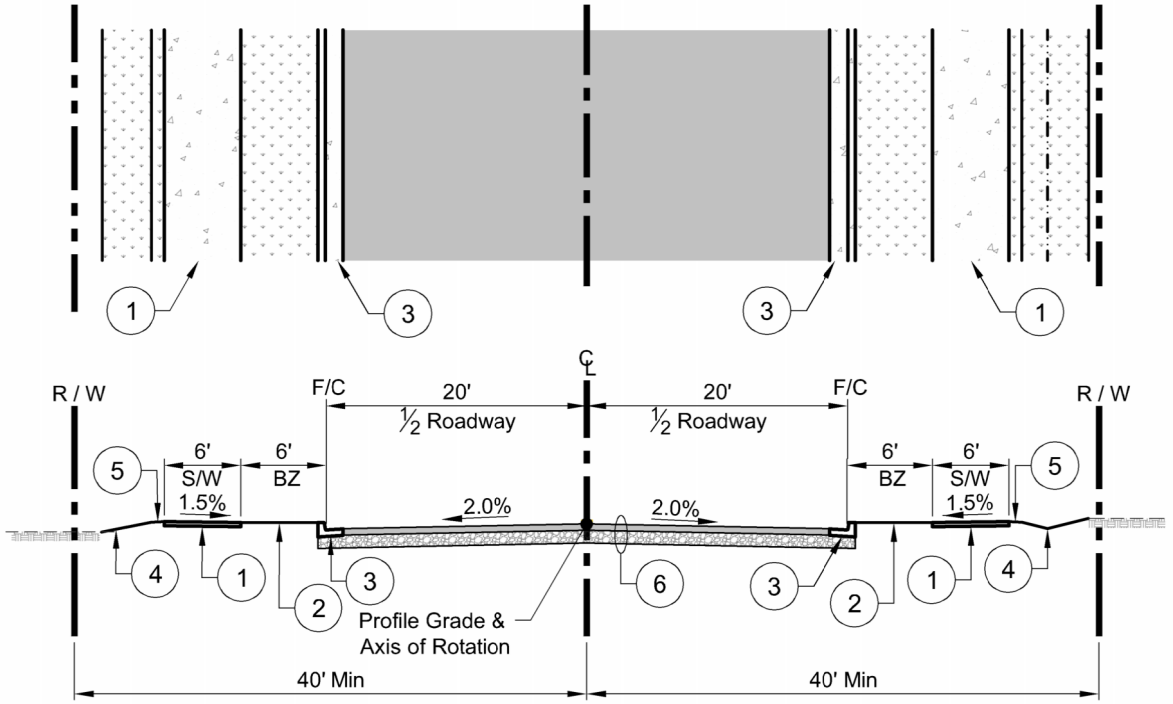
1. Thickened Edge: MAG Detail 201, Type B
2. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
3. Unpaved shoulder:

ADT	Width
< 400	4' Min
≥ 400	6' Min

4. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
5. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	LOCAL (FFC7) RURAL - RESIDENTIAL	REVISED 01-07-2025	DETAIL NO. 607.02

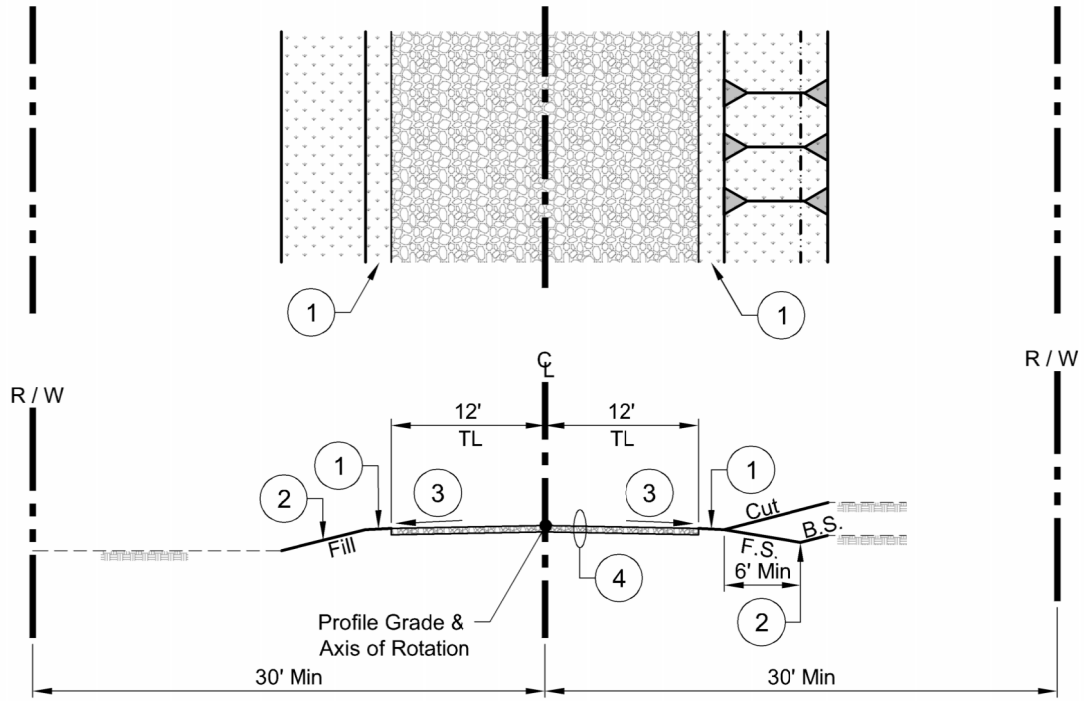


NOTES:

1. Sidewalk, MAG Detail 230. Omit Sidewalk when ribbon curb is used.
2. Buffer Zone
3. Curb & Gutter: MAG Detail 220, Type A, H = 6" or Type B Ribbon Curb.
4. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
5. Shoulder adjacent to sidewalk: width = 1' min and slope = 20:1 max.
6. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
7. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	LOCAL (FFC7) URBAN - COMMERCIAL/INDUSTRIAL	REVISED 01-07-2025	DETAIL NO. 607.03

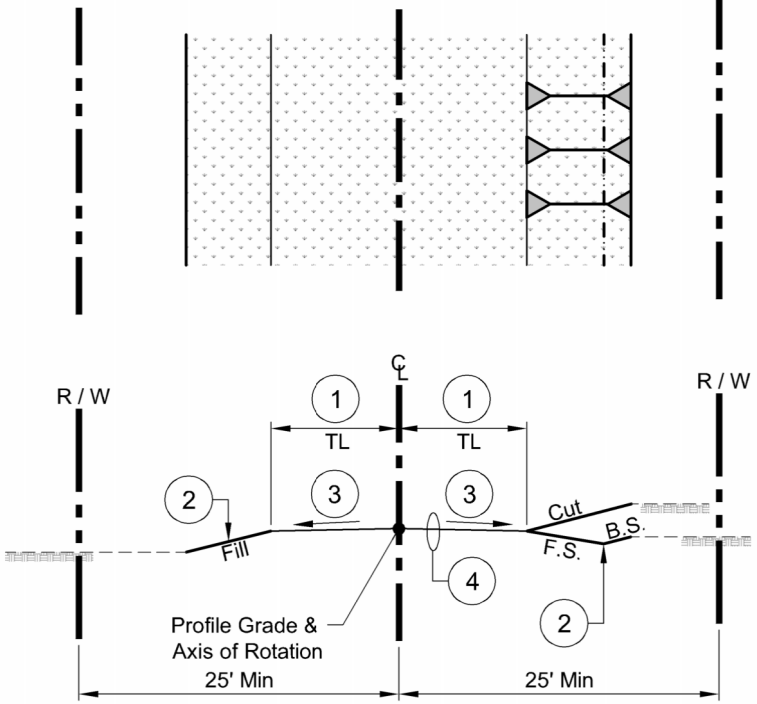


NOTES:

1. Unpaved shoulder, 2' min at 3.0% cross slope.
2. Roadside Slopes & Ditches, see Detail 600.00, Note 4.
3. Cross Slope: 3.0% preferred, 4.0% max.
4. Structural Section, see Section 612 of the Design & Construction Standards & Specifications Manual.
5. Typical Section is intended for building an improved road surface for low volume roads serving ecotourism sites, economic generators or as a precursor to future paving.
   5.1. Typical Ssection is NOT for subdivision roads or new roads intended to be public.
6. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	LOCAL (FFC7) RURAL - UNPAVED	REVISED 01-07-2025	DETAIL NO. 607.04



NOTES:

(1.) Lane Width: determined by topography and site conditions.

1.1. Lane width may follow land contours and vary throughout its length.
1.2. Lane width of 10' is preferred.

(2.) Roadside Slopes & Ditches, see Detail 600.00, Note 4.

(3.) Cross Slope: 3.0% preferred, 4.0% max.

(4.) Retain native surface.

5. The use of this Typical Section requires county approval.

5.1. Typical Section is intended for very low volume roads with unique ecological, or culturally sensitive area constraints.
5.1. Typical Section is NOT for subdivision roads or new roads intended to be public.

6. See Typical Section General Notes, Detail 600.00

N.T.S.

	STANDARD DETAIL	CONTEXT SENSITIVE / PRIMITIVE (NON-FFC) - UNPAVED	REVISED 01-07-2025	DETAIL NO. 608.01

Board of Supervisors Regular **4. d. 1. a.**

Meeting Date: 01/28/2025
Title: Insurance for Victory Heights Road Maintenance Dist.
Submitted For: Bryan Layton, County Manager
Submitted By: Melissa Buckley, Clerk of the Board of Supervisors
Department: Administrative Services

Motion before the Board:

Contracts signed by County Manager pursuant to Board of Supervisors Resolution: Insurance for Victory Heights Road Maintenance District

Background:

1. Insurance for Victory Heights Road Maintenance District effective February 1, 2025

Attachments

Insurance

Form Review

Form Started By: Melissa Buckley Started On: 01/10/2025 01:21 PM
Final Approval Date: 01/10/2025

JAN 02 2024

HANCOCK-LEAVITT
INSURANCE AGENCY

PO Box 830 | Taylor, AZ 85939 | Phone (928)536-4237 | Toll Free (800)774-0447 | Fax (866)821-4287 | leavitt.com/hancock

INSURANCE PROPOSAL
For
Victory Heights Road Maintenance District
Effective February 1st, 2025

Liability Section – Commercial General Liability

Limits -
$3,000,000 Policy Limit
$1,000,000 Per Occurrence
$1,000,000 Fire Legal
$ 10,000 Medical Payments

Public Officials & Management Liability – Includes Wrongful Acts & Employment Practice.

Limits -
$3,000,000 Policy Limit
$1,000,000 Per Occurrence
$ 5,000 Injunctive Relief
$ 1,000 Deductible

TOTAL ANNUAL PREMIUM. . . . . .$1,899.

*Quoted with Allied World Assurance Company/Munich Re Specialty Company

Presented by Monti Hancock
Agent January 2, 2025

x _____
Coverage Accepted Signature

❖ The abbreviated outlines of coverages used on this proposal are not intended to express any legal opinion as to the nature of coverage. They are only visuals to a basic understanding of coverages. Please read your policy for specific detail of coverage. Values shown above were obtained and or approved from/by you. Please check the values to be certain that they are sufficient. Higher limits of liability may be available. We would be pleased to obtain optional quotes on your behalf at your request.

HANCOCK-LEAVITT

Hancock-Leavitt Insurance Agency, Inc.
PO Box 830
Taylor, AZ 85939
Phone: (928)536-4237 Fax: (866)821-4287

INVOICE

Victory Heights Road Maintenance District
P.O. Box 668
Holbrook, AZ 86025

Client	Victory Heights Road Maintenance District
Policy #	tba
Date	January 2, 2025

Return this portion with your payment

Client: Victory Heights Road Maintenance District

Effective	Transaction	Description	Amount
2/1/2025	MEM	2025 Annual Premium	$1,899.00
		** Please send payment upon receipt **	
		Online payments can be made at https://Hancock-Leavitt.epaypolicy.com Please have your policy number ready. Fees apply.	
		Total Premium Due:	**$1,899.00**

Please make check(s) payable to: Hancock-Leavitt Insurance Agency, Inc., PO Box 830 , Taylor, AZ 85939

PO#				
Fund	Dept	Sub Dept	Object	Amount
Dept Signature		Dept#	Date	
Office Signature		Inv.#	Payment Info	

Board of Supervisors Regular **5. a.**

Meeting Date: 01/28/2025
Title: Contract for Professional Services with Kimley-Horn and Associates, Inc.
Submitted For: Mischa Larisch, Deputy Director of Planning & Development Services
Submitted By: Katherine Wright, Planner II
Department: Planning & Development Services
Presented By: Mischa Larisch

Motion before the Board:

Consideration and approval of a Professional Services Contract between Navajo County and Kimley-Horn and Associates, Inc. to provide professional services for Navajo County Water and Wastewater Master Plan.

Background:

Kimley-Horn and Associates, Inc. represents that it has the necessary expertise to provide such services in accordance with the terms of this Agreement.
Navajo County has requested Kimley-Horn and Associates, Inc. to provide a proposal for a Water and Wastewater Master Plan.

Recommendation:

Navajo County Planning & Development Services recommends approval of the Contract for Professional Services with Kimley-Horn and Associates, Inc.

Fiscal Impact

Fiscal Year: 2024/2025
Budgeted Y/N: Y
Amount Requested: 68,000
Fiscal Impact:

The funds are budgeted $50,000 requested during last years budget cycle and the rest is from HURF Funds

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Attachments

Contract for Professional Services
Scope of Services

Form Review

Inbox	Reviewed By	Date
Brandt Clark	Brandt Clark	01/15/2025 03:39 PM

Form Started By: Katherine Wright Started On: 01/15/2025 12:53 PM
Final Approval Date: 01/15/2025

CONTRACT FOR PROFESSIONAL SERVICES

AGREEMENT made as of January 28, 2025, between Navajo County ("County") and Kimley-Horn and Associates, Inc. (“Consultant”).

WHEREAS, County requires certain professional services for Navajo County Water and Wastewater Master Plan (“Project”); and

WHEREAS, Consultant represents that it has the necessary expertise to provide such services in accordance with the terms of this Agreement.

NOW, THEREFORE, the parties agree as follows:

1. **Services.** Consultant shall perform the work described in Attachment A, Scope of Services and Fee Estimate dated January 9, 2025, in a competent and professional manner to the satisfaction of County. The Scope of Services and the Consultant’s schedule and fee proposal are attached hereto and by this reference incorporated herein.

2. **Contract Documents**. The Contract Documents comprise this Contract, Attachment A Scope of Services and Fee Estimate dated January 9, 2025, and addenda thereto, if any. If any incorporated term is inconsistent with the Contract, this Contract shall control.

3. **Consultant’s Expertise.** Consultant warrants that it has the ability, authority, capacity and professional expertise to perform this Agreement. Consultant shall provide an adequate staff of experienced personnel, capable of and devoted to the successful accomplishment of the work to be performed hereunder. Consultant shall assign specific individuals to key positions. Once assigned to work under this Agreement, key personnel shall not be removed or replaced without County’s prior written approval.

4. **Independent Contractor.** Consultant acknowledges that it is an independent contractor. Neither party is or shall purport to be an agent, employee, partner, joint venturer or associate of the other. An employee or agent of one party shall not be deemed an employer or agent of the other party for any purpose. Taxes or Social Security contributions will not be withheld from any payment by County, and Consultant shall be solely responsible for such matters.

5. **Subcontracts.** Consultant shall not enter into any subcontract with respect to any of the work to be performed hereunder without County's prior written approval. All subcontracts shall comply with applicable federal and state laws and regulations and shall impose on the subcontractor substantially the same obligations as are imposed on Consultant by this Agreement with respect to those matters covered by Sections 9, 10, 11, 13, 16, 19, 22 and 23. Consultant is responsible for full performance of this Agreement regardless of whether subcontractors are used.

6. **Time for Completion.** Consultant's services will be provided in a manner consistent with the degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances. Consultant's services shall be performed as expeditiously as is consistent with professional skill and care and the orderly progress of the Project, and in accordance with an agreed upon schedule for the performance of the Services hereunder. Time limits established by a schedule approved by County shall not, except for reasonable cause, be exceeded by County or Consultant. The Schedule shall be adjusted, if necessary, as the Project proceeds. The date for final performance shall be extended by the number of days that performance is delayed by governmental approval or review procedures or other causes beyond Consultant's reasonable control, as jointly confirmed in writing by the parties' representatives.

7. **Payment.** County shall pay to Consultant a not-to-exceed sum of sixty-eight thousand dollars ($68,000.00) as payment in full for all services rendered by Consultant pursuant to this Agreement. Payments shall be made within 30 days of County's receipt of Consultant's monthly invoices. Each invoice shall detail the work performed during the billing period. Invoice amounts in percent of Project cost shall not exceed the percentage of completion of the Project as approved by County.

8. **Defects in Work.** County may reject any work product that fails to meet customary professional standards or Project specifications. Consultant agrees to promptly remedy all such deficiencies. The parties shall make a good faith effort to resolve any controversy or claim through informal negotiation as set forth in Section 13. No compensation shall be paid for any rejected work until such issues have been resolved.

9. **Insurance Requirements.**

   A. Consultant shall maintain in effect, at all times during the term of this Agreement, insurance adequate to protect County and its agents, representatives, officers, officials and employees against such losses as set forth below. Consultant shall provide County with a current Certificate of Insurance or a certified copy of the insurance policy naming County as an additional insured (except for Errors and Omissions / Professional Liability coverage).

   B. The following types and amounts of insurance are required as minimums:

Worker's Compensation	Statutory
Professional Liability	$1,000,000 each occurrence and annual aggregate
Consultant's Protective Bodily Injury	$1,000,000 each occurrence and annual aggregate
Consultant's Protective Personal Property	$1,000,000 each occurrence and annual aggregate
Automobile Bodily Injury and Property Damage	$1,000,000 each occurrence and annual aggregate
Valuable Papers	$100,000

Standard minimum deductibles are allowed. Any deductibles are the responsibility of Consultant. Consultant shall immediately inform County of any cancellation of insurance or any decrease in the amount of coverage at least 30 days before such action takes place. A violation of this provision may be treated as a material breach by County. Consultant shall notify County upon any termination of its regular professional liability coverage and shall obtain tail coverage for a minimum of five years from the termination date.

C. Consultant acknowledges that the amounts of insurance coverage stated above shall not limit its liability under this Agreement.

10. **Indemnity.** To the fullest extent allowable by law, Consultant shall defend, indemnify and hold harmless County and its representatives, officers, officials and employees (the "Indemnitees") from and against any and all claims, damages, losses and expenses (including but not limited to attorney fees, court costs, and the costs of appellate proceedings) relating to, arising out of or resulting from Consultant's negligent acts, errors, mistakes or omissions in the performance of this Agreement. Consultant's duty to defend, hold harmless and indemnify the Indemnitees shall arise in connection with any claim, damage, loss or expense that is attributable to bodily injury, sickness, disease, death or injury to, impairment or destruction of property including loss of use resulting therefrom, caused in whole or in part by any negligent act, error, mistake or omission in the performance of this Agreement (including those by any person for whose negligent acts, errors, mistakes or omissions Consultant may be liable) to the extent of Consultant's negligence or fault. The amount and type of insurance coverage requirements set forth above shall not limit the scope of the indemnity in this paragraph.

11. **Records.** Consultant shall retain, and shall require each subcontractor to retain, all books, accounts, reports, files and other records relating to this Agreement for a period of five years after completion of the work. All such documents shall be subject to inspection and audit by County upon reasonable notice during normal business hours. A legible copy of any or all such documents shall be produced by Consultant at the request and expense of County.

12. **Non-Assignment.** Consultant shall not assign any right or interest in this Agreement without County's prior written approval, nor shall Consultant delegate any duty

hereunder without County's prior written approval.

13. **Negotiation of Disputes.** The parties shall make a good faith effort to resolve any claim or controversy or claim through informal negotiation. Notice of any claim or controversy shall be provided in writing, with supporting documentation, to the recipient designated in Section 25. The recipient shall have seven calendar days to prepare and deliver a written response. If the parties fail to resolve the disputes within a reasonable period of not less than ten days, either party may pursue available legal remedies.

14. **Suspension and Termination by County:**

A. **Suspension.** County may, without cause, order Consultant in writing to suspend, delay or interrupt its performance in whole or part. An adjustment shall be made to the completion date and for any increase in the cost of performance resulting from the suspension, delay or interruption. No adjustment shall be made to the extent that performance is or would have been suspended, delayed or interrupted by another cause for which Consultant is responsible.

B. **Termination for Cause.** County may terminate this Agreement for cause if Consultant refuses or fails to supply enough properly skilled workers to perform this Agreement; fails to make required payments to subcontractors; disregards laws, ordinances, rules, regulations or orders of a public authority having jurisdiction; or otherwise commits a material breach of this Agreement. When any of the foregoing causes exist, County shall give Consultant written notice and a ten-day opportunity to cure the default. If the default remains uncured, County may (without prejudice to any other rights or remedies it may have) terminate this Agreement and finish the work or cause it to be finished. If the unpaid balance of the Agreement exceeds the cost of finishing the work (including any expenses incurred by County as a result of Consultant's default), Consultant shall be entitled to payment for its performance up to the amount of such excess. If the cost of finishing the work exceeds the unpaid balance, Consultant shall pay the difference to County.

C. **Termination for Convenience.** County, by written notice to Consultant, may terminate this Agreement in whole or part when in the sole discretion of County it is in County's best interests to do so. Consultant shall be paid for all material, equipment and services provided, as well as reasonable termination expenses and a reasonable allowance for profit and overhead, provided that such payments, exclusive of termination expenses, shall not exceed the total amount payable pursuant to Section 6 less any payments previously made to Consultant. Consultant shall not be entitled to profit and overhead on material, equipment and services which were not provided.

D. **Consultant's Responsibilities.** Upon receipt of a termination notice, Consultant shall (a) promptly discontinue all services (unless the notice directs otherwise), and (b) deliver or otherwise make available to County copies of all data, design

calculations, drawings, specifications, reports, estimates, summaries and other information and materials developed or accumulated by Consultant in performing this Agreement.

15. **Termination by Consultant.** Consultant may terminate this Agreement upon written notice to County if performance is made impossible for a period of 30 consecutive calendar days for any of the following reasons through no act or fault of Consultant or its agents, employees or subcontractors: issuance of an order by a court or other public authority having jurisdiction; an act of government, such as a declaration of national emergency; or a natural disaster or other Act of God. Consultant may also terminate this Agreement upon written notice and a ten-day opportunity to cure if County fails to make any payment within the time set forth in Section 7. Consultant may also terminate this Agreement upon written notice if suspensions, delays or interruptions by County equal in the aggregate more than 100% of the total number of days scheduled for completion.

16. **Governing Law.** This Agreement shall be governed by the law of the State of Arizona. Any suit arising out of this Agreement shall be brought in the state courts of Arizona (with venue in Navajo County) or the federal District of Arizona, but only after informal negotiation pursuant to Section 13.

17. **Incorporation of Applicable Laws.** Every provision of law required by statute or regulation to be in this Agreement will be read and enforced as though included herein. Each party shall promptly notify the other upon discovery that any such provision has been omitted.

18. **Non-Collusion.** The provisions of A.R.S. § 38-511 are incorporated herein by this reference.

19. **One-Year Limitation on Actions.** No action shall be maintained by Consultant on any claim based upon or arising out of this Agreement unless such action is commenced within one year after County's final payment hereunder.

20. **Term.** This Contract for Professional Service is valid for one (1) year from the date the agreement was made between the two parties. Upon mutual agreement between the parties, this contract may be renewed up to one (1) additional one-year terms.

21. **Entire Agreement.** This Agreement and those documents incorporated by reference represent the entire understanding between the parties. No amendment shall be effective unless executed by both parties with the same formality as this Agreement. Provided, however, that the County's project manager is authorized to modify the Scope of Work, in writing, with the concurrence of Consultant so long as the project is not changed substantially or significant additional compensation is not required.

22. **Prohibition of Boycott of Israel:** Contractor certifies that neither it nor its subcontractors are currently or will be engaged in, for the duration of this Contract engage in, a boycott of Israel as defined by A.R.S. § 35-393 et seq. Violation of this

certification may result in an action by the County up to and including termination of the Contract.

23. **Written Certification Pursuant to A.R.S. §35-394:** Pursuant to A.R.S. § 35-394, Contractor certifies that it is not currently using, and agrees for the duration of this Agreement to not use (1) the forced labor of ethnic Uyghurs in the People's Republic of China; (2) any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China; and (3) any contractors, subcontractors, or suppliers that use the forced labor of ethnic Uyghurs in the People's Republic of China. The Subrecipient further acknowledges and agrees that (1) if the Subrecipient becomes aware during the term of this Agreement that it is not in compliance with this certification that the Subrecipient will notify the County within five (5) business days after becoming aware of the noncompliance; and (2) if the Subrecipient does not provide the County with a written certification that the Subrecipient has remedied the noncompliance within one hundred eighty (180) after giving notice thereof, the same shall constitute a material breach of this Agreement, which shall then terminate automatically, except that if the Agreement termination date occurs before the end of the remedy period, this Agreement terminates on the Agreement's termination date. The County retains the legal right to inspect the records of the Contractor and all Subcontractors to ensure compliance with this certification for the duration of this Agreement.

24. **Severability.** The provisions of this Agreement are severable. Any provision held to be invalid or unenforceable shall not affect the validity or enforceability of any other provision.

25. **Notices.** All notices, invoices and payments shall be in writing and may be given by personal delivery or certified mail. The designated recipients are as follows:

To Consultant:
Jeff Kellner, P.E.
Project Manager
Kimley-Horn and Associates, Inc.
3300 East Sunrise Drive, Suite 130
Tucson, AZ 85718

To Navajo County:
Jeanine Carruthers, CPPB
Deputy Director of Public Works Administration/
County Procurement Manager
Navajo County
P.O. Box 668
Holbrook, AZ 86025

IN WITNESS WHEREOF, the duly authorized representatives of the parties have executed this Agreement as of the date first written above.

Navajo County

By _____
Chairman, Navajo County Board of Supervisors

ATTEST:

_____
Melissa W. Buckley, Clerk of the Board

Approved As to Form:

_____
Brandt Clark, Deputy County Attorney

Consultant

By _____

Title: _____

ATTACHMENT "A"

Water and Wastewater Master Plan **Scope of Services**
Navajo County

Project Understanding

To build upon the water resource goals and initiatives within the ongoing/draft 2050 Navajo County Comprehensive Plan, the County has asked Kimley-Horn to provide a proposal for a Water and Wastewater Master Plan. Please see below for specifics for each task.

Scope of Services

Water and Wastewater Master Plan

1. **Water/Wastewater Master Plan Framework:** Kimley-Horn will host meetings with Navajo County staff to identify goals including but not limited to:

    - Identifying, mapping, and reviewing critical water and wastewater facilities across the county (treatment plants, storage tanks, transmission mains, joint service area infrastructure, etc.)
    - Encouraging expansion of water and sewer systems in populated areas.
    - Identifying opportunities for County to facilitate long-term investments.
    - Supporting upgrades to water and sewer districts that are out of compliance with ADEQ.
    - Updating subdivision requirements to ensure developers are adequately collecting, conveying, and ultimately treating wastewater.
    - Building upon the County's stewardship of overall water supply portfolio including potential reuse, recharge, and conservation opportunities.
    - Quantifying fire suppression concerns and current/desired requirements.

Goals identified within this task will be evaluated throughout the entirety of this master planning effort. Findings and recommendations will be documented within a Master Plan "Roadmap" report. Along with recommendations the Roadmap will provide guidance for continual implementation and follow up steps for each goal.

2. **Detailed Population and Flow Projections:** Building upon high level population projections identified within the currently drafted 2050 Navajo County Comprehensive Plan, Kimley-Horn will provide more detailed water and wastewater flow projections for key communities/systems within Navajo County. Flow projections will be used to prioritize need and provide context for goals discussed above.

    2.1. Water Flow Projections
        2.1.1. Average Day, Peak Day, and Fire Demands.
        2.1.2. Projections to be quantified by community/system.
    2.2. Wastewater Flow projections
        2.2.1. Average Daily Flows, Peak Dry and Wet Weather Flows. Wet weather flows will be dependent on available flow monitoring data from utilities.
        2.2.2. Projections to be quantified by community/system.

3. **County-Wide Water and Wastewater Mapping:** Kimley-Horn will coordinate with utilities to collect and digitize available system mapping. Key/critical infrastructure will be mapped only (treatment plants, storage tanks, larger pump stations/lift stations, sewer interceptors, water transmission mains,

joint service area infrastructure, etc.).

3.1. Water and Wastewater Geodatabase Generation
- 3.1.1. Service Area and Designated Management Areas.
- 3.1.2. Jurisdictional Limits.
- 3.1.3. Infrastructure by utility by type.
- 3.1.4. Infrastructure size (diameter).
- 3.1.5. Infrastructure capacity (permitted)
- 3.1.6. Effluent quality (if available)
- 3.1.7. Geodatabase will be provided at close of task/project.

3.2. Maps and Mapbooks
- 3.2.1. Kimley-Horn will generate maps in ArcGIS Pro and will provide ArcGIS Pro .aprx files to County.
- 3.2.2. Kimley-Horn expects to generate an overall water map, an overall wastewater map, and a mapbook zooming in on specific communities/systems.

It is important to note that Kimley-Horn will work alongside the County to help facilitate sharing of data from each community/utility. Additionally, Kimley-Horn will partner with County to host meetings with all stakeholders.

4. **Review Standard/Policies and Provide Recommendations:** Kimley-Horn will review available policies and planning and design standards. After review and evaluation Kimley-Horn will provide recommendations to implement new standards/strategies to support: development, environmental compliance, water quality, expansion, and conservation. Recommendations will be provided within the Roadmap report discussed above.

Fee Estimate

Task 1 – Water/Wastewater Master Plan Framework	$ 20,000
Task 2 – Detailed Population and Flow Projections	$ 8,000
Task 3 – County-Wide Water and Wastewater Mapping	$ 30,000
Task 4 – Review of Standard/Policies	$ 10,000
Total:	**$ 68,000**

ATTACHMENT "A"

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Navajo County

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Task 1 – Water/Wastewater Master Plan Framework	$ 20,000
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Task 3 – County-Wide Water and Wastewater Mapping	$ 30,000
Task 4 – Review of Standard/Policies	$ 10,000
Total:	**$ 68,000**

Board of Supervisors Regular **5. b.**

Meeting Date: 01/28/2025

Title: MDP-A 24-002 Rock Creek Development MDP-A, District III

Submitted By: Cody Cooper, Planning Manager

Department: Planning & Development Services

Presented By: Cody Cooper

Motion before the Board:

PUBLIC HEARING: Consideration and possible adoption of **Resolution Number 03-2025**, approving/denying a Master Development Plan Amendment for Phases II, III, and IV of White Mountain Lake Vistas, which allowed for a total of 216 single-family lots, to a new Master Development Plan which will allow for 24 single-family lots, 133 manufactured homes, 133 multi-family units, storage and parking facilities, existing golf course, and undisturbed/recreation area in the White Mountain Lakes area.

Background:

There is an existing, approved Master Development Plan for the subject site. This Master Development Plan was approved by the Board of Supervisors on December 20, 2004 and allowed for two-hundred sixteen (216) single-family lots in the three unfinished phases of a four-phased, three-hundred (300) unit, development. Phase I of this development was platted in 2005 and amended in 2006. This first phase consists of eighty-four (84) single-family lots. Phases II, III, and IV were never completed and are all contained within the boundary of the subject parcel, APN # 304-21-371Q. These phases are those being requested to be amended with this proposal.

This project is designed to contain the following components:

- A maximum of two-hundred ninety (290) residential units, designated as follows:
  - Twenty-four (24) single-family residential lots, on approximately 5.56-acres.
  - One-hundred thirty-three (133) manufactured home residential lots, on approximately 23.9-acres.
  - One-hundred thirty-three (133) multiple-family residential units on a total of approximately 7.38-acres.
- An existing golf course, owned and maintained by Juniper Ridge Resort (approximately 3.0-acres)
- An undisturbed creek bed area on the eastern boundary of the property, totaling approximately 16.0-acres.
- Storage and parking.
- One convenience store.
- Connection to an existing water system.
- Connection to an existing sewer system.

Recommendation:

Navajo County Planning & Development Services Staff and the Navajo County Planning and Zoning Commission recommend approval of the Master Development Plan Amendment, subject to the conditions listed in the Staff Report.

Attachments

Staff Report
Presentation
Reso. Approval
Reso. Denial
Application
Public Comments

Form Review

Inbox	Reviewed By	Date
Brandt Clark	Brandt Clark	01/21/2025 11:10 AM
Form Started By: Cody Cooper		Started On: 01/16/2025 01:08 PM
Final Approval Date: 01/21/2025		

PLANNING & DEVELOPMENT
SERVICES

STAFF REPORT

BOARD OF SUPERVISORS

Hearing Date: **January 28th, 2025**

Case No: **MDP-A 24-002**

Action: **Master Development Plan Amendment**

Applicant/Owner: **Virginia Senior/Allen Land Development, LLC**

Project Name: **ROCK CREEK DEVELOPMENT MDP-A**

EXECUTIVE SUMMARY:

Recommendation: Planning & Development Services Staff and the Navajo County Planning and Zoning Commission both recommend approval of the Master Development Plan Amendment, subject to the conditions of this Staff Report.

Location: The property is located in the White Mountain Lakes area, on APN # 304-21-371Q.

Size: Approx. 67.20-acres.

Supervisor District: III.

Zoning: SD.

Property Owners: Allen Land Development, LLC.

Applicant: Virginia Senior.

Representative: Bryant Aplass.

REQUEST DESCRIPTION:

Consideration of a request by Allen Land Development, LLC for a Master Development Plan Amendment for Phases II, III, and IV of White Mountain Lake Vistas, which allowed for a total of 216 single-family lots, to a new Master Development Plan which will allow for 24 single-family lots, 133 manufactured homes, 133 multi-family units, storage and parking facilities, golf course, and undisturbed/recreation area in the White Mountain Lakes area. **APN#:** 304-21-371Q, T11N, R22E, S15 of the GSRM. **Owner:** Allen Land Development, LLC. **Agent:** Virginia Senior.

GENERAL CHARACTER OF NEIGHBORHOOD:

To the north of this proposal are single-family residential subdivisions, known as White Mountain Lake Vistas Unit I and White Mountain Lakes Unit VIII. To the west of this property is a Park Model/RV subdivision known as Juniper Ridge Resort. To the east of this property is a single-family residential subdivision, known as White Mountain Lakes Unit III. To the south of the subject property is State Land.

BACKGROUND/HISTORY:

There is an existing, approved Master Development Plan for the subject site. This Master Development Plan was approved by the Board of Supervisors on December 20, 2004 and allowed for two-hundred sixteen (216) single-family lots in the three unfinished phases of a four-phased, three-hundred (300) unit, development. Phase I of this development was platted in 2005 and amended in 2006. This first phase consists of eighty-four (84) single-family lots. Phases II, III, and IV were never completed and are all contained within the boundary of the subject parcel, APN # 304-21-371Q. These phases are those being requested to be amended with this proposal.

PROJECT DESCRIPTION:

This project is designed to contain the following components:

- A maximum of two-hundred ninety (290) residential units, designated as follows:
  - Twenty-four (24) single-family residential lots, on approximately 5.56-acres.
  - One-hundred thirty-three (133) manufactured home residential lots, on approximately 23.9-acres.
  - One-hundred thirty-three (133) multiple-family residential units on a total of approximately 7.38-acres.
- An existing golf course, owned and maintained by Juniper Ridge Resort (approximately 3.0-acres)
- An undisturbed creek bed area on the eastern boundary of the property, totaling approximately 16.0-acres.
- Storage and parking.
- One convenience store.
- Connection to an existing water system.
- Connection to an existing sewer system.

ZONING DISTRICT:

ARTICLE 17 – (SD) – SPECIAL DEVELOPMENT ZONE

Section 1701 – Purpose

1. The purpose of the Special Development zone is to provide for the development of subdivisions and other land use projects containing various dwelling types, necessary commercial centers, off street parking areas, open space areas for recreation, and to preserve a rural atmosphere.

2. Deviations from design standards for the specific zone or zones may be permitted provided open spaces are developed and maintained for the use of the residents and provided further that the parcel size, soil conditions, terrain, ground cover and other significant natural features favor this type of development.

COMPREHENSIVE PLAN/AREA PLAN:

Comprehensive Plan

Land Use Element

***Goal 4:* Provide equal opportunity for safe, decent, sanitary, and affordable housing for all residents of the County and provide a range of residential uses that offer housing opportunities for all County residents.**

Policy 4-B: Promote greater flexibility and economy of land use, provide opportunities in the Zoning Ordinance for alternative housing types and patterns, planned developments, mixed uses, and other innovations that reduce development costs.

- The proposed amendments provide a wider variety of housing options than the originally approved Master Development Plan. Rather than being solely single-family site-built residential, this site would allow for single-family site-built, manufactured homes, and multi-family housing.

***Goal 5:* Improve the overall appearance of the County.**

Policy 5-A: Maintain natural scenic qualities of the County by identifying and protecting cultural resources, protecting wildlife habitat, natural plant communities, and riparian areas, and encouraging protection of scenic vistas.

- The applicants have indicated that they will leave approximately 16.0 acres of creek bed area undisturbed with their development.

***Goal 6:* Maintain compatible land use patterns while encouraging development.**

Policy 6-A: Encourage the use of, and provide incentives such as density bonuses for, implementation of community master plans.

- This development has a slightly higher density than those uses in the surrounding area but is utilizing a mixed-use community master plan.

Policy 6-B: Consider, if needed, providing for buffers between differing land uses including, but not limited to, setbacks, walls or fences, and landscaping.

- The applicant is leaving a natural buffer on the western portion of their development by leaving the creek bed area completely undeveloped.

Policy 6-C: Require paved or other appropriately surfaced access to commercial and industrial uses.

- The storage uses proposed for this master planned community have direct access to Silver Creek Drive.

Goal 7: **Facilitate commercial and industrial development, including business and technology uses, where appropriate, to increase employment opportunities.**

Policy 7-A: Encourage strategic placement of commercial development so as to attract and locate shopping and employment uses that have paved or other appropriately surfaced access and are easily accessible, particularly in or near established communities and cities, and in communities with air and/or rail access.

- There are storage facilities proposed within this Master Development Plan Amendment which are located directly off of Silver Creek Drive, a paved roadway within the unincorporated community of White Mountain Lakes.

Goal 8: **Reduce the danger from fire for all residents living in a wildland urban interface or near a National Forest boundary.**

Policy 8-C: Discourage high-density development in areas where fire protection and other emergency services are not readily available.

- This property is located within the Timber-Mesa Fire and Medical District. The applicant has received a Will-Serve letter from this District. There is a fire station for the District located within White Mountain Lakes.

Policy 8-D: Continue to require multiple access routes into new large subdivisions and other major developments for emergency purposes and to improve traffic circulation pursuant to the Subdivision Regulations & Requirements.

- This proposal indicates four potential points of access to the development.

Policy 8-E: Continue the review by the Fire Districts in the approval of subdivisions and

development projects within their respective jurisdictions.

- The Fire District under which their jurisdiction falls has reviewed the proposal and has provided feedback to the applicant and Staff, as well as a Will Serve letter.

***Goal 9:* Actively plan to accommodate growth in Navajo County in an appropriate manner.**

Policy 9-B: Encourage higher density and intensity development in those areas of the County where services, including water and sewer systems, paved rights-of-way, and schools, are available or can be created with new development.

- This community has water and sewer systems potentially available for developments. This proposal has received conditional will-serve letters for its water and sewer systems. There is also paved access to this development via Silver Creek Drive.

Policy 9-D: Encourage in-fill opportunities in the County to capitalize on existing infrastructure and reduce growth-related costs.

- The proposed development is surrounded by already-developed subdivisions and has potential connections to existing water and sewer infrastructure, as well as access to a paved, County-maintained roadway.

Circulation Element

***Goal 1:* Provide a range of circulation options that are safe and efficient and that complement local communities and the natural environment.**

Policy 1-B: Coordinate land use and circulation planning to encourage comprehensive and efficient development and growth patterns that support adjacent land uses, complement the character of adjacent communities and neighborhoods, and mitigate impacts on the natural environment.

- The development has attempted to closely mirror adjacent land uses and provide proposed connectivity with existing, unfinished roadways.

***Goal 4:* Provide for safe travel and access to property.**

Policy 4-B: Continue working with developers and property owners to achieve safe and legal access for all properties.

- This proposal has four potential access points indicated in plans. These access points will be confirmed and reviewed by both Engineering and Fire, if the project were to move forward to the subdivision process.

Analysis:

The proposed Master Development Plan Amendment meets all relevant goals and policies of the Navajo County Comprehensive Plan. The proposal provides a variety and flexibility of housing, commercial development sited directly off a paved thoroughfare, is in a community with fire and medical service, has multiple points of access proposed, connectivity proposed with existing and unfinished roadway, leaves an existing riparian area untouched, while providing a buffer with this untouched area, and looks to utilize existing water and sewer infrastructure.

When looking at the neighborhood surrounding this development, there are a variety of residential uses, all of which are closely related to this proposal. Juniper Ridge Resort is a Park Model/Recreational Vehicle subdivision and has five-hundred twenty-nine (529) lots on approximately 138.75 acres, with an approximate density of 3.81 dwelling units per acre (du/ac). White Mountain Lake Vistas Unit I is a single-family residential subdivision with eighty-four (84) lots on approximately 21.97 acres, with an approximate density of 3.82 dwelling units per acre (du/ac). White Mountain Lake Unit III is a single-family residential subdivision with three-hundred seventy-six (376) dwelling units on approximately 120.93 acres, with an approximate density of 3.11 dwelling units per acre (du/ac).

This proposal includes manufactured home lots adjacent to Juniper Ridge Resort, single-family residential adjacent to White Mountain Lake Vistas Unit I, and an undisturbed creek bed area adjacent to White Mountain Lake Unit III. There are also commercial uses adjoining Silver Creek Drive and multiple-family development within the interior of the property. This development includes up to a maximum of two-hundred ninety (290) dwelling units on approximately 67.20 acres, with an approximate density of 4.32 dwelling units per acre (du/ac).

Planning and Development Services Staff have received eleven (11) comments against this proposal as of January 16th, 2025. Comments against this project have primarily been focused on a lack of age restriction being addressed, manufactured homes being proposed, multiple-family apartments not being desirable/needed, not needing additional RV and vehicle storage, camping on-site, ability for existing roadways to handle traffic, impact on water and sewer infrastructure, density, impact on wildlife and environment, crime, and noise.

At the Thursday, December 19th, 2024 Navajo County Planning and Zoning Commission Hearing, this item was recommended for approval to the Navajo County Board of Supervisors.

FINDINGS OF FACT:

1. **The item has been properly noticed and posted in compliance with Arizona Revised Statutes and Article 29.**

   This item has been noticed and posted in compliance with Arizona Revised Statutes and Article 29 of the Navajo County Zoning Ordinance.

2. **The proposal is in compliance with the Comprehensive Plan.**

   The proposed amendments meet several applicable goals within Navajo County's Comprehensive Plan, as noted within this report.

3. **The proposed amendments are compatible with the permissible uses in the zoning district in which the property is located.**

   The proposed amendments are compatible with permissible uses within the Special Development zoning district, as proposed.

4. **The proposed amendments are compatible with the current and likely future uses of properties in the vicinity of the development.**

   The proposed amendments have been determined to be compatible with current and likely future uses, per the Navajo County Zoning Ordinance.

5. **The proposed amendments will have minimal adverse effects on the public health, safety, and general welfare of properties in the vicinity of the development.**

   Given the nature of the property and the zoning of the neighborhood, there should be minimal adverse effects on the public health, safety, and general welfare of properties in the vicinity of the development as it has been proposed to be amended.

PUBLIC WORKS AND OTHER COUNTY DEPARTMENTS' COMMENTS:

COUNTY ATTORNEY:
Initial: B.C. Date:

ENGINEERING AND TRAFFIC:
Initial: W.F. Date:

DRAINAGE & FLOOD CONTROL:
Initial: D.P. Date:

PLANNING AND DEVELOPMENT:
Initial: C.C. Date: 12/04/24

PLANNING & DEVELOPMENT SERVICES RECOMMENDATION:

The Navajo County Planning and Development Services Staff and the Navajo County Planning and Zoning Commission recommend approval of the Master Development Plan Amendment, subject to the following conditions:

1. All Federal, State, and Navajo County permits required for each lot must be obtained and adhered to.

2. This Master Development Site Plan shall allow for a maximum of two-hundred ninety (290) residential units. Of these two-hundred ninety (290) residential units, there shall be a maximum of twenty-four (24) single-family residential lots, one-hundred thirty-three (133) manufactured home residential lots, and one-hundred thirty-three (133) multiple-family residential units.

3. Any commercial development within this Master Development Plan Amendment shall require Site Plan Review approval from the Navajo County Planning and Zoning Commission, prior to development.

4. A Traffic Impact Analysis (TIA), Master Drainage Plan, Floodplain Study, Sanitary Sewer Collection System Design Report, and Water Distribution Design Report for the development, prepared by a Professional Engineer, licensed in the State of Arizona, shall be submitted to and approved by the County Engineer's office before the Tentative Plat and/or Site Plan Review is submitted to the Planning and Zoning Commission.

5. All required offsite improvements identified in the TIA, Master Drainage Plan, Floodplain Study, Sanitary Sewer Collection System Design Report, and Water Distribution Design Report shall be constructed or financially assured before the stage of development is constructed that requires the improvement.

6. Sufficient off-road drainage easements shall be made available to accommodate major drainage as required.

7. Drainage structures, including detention or retention ponds, shall be proposed with the Final Plat and/or Site Plan Review, as required.

8. All technical requirements of the Subdivision Regulations shall be met before approval of the Tentative Plat and/or Site Plan Review. Variances shall be requested in accordance with Section 4.12.

9. All technical requirements of the Subdivision Regulations and Requirements, Flood Control Ordinance, Building Safety Ordinance, and applicable codes shall be adhered to and approved at the proper Tentative Plat, Final, or Building Permit and construction phase (to include, without limitation, the Traffic Impact Analysis, Drainage Study, Floodplain Study, Construction Improvement Plans, and Grading Plans).

10. Approval of the Master Development Site Plan is conditioned upon the submittal for a request for either a Tentative Plat or for a Site Plan Review to the Planning and Zoning Commission, along with proof of compliance with the above conditions, within 24 months of the date of Board of Supervisors Resolution. If this condition is not met, approval shall be revoked, and the Master Development Site Plan shall become null and void. This condition shall be conclusively deemed to have been satisfied unless the Board of Supervisors causes a notice of revocation to be recorded in the Office of the Navajo County Recorder within 30 days after the expiration of the 24-month period (or any extension thereof).

NAVAJO COUNTY

BOARD OF SUPERVISORS

Public Meeting
1-28-2025 • 9:00 AM

BOARD OF SUPERVISORS AGENDA ITEM

MDP-A 24-002: ROCK CREEK DEVELOPMENT

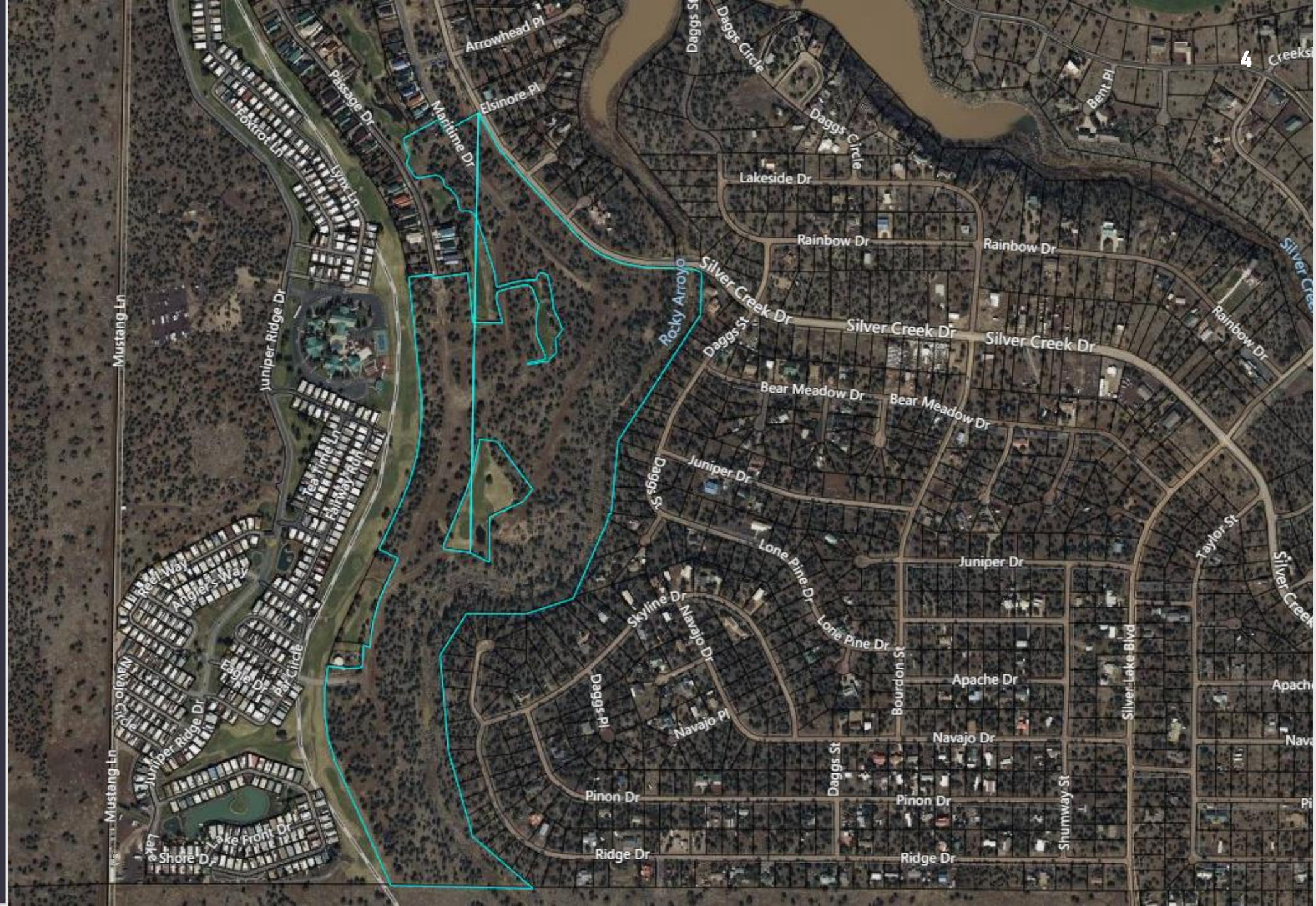
Consideration of a request by Allen Land Development, LLC for a Master Development Plan Amendment for Phases II, III, and IV of White Mountain Lake Vistas, which allowed for a total of 216 single-family lots, to a new Master Development Plan which will allow for 24 single-family lots, 133 manufactured homes, 133 multi-family units, storage and parking facilities, golf course, and undisturbed/recreation area in the White Mountain Lakes area. **APN #:** 304-21-371Q, T11N, R22E, S15 of the GSRM. **Owner:** Allen Land Development, LLC. **Agent:** Virginia Senior

VICINITY MAP



MDP-A 24-002

VICINITY MAP



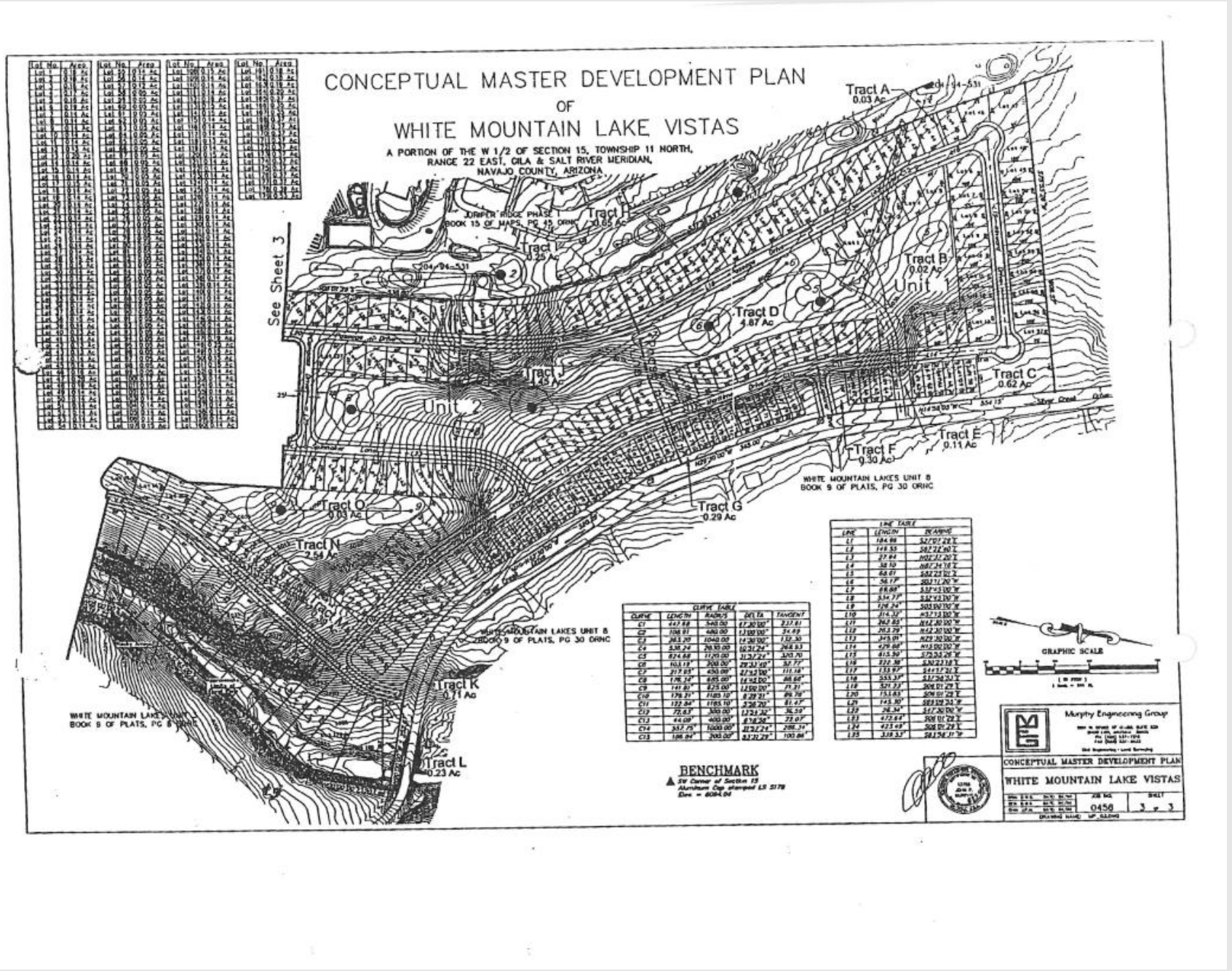
PROJECT SUMMARY

- **Area – APN # 304-21-371Q**
- **Parcel Size – Approximately 67.20 acres**
- **Zoning – Special Development**
- **Owner – Allen Land Development, LLC.**
- **Project Description**
  - **Existing Use: Approved for a Master Development Plan that was approved by the Board of Supervisors on December 20, 2004, and allowed for two-hundred sixteen (216) single-family lots in Phases II, III, and IV. The first phase consists of eighty-four (84) single-family lots. Phases II, III, and IV were never completed.**

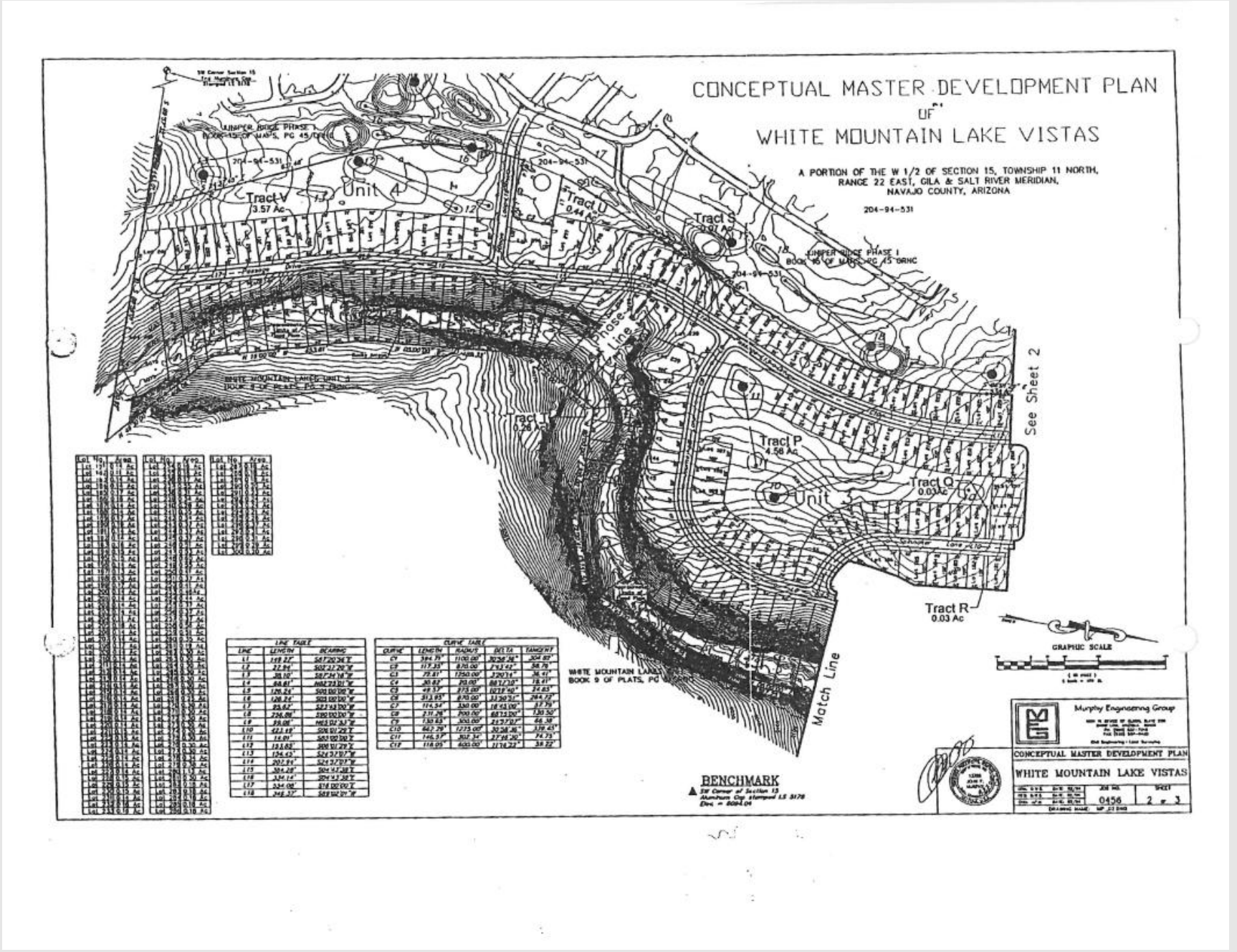
PROJECT SUMMARY

- **Project Description**
  - **Proposed Use: A maximum of two-hundred ninety (290) residential units, designated as follows:**
    - **Twenty-four (24) single-family residential lots, on approximately 5.56-acres.**
    - **One-hundred thirty-three (133) manufactured home residential lots, on approximately 23.9-acres.**
    - **One-hundred thirty-three (133) multiple-family residential units on a total of approximately 7.38-acres.**
  - **An existing golf course, owned and maintained by Juniper Ridge Resort (approximately 3.0-acres)**
  - **An undisturbed creek bed area on the eastern boundary of the property, totaling approximately 16.0-acres.**
  - **Storage and parking.**
  - **One convenience store.**

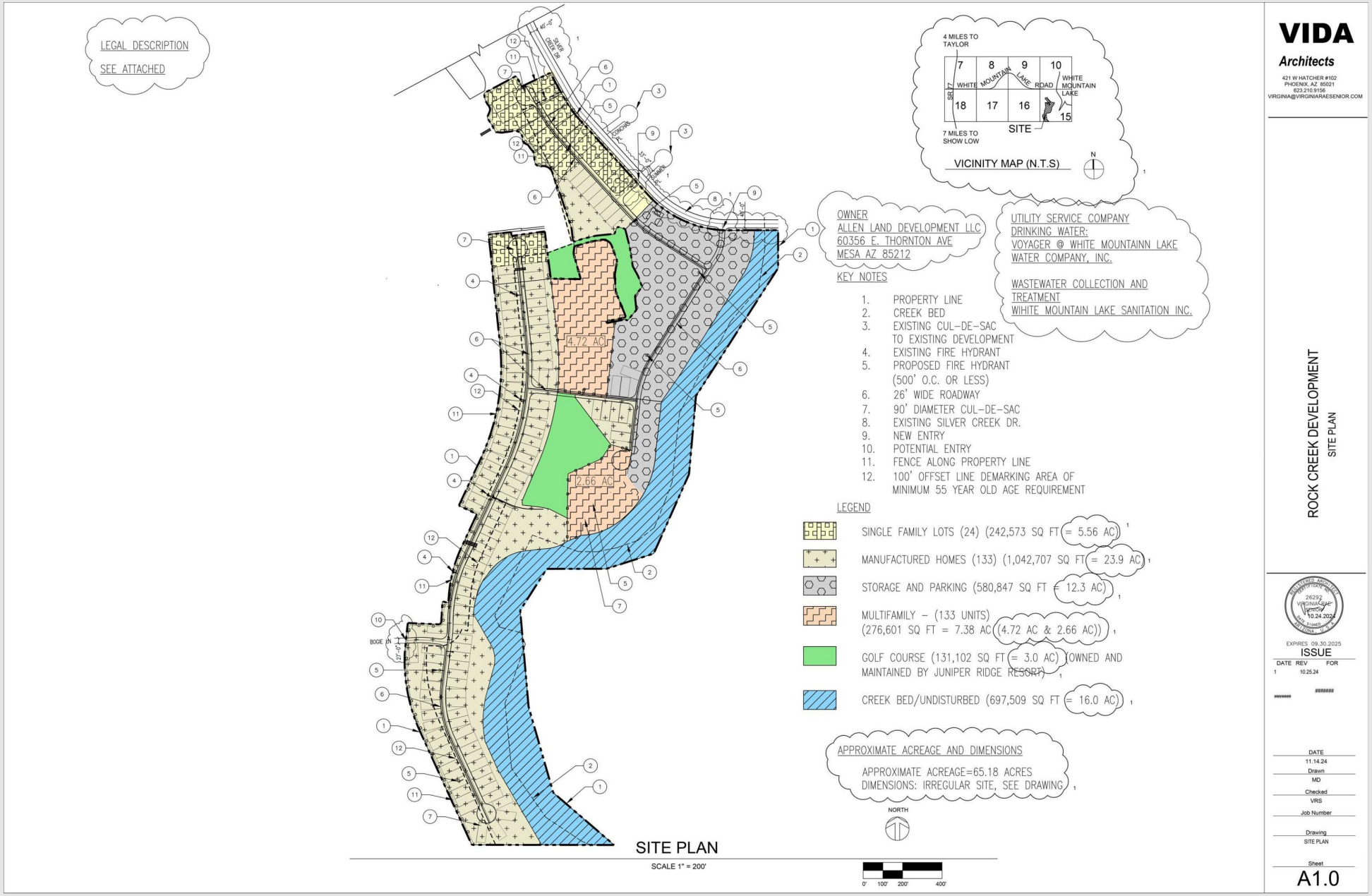
EXISTING MASTER DEVELOPMENT PLAN



EXISTING MASTER DEVELOPMENT PLAN



SITE PLAN


LEGAL DESCRIPTION
SEE ATTACHED
4 MILES TO TAYLOR
7 MILES TO SHOW LOW
SITE
VICINITY MAP (N.T.S)
OWNER
ALLEN LAND DEVELOPMENT LLC
60356 E. THORNTON AVE
MESA AZ 85212
UTILITY SERVICE COMPANY
DRINKING WATER:
VOYAGER @ WHITE MOUNTAINN LAKE WATER COMPANY, INC.
WASTEWATER COLLECTION AND TREATMENT
WIHITE MOUNTAIN LAKE SANITATION INC.
KEY NOTES
1. PROPERTY LINE
2. CREEK BED
3. EXISTING CUL-DE-SAC TO EXISTING DEVELOPMENT
4. EXISTING FIRE HYDRANT
5. PROPOSED FIRE HYDRANT (500' O.C. OR LESS)
6. 26' WIDE ROADWAY
7. 90' DIAMETER CUL-DE-SAC
8. EXISTING SILVER CREEK DR.
9. NEW ENTRY
10. POTENTIAL ENTRY
11. FENCE ALONG PROPERTY LINE
12. 100' OFFSET LINE DEMARKING AREA OF MINIMUM 55 YEAR OLD AGE REQUIREMENT
LEGEND
SINGLE FAMILY LOTS (24) (242,573 SQ FT = 5.56 AC)
MANUFACTURED HOMES (133) (1,042,707 SQ FT = 23.9 AC)
STORAGE AND PARKING (580,847 SQ FT = 12.3 AC)
MULTIFAMILY – (133 UNITS) (276,601 SQ FT = 7.38 AC (4.72 AC & 2.66 AC))
GOLF COURSE (131,102 SQ FT = 3.0 AC) (OWNED AND MAINTAINED BY JUNIPER RIDGE RESORT)
CREEK BED/UNDISTURBED (697,509 SQ FT = 16.0 AC)
APPROXIMATE ACREAGE AND DIMENSIONS
APPROXIMATE ACREAGE=65.18 ACRES
DIMENSIONS: IRREGULAR SITE, SEE DRAWING
NORTH
4.72 AC
2.66 AC
SITE PLAN
SCALE 1" = 200'
0' 100' 200' 400'
VIDA
Architects
421 W HATCHER #102
PHOENIX, AZ. 85021
623.210.9156
VIRGINIA@VIRGINIARAESENIOR.COM
ROCK CREEK DEVELOPMENT
SITE PLAN
EXPIRES 09.30.2025
ISSUE
DATE REV FOR
1 10.25.24
DATE
11.14.24
Drawn
MD
Checked
VRS
Job Number
Drawing
SITE PLAN
Sheet
A1.0

SITE PLAN



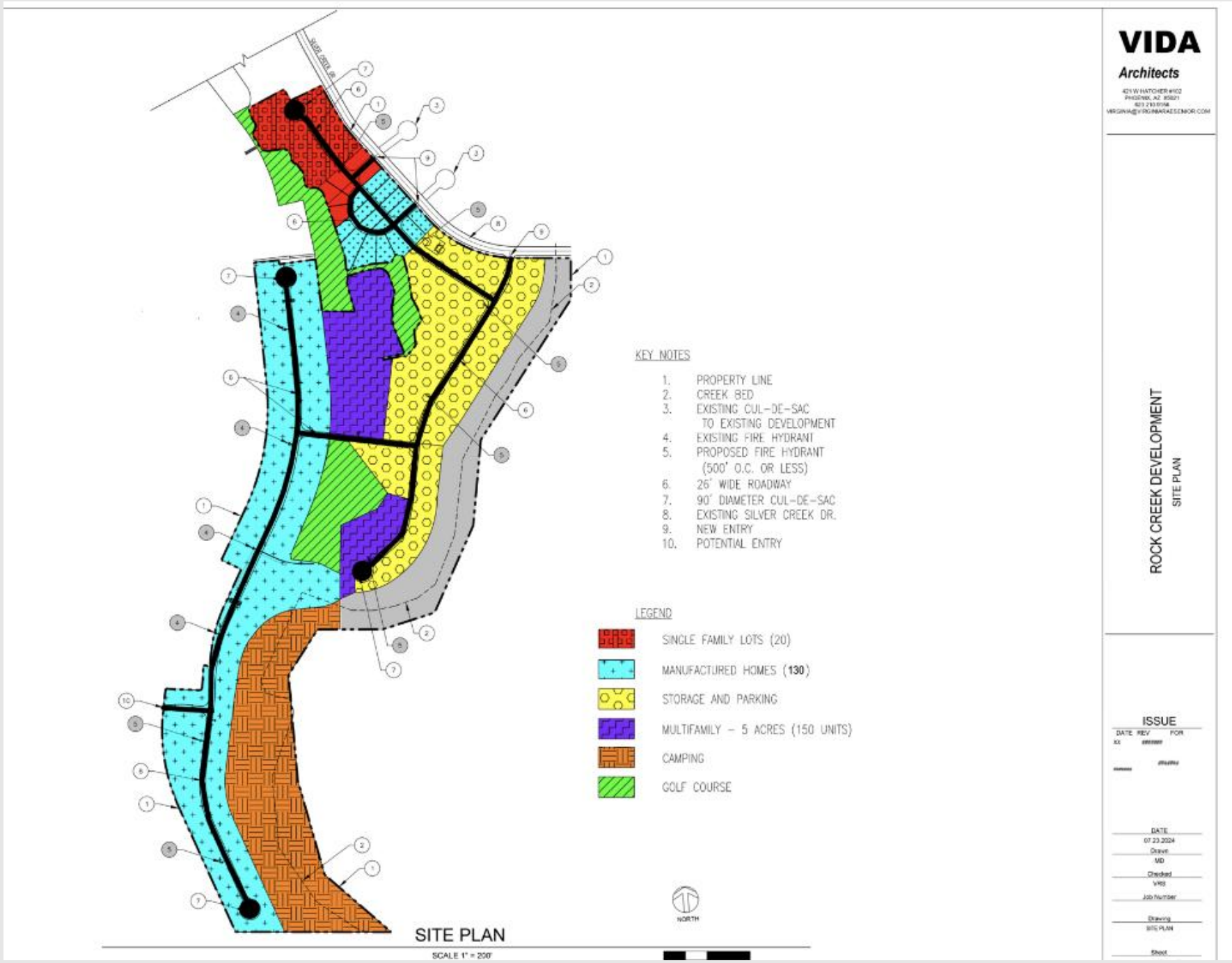
LEGEND

- SINGLE FAMILY LOTS (24) (242,573 SQ FT = 5.56 AC) 1
- MANUFACTURED HOMES (133) (1,042,707 SQ FT = 23.9 AC) 1
- STORAGE AND PARKING (580,847 SQ FT = 12.3 AC) 1
- MULTIFAMILY – (133 UNITS) (276,601 SQ FT = 7.38 AC ((4.72 AC & 2.66 AC)) 1
- GOLF COURSE (131,102 SQ FT = 3.0 AC) (OWNED AND MAINTAINED BY JUNIPER RIDGE RESORT) 1
- CREEK BED/UNDISTURBED (697,509 SQ FT = 16.0 AC) 1

DENSITY

- **Existing Master Development Plan – 3.21 dwelling units/acre**
- **Proposed Amendment – 4.32 dwelling units/acre**
- **Adjoining Subdivisions**
  - **Juniper Ridge Resort – 3.81 dwelling units/acre**
  - **White Mountain Lake Vistas Unit 1 – 3.82 dwelling units/acre**
  - **White Mountain Lake Unit III – 3.11 dwelling units/acre**

COMMUNITY MEETING



RECOMMENDATION

Navajo County Planning and Development Services Staff recommend approval of the Master Development Plan Amendment for Rock Creek Development, subject to 10 conditions:

1. All Federal, State, and Navajo County permits required for each lot must be obtained and adhered to.

2. This Master Development Site Plan shall allow for a maximum of two-hundred ninety (290) residential units. Of these two-hundred ninety (290) residential units, there shall be a maximum of twenty-four (24) single-family residential lots, one-hundred thirty-three (133) manufactured home residential lots, and one-hundred thirty-three (133) multiple-family residential units.

3. Any commercial development within this Master Development Plan Amendment shall require Site Plan Review approval from the Navajo County Planning and Zoning Commission, prior to development.

4. A Traffic Impact Analysis (TIA), Master Drainage Plan, Floodplain Study, Sanitary Sewer Collection System Design Report, and Water Distribution Design Report for the development, prepared by a Professional Engineer, licensed in the State of Arizona, shall be submitted to and approved by the County Engineer's office before the Tentative Plat and/or Site Plan Review is submitted to the Planning and Zoning Commission.

5. All required offsite improvements identified in the TIA, Master Drainage Plan, Floodplain Study, Sanitary Sewer Collection System Design Report, and Water Distribution Design Report shall be constructed or financially assured before the stage of development is constructed that requires the improvement.

6. Sufficient off-road drainage easements shall be made available to accommodate major drainage as required.

7. Drainage structures, including detention or retention ponds, shall be proposed with the Final Plat and/or Site Plan Review, as required.

8. All technical requirements of the Subdivision Regulations shall be met before approval of the Tentative Plat and/or Site Plan Review. Variances shall be requested in accordance with Section 4.12.

9. All technical requirements of the Subdivision Regulations and Requirements, Flood Control Ordinance, Building Safety Ordinance, and applicable codes shall be adhered to and approved at the proper Tentative Plat, Final, or Building Permit and construction phase (to include, without limitation, the Traffic Impact Analysis, Drainage Study, Floodplain Study, Construction Improvement Plans, and Grading Plans).

RESOLUTION ____-25

A RESOLUTION OF THE NAVAJO COUNTY BOARD OF SUPERVISORS APPROVING A MASTER DEVELOPMENT PLAN AMENDMENT FOR ROCK CREEK DEVELOPMENT

WHEREAS, an application for a Master Development Plan Amendment was duly filed on August 2nd, 2024 by Virginia Senior to allow for 24 single-family lots, 133 manufactured homes, 133 multi-family units, storage and parking facilities, golf course, and undisturbed/recreation area in the White Mountain Lakes area; and

WHEREAS, the application concerns the following real property in Navajo County: APN # 304-21-371Q, Township 11 North, Range 22 East, Section 15 of the Gila and Salt River Meridian; and

WHEREAS, the application was considered by the Navajo County Planning & Zoning Commission at a duly noticed public hearing on December 19th, 2024; and

WHEREAS, the Navajo County Board of Supervisors after considering the testimony and other evidence presented at the hearing, as well as the recommendations of Staff, found that the Master Development Plan Amendment is consistent with the public health, safety and general welfare and should be approved subject to the conditions set forth herein; and

NOW, THEREFORE BE IT RESOLVED the Board of Supervisors hereby approves the Master Development Plan Amendment, subject to the following conditions:

1. All Federal, State, and Navajo County permits required for each lot must be obtained and adhered to.

2. This Master Development Site Plan shall allow for a maximum of two-hundred ninety (290) residential units. Of these two-hundred ninety (290) residential units, there shall be a maximum of twenty-four (24) single-family residential lots, one-hundred thirty-three (133) manufactured home residential lots, and one-hundred thirty-three (133) multiple-family residential units.

3. Any commercial development within this Master Development Plan Amendment shall require Site Plan Review approval from the Navajo County Planning and Zoning Commission, prior to development.

4. A Traffic Impact Analysis (TIA), Master Drainage Plan, Floodplain Study, Sanitary Sewer Collection System Design Report, and Water Distribution Design Report for the development, prepared by a Professional Engineer, licensed in the State of Arizona, shall be submitted to and approved by the County Engineer's office before the Tentative Plat and/or Site Plan Review is submitted to the Planning and Zoning Commission.

5. All required offsite improvements identified in the TIA, Master Drainage Plan, Floodplain Study, Sanitary Sewer Collection System Design Report, and Water Distribution Design Report shall be constructed or financially assured before the stage of development is constructed that requires the improvement.

6. Sufficient off-road drainage easements shall be made available to accommodate major drainage as required.

7. Drainage structures, including detention or retention ponds, shall be proposed with the Final Plat and/or Site Plan Review, as required.

8. All technical requirements of the Subdivision Regulations shall be met before approval of the Tentative Plat and/or Site Plan Review. Variances shall be requested in accordance with Section 4.12.

9. All technical requirements of the Subdivision Regulations and Requirements, Flood Control Ordinance, Building Safety Ordinance, and applicable codes shall be adhered to and approved at the proper Tentative Plat, Final, or Building Permit and construction phase (to include, without limitation, the Traffic Impact Analysis, Drainage Study, Floodplain Study, Construction Improvement Plans, and Grading Plans).

10. Approval of the Master Development Site Plan is conditioned upon the submittal for a request for either a Tentative Plat or for a Site Plan Review to the Planning and Zoning Commission, along with proof of compliance with the above conditions, within 24 months of the date of Board of Supervisors Resolution. If this condition is not met, approval shall be revoked, and the Master Development Site Plan shall become null and void. This condition shall be conclusively deemed to have been satisfied unless the Board of Supervisors causes a notice of revocation to be recorded in the Office of the Navajo County Recorder within 30 days after the expiration of the 24-month period (or any extension thereof).

PASSED AND ADOPTED by the Navajo County Board of Supervisors by a vote of _____ yeas and _____ nays on this 28th day of January 2025.

NAVAJO COUNTY BOARD OF SUPERVISORS

By: _____
Jason Whiting, Chair of the Board

ATTEST:

_____
Melissa W. Buckley, Clerk of the Board

RESOLUTION ____-25

A RESOLUTION OF THE NAVAJO COUNTY BOARD OF SUPERVISORS DENYING A MASTER DEVELOPMENT PLAN AMENDMENT FOR ROCK CREEK DEVELOPMENT

WHEREAS, an application for a Master Development Plan Amendment was duly filed on August 2nd, 2024 by Virginia Senior to allow for 24 single-family lots, 133 manufactured homes, 133 multi-family units, storage and parking facilities, golf course, and undisturbed/recreation area in the White Mountain Lakes area; and

WHEREAS, the application concerns the following real property in Navajo County: APN # 304-21-371Q, Township 11 North, Range 22 East, Section 15 of the Gila and Salt River Meridian; and

WHEREAS, the application was considered by the Navajo County Planning & Zoning Commission at a duly noticed public hearing on December 19th, 2024; and

WHEREAS, the Navajo County Board of Supervisors after considering the testimony and other evidence presented at the hearing, as well as the recommendations of Staff, found that the Master Development Plan Amendment is not consistent with the public health, safety and general welfare and should be denied; and

NOW, THEREFORE BE IT RESOLVED the Board of Supervisors hereby deny the Master Development Plan Amendment.

DENIED by the Navajo County Board of Supervisors by a vote of _____ yeas and _____ nays on this 28th day of January 2025.

NAVAJO COUNTY BOARD OF SUPERVISORS

By: _____
Jason Whiting, 8Chair of the Board

ATTEST:

_____
Melissa W. Buckley, Clerk of the Board

INTRODUCTION

The Rock Creek development, located in the White Mountain Lakes Estate area of Navajo County, Arizona, is nestled in the scenic White Mountains. Known for its forested landscapes, cool climate, and abundant outdoor recreational opportunities, the area is about 10 miles (16 kilometers) north of Show Low and accessible via Arizona State Route 77 (AZ-77). Surrounded by natural attractions such as White Mountain Lake and the Apache-Sitgreaves National Forest, this location is ideal for outdoor enthusiasts and nature lovers.

The project, which encompasses parcel **304-21-371Q**, aims to elevate property values by transforming underutilized land. It will feature the construction of quality, attainable, and aesthetically pleasing manufactured homes, rentals, self-storage facilities, a convenience style store, RV and camping areas, as well as storage for RVs and boats—all within a Special Development Zone. The new homes are designed to enhance the neighborhood's aesthetic and potentially increase property values. Additionally, the development will offer amenities such as camping areas, short-term rentals with creek views, and walking trails, catering to community interests.

The developers are exploring eco-friendly practices, including planting numerous trees to promote a greener community. Throughout the development process, updates and information will be shared via the project's website, social media channels, and email communications, ensuring that the community remains informed and engaged.

TENTATIVE PLAT

The Tentative Plat outlines the subdivision of the property into various components, including:

- **Up to 24 single-family lots** (yellow).
- **Up to 133 multifamily units** situated over 5 acres (orange)
- **Up to 133 manufactured homes** (green)
- **1 convenience-style store** near the storage and parking areas (gray)
- **Self-storage units and parking**, including RV and boat storage (gray)

The property is zoned as a Special Development Zone, accommodating diverse dwelling types, parking areas, recreational open spaces, and other community facilities while preserving a rural atmosphere.

The development will comprise 290 units, spanning a total project site area of 67.2 acres.

SETBACKS

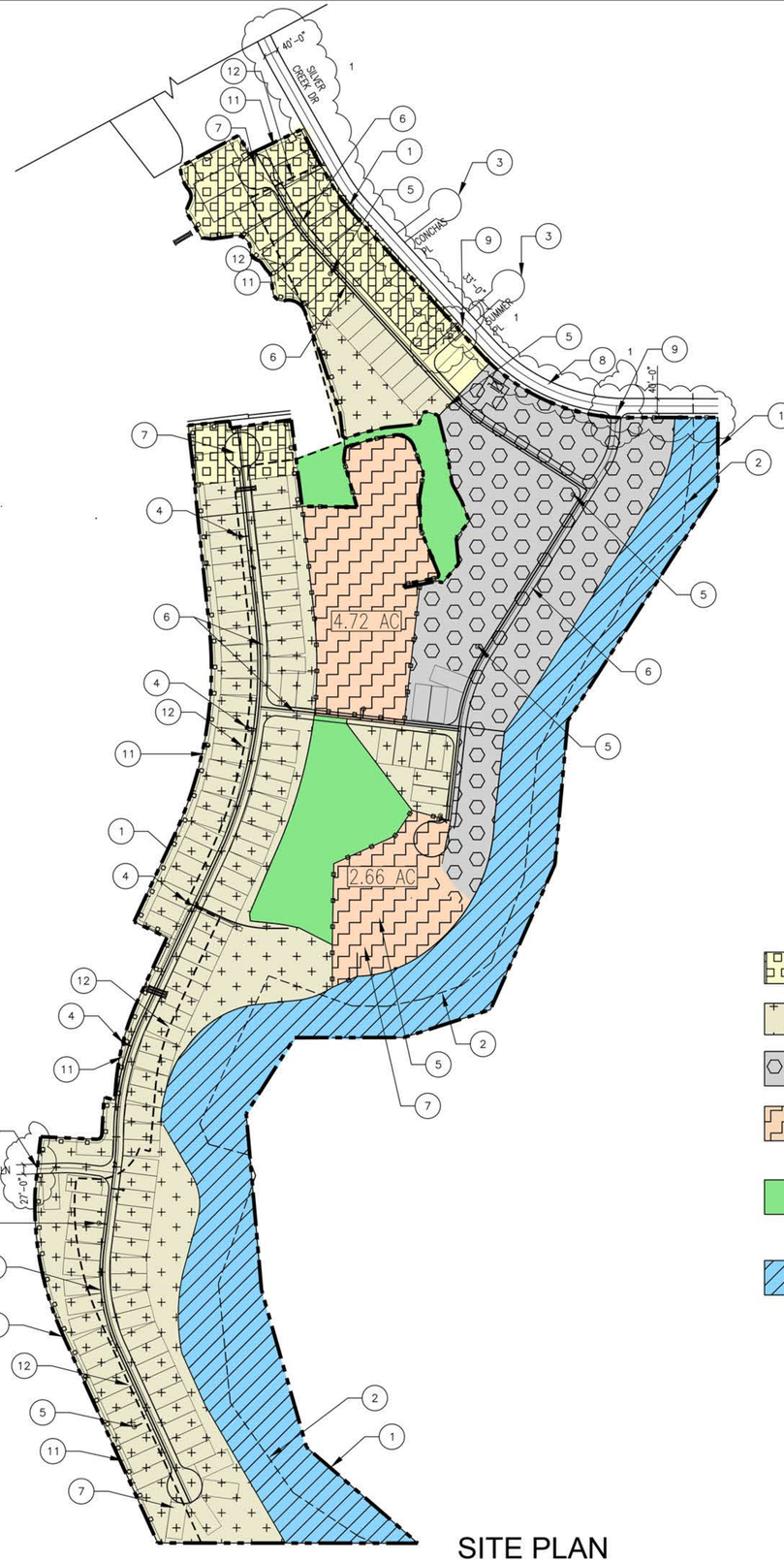
Setbacks will be defined as part of the Master Development Plan. Each lot will feature on lot parking, with additional garage spaces available, eliminating the need for on street parking. The lots are designed with ample depth to accommodate sufficient parking within each lot.

CONCLUSION

The Rock Creek development represents a thoughtfully planned project that seeks to enhance the White Mountain Lakes Vista neighborhood by providing quality housing, recreational opportunities, and essential amenities. With a focus on improving property values, promoting eco-friendly practices, and fostering community engagement, Rock Creek aims to create a harmonious and vibrant living environment. As the project progresses, continuous updates and open communication will ensure that the community remains informed and involved in shaping its future. Through careful planning and a commitment to excellence, Rock Creek is poised to become a cornerstone of the area's growth and development.

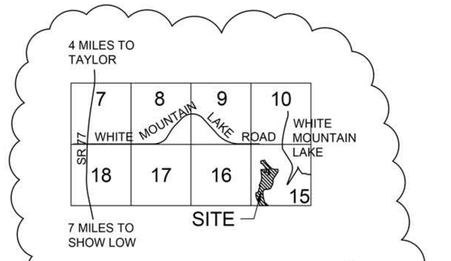
LEGAL DESCRIPTION

SEE ATTACHED



SITE PLAN

SCALE 1" = 200'



VICINITY MAP (N.T.S)

OWNER
ALLEN LAND DEVELOPMENT LLC
60356 E. THORNTON AVE
MESA AZ 85212

UTILITY SERVICE COMPANY
DRINKING WATER:
VOYAGER @ WHITE MOUNTAINN LAKE WATER COMPANY, INC.

WASTEWATER COLLECTION AND TREATMENT
WIHITE MOUNTAIN LAKE SANITATION INC.

KEY NOTES

1. PROPERTY LINE
2. CREEK BED
3. EXISTING CUL-DE-SAC TO EXISTING DEVELOPMENT
4. EXISTING FIRE HYDRANT
5. PROPOSED FIRE HYDRANT (500' O.C. OR LESS)
6. 26' WIDE ROADWAY
7. 90' DIAMETER CUL-DE-SAC
8. EXISTING SILVER CREEK DR.
9. NEW ENTRY
10. POTENTIAL ENTRY
11. FENCE ALONG PROPERTY LINE
12. 100' OFFSET LINE DEMARKING AREA OF MINIMUM 55 YEAR OLD AGE REQUIREMENT

LEGEND

- SINGLE FAMILY LOTS (24) (242,573 SQ FT = 5.56 AC)
- MANUFACTURED HOMES (133) (1,042,707 SQ FT = 23.9 AC)
- STORAGE AND PARKING (580,847 SQ FT = 12.3 AC)
- MULTIFAMILY – (133 UNITS) (276,601 SQ FT = 7.38 AC (4.72 AC & 2.66 AC))
- GOLF COURSE (131,102 SQ FT = 3.0 AC) (OWNED AND MAINTAINED BY JUNIPER RIDGE RESORT)
- CREEK BED/UNDISTURBED (697,509 SQ FT = 16.0 AC)

APPROXIMATE ACREAGE AND DIMENSIONS

APPROXIMATE ACREAGE=65.18 ACRES
DIMENSIONS: IRREGULAR SITE, SEE DRAWING

NORTH

0' 100' 200' 400'

VIDA
Architects
421 W HATCHER #102
PHOENIX, AZ 85021
623.210.9156
VIRGINIA@VIRGINIARAESENIOR.COM

ROCK CREEK DEVELOPMENT
SITE PLAN

REGISTERED ARCHITECT
CERTIFICATE NO.
26292
VIRGINIA RAE SENIOR
10.24.2024
DATE SIGNED
ARIZONA U.S.A.

EXPIRES 09.30.2025

ISSUE

DATE	REV	FOR
1	10.25.24	
#######		#######

DATE
11.14.24
Drawn
MD
Checked
VRS
Job Number

Drawing
SITE PLAN

Sheet
A1.0

File Number: 76513277-065-SBM

EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF NAVAJO, STATE OF ARIZONA, AND IS DESCRIBED AS FOLLOWS:

That part of Section 15 Township 11 North, Range 22 East, of the Gila and salt River Base and Meridian, Navajo County, Arizona Described as follows:

Commencing at the Southwest corner of Section 15;

Thence along the South line of said Section 15, South 89 degrees 59 minutes 01 seconds East, 1443.18 feet to the True Point of Beginning;

Thence continuing along said Southerly line South 89 degrees 59 minutes 01 seconds East, 720.93 feet to the Southwest corner of White Mountain Lakes Unit No. 3, recorded in Book 9 of Maps, Page 5, records of Navajo County, Arizona;

Thence along the Westerly line of said White Mountain Lakes Unit No. 3, the following 10 courses;

Thence North 49 degrees 30 minutes 00 seconds West, 408.06 feet;

Thence North 16 degrees 00 minutes 00 seconds West, 453.81 feet;

Thence North 05 degrees 00 minutes 00 seconds West, 489.33 feet;

Thence North 32 degrees 30 minutes 00 seconds East, 250.00 feet;

Thence East, 305.00 feet;

Thence North 72 degrees 00 minutes 41 seconds East, 251.50 feet;

Thence North 23 degrees 45 minutes 00 seconds East, 440.25 feet;

Thence North 05 degrees 00 minutes 00 seconds East, 397.25 feet;

Thence North 32 degrees 45 minutes 00 seconds East, 770.53 feet;

Thence North 203.96 feet to a point on the Southerly right of way line of Silver Creek Drive as shown on Plat of White Mountain Lakes No. 8, recorded in Book 9 of Maps, Page 30, records of Navajo County, Arizona;

Thence leaving said Westerly line and along said Southerly line the following 6 courses;

Thence West, 252.67 feet to the beginning of a tangent curve concave Northeasterly and having a radius of 540.00 feet;

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EXHIBIT A

LEGAL DESCRIPTION
(Continued)

Thence Northwesterly along said curve through a central angle of 47 degrees 30 minutes 00 seconds, am arc length of 447.68 feet;

Thence tangent to said curve North 42 degrees 30 minutes 00 seconds West, 520.29 feet to the beginning of a tangent curve, concave Northeasterly and having a radius of 480.00 feet;

Thence Northwesterly along last said curve through a central angle of 13 degrees 00 minutes 00 seconds, an arc length of 108.91 feet;

Thence tangent to last said curve North 29 degrees 30 minutes 00 seconds West, 245.00 feet to the beginning of a tangent curve, concave Northeasterly and having a radius of 1040.00 feet;

Thence Northwesterly along last said curve through a central angle of 14 degrees 30 minutes 00 seconds, an arc length of 263.20 feet;

Thence North 15 degrees West, 314.88 feet;

Thence leaving said Southerly line South 75 degrees 00 minutes 00 seconds West, 853.82 feet to a point on the Easterly line of Juniper Ridge Phase 1, a 529 Recreational Vehicle Resort, according to the plat recorded in Book 15 of Maps, Page 45, records of said County, said point being also the beginning of a non-tangent curve, concave Northeasterly and having a radius of 2830.00 feet, a radial at said point bears North 61 degrees 21 minutes 25 seconds East;

Thence along said Easterly line the following courses:

Southeasterly along last said curve through a central angle of 09 degrees 20 minutes 18 seconds, an arc length of 461.25 feet;

Thence tangent to last said curve South 37 degrees 58 minutes 53 seconds East, 471.11 feet to the beginning of a tangent curve, concave Northeasterly and a having a radius of 1120.00 feet;

Thence Southeasterly along last said curve through a central angle of 31 degrees 57 minutes 24 seconds, an arc length of 624.48 feet;

Thence tangent to last said curve South 06 degrees 01 minutes 29 seconds East, 538.60 feet to the beginning to a tangent curve, concave Westerly and having a radius of 1100.00 feet;

Thence Southerly along last said curve through a central angle of 30 degrees 58 minutes 36 seconds, an arc length of 596.71 feet;

Thence tangent to last said curve South 24 degrees 57 minutes 07 seconds West, 720.55 feet to the beginning of a tangent curve, concave Easterly and having a radius of 870.00 feet;

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EXHIBIT A

LEGAL DESCRIPTION
(Continued)

Thence Southerly along last said curve through a central angle of 49 degrees 34 minutes 53 seconds, an arc length of 752.86 feet;

Thence South 24 degrees 37 minutes 46 seconds East, 631.48 feet to the True Point of Beginning; and

Except that part of the Southwest quarter of Section 15, Township 11 North, Range 22 East, of the Gila and Salt River Base and Meridian, Navajo County, Arizona, described as follows:

Beginning at the Southwest corner of said Section 15 and the Southwest corner of Juniper Ridge Subdivision as recorded in Book 15 of Maps, Page 45 of the Plats of Navajo County, said corner being marked by a 5/8 inch rebar and aluminum cap;

Thence South 89 degrees 59 minutes 01 seconds East along the South line of said Section 15 and subdivision, a distance of 1443.09 feet;

Thence North 24 degrees 36 minutes 02 seconds West along said subdivision boundary, a distance of 631.48 feet to a point of tangency of a curve, said curve being concave to the East and having a radius of 870.00 feet;

Thence Northeasterly and to the right along said curve and subdivision boundary through a central angle of 33 degrees 50 minutes 51 seconds, an arc distance of 513.95 feet to the True Point of Beginning;

Thence South 82 degrees 25 minutes 01 seconds East, a distance of 68.61 feet to a point of tangency of a curve, said curve being concave to the North and having a radius of 275.00 feet;

Thence Northeasterly and to the left through a central angle of 10 degrees 19 minutes 40 seconds, an arc length 0f 49.57 feet;

Thence North 87 degrees 34 minutes 16 seconds East, a distance of 38.10 feet to a point of tangency, a curve, said curve being concave to the Northwest and having a radius of 20.00 feet;

Thence Northeasterly and to the left along said curve a central angle of 88 degrees 17 minutes 10 seconds, an arc length of 30.82 feet to a point of reverse curvature;

Thence Northeasterly and to the right along said curve whose radius is 1250.00 feet through a central angle of 03 degrees 20 minutes 14 seconds, an arc distance of 72.81 feet;

Thence North 02 degrees 37 minutes 20 seconds East, a distance of 27.94 feet;

Thence North 87 degrees 22 minutes 40 seconds West, a distance of 149.49 feet to the boundary line of said Juniper Ridge Subdivision and a point on a curve, said curve being concave to the Southeast and having a radius of 870.00 feet;

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EXHIBIT A

LEGAL DESCRIPTION
(Continued)

Thence Southerly and to the left along said subdivision boundary and curve, through a central angle of 08 degrees 00 minutes 20 seconds, an arc length of 121.56 feet to the True Point of Beginning.

And Except that subdivision known as White Mountain Lake Vistas, Unit 1, according to the plat of record in the Office of the County Recorder of Navajo County, Arizona, recorded in Book 25 of Surveys, Page 24;

And Except the following described property:

Commencing at the Southwest corner of Lot 29, as shown on the final plat for White Mountain Lake Vistas, Unit 1 subdivision, as shown in the Navajo County Records recorded in Book 25 of Surveys, Page 24, and being situated within Section 25, Township 11 North, Range 22 East, Gila and Salt River Base and Meridian, White Mountain Lake area, Navajo County, Arizona, which said point being on a curve, concave to the West and having a radius of 550.00 feet, said being the True Point of Beginning for this description;

Thence Southerly and to the right along said curve, through a central angle of 0 degrees 58 minutes 31 seconds, an arc length of 9.36 feet (chrd. brg. = South 09 degrees 28 minutes 18 seconds East, chrd. dist. = 9.36 feet) to a point;

Thence North 83 degrees 58 minutes 31 seconds East, a distance of 116.13 feet to a point on a curve, which said curve being concave to the West and having a radius of 666.00 feet;

Thence Northwesterly and to the left along said curve, through a central angle of 0 degrees 48 minutes 17 seconds, an arc length of 9.36 feet (chrd. brg. = North 08 degrees 52 minutes 15 seconds West, chrd. Dist. = 9.36 feet) to the Southeast corner of said Lot 29;

Thence South 83 degrees 58 minutes 31 seconds West, a distance of 116.23 feet along the Southerly boundary of Lot 29 to the True Point of Beginning;

And also Except the following described Parcel (Holes 9, 10, 11);

A Parcel located in the portion of the West half of Section 15, Township 11 North, Range 22 East, of the Gila and Salt River Base and Meridian, Navajo County, Arizona, more particularly described as follows:

Commencing at the Southwest corner of Section 15, Township 11 North, Range 22 East, of the Gila and Salt River Base and Meridian;

Thence North 26 degrees 16 minutes 29 seconds East, a distance of 3443.32 feet to a point;

Thence North 84 degrees 00 minutes 33 seconds East, a distance of 281.04 feet, to a point of non-tangency curvature, said point also being the True Point of Beginning;

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EXHIBIT A

LEGAL DESCRIPTION
(Continued)

Thence along a curve, with a radial bearing of South 80 degrees 43 minutes 03 seconds West, a central angle of 03 degrees 57 minutes 53 seconds, a radius of 666.00 feet, an arc distance of 45.71 feet, to a point of tangency;

Thence North 12 degrees 24 minutes 05 seconds West, a distance of 217.90 feet to a point;

Thence South 77 degrees 16 minutes 00 seconds West, a distance of 116.00 feet, to a point;

Thence North 12 degrees 24 minutes 09 seconds West, a distance of 31.47 feet, to a point of curvature;

Thence along a curve concave to the West, with a central angle of 19 degrees 15 minutes 12 seconds, a radius of 900.00 feet, an arc distance of 311.85 feet, to a point of compound curvature;

Thence continue along a curve to the West, with a central angle of 05 degrees 43 minutes 39 seconds, an arc distance of 89.87 feet, to a point of tangency;

Thence North 37 degrees 58 minutes 56 seconds West, a distance of 39.93 feet to a point;

Thence North 60 degrees 29 minutes 57 seconds East, a distance of 85.05 feet to a point of non-tangency;

Thence along a curve concave to the East with a central angle of 44 degrees 33 minutes 08 seconds, a radius of 99.00 feet, an arc distance of 76.98 feet to a point of reverse curvature;

Thence along a curve concave to the West, with a central angle of 57 degrees 46 minutes 34 seconds, a radius of 30.00 feet, an arc distance of 30.25 feet to a point of tangency;

Thence South 22 degrees 11 minutes 03 seconds West, a distance of 27.88 feet to a point of curvature;

Thence along a curve concave to the East with a central angle of 53 degrees 35 minutes 40 seconds, a radius of 11.80 feet, an arc distance of 11.24 feet to a point of compound curvature;

Thence along a curve concave to the West with a central angle of 05 degrees 00 minutes 39 seconds, a radius of 912.00 feet, an arc distance of 79.76 feet to a point of reverse curvature;

Thence along a curve concave to the Northeast with a central angle of 54 degrees 54 minutes 41 seconds, a radius of 5.00 feet, an arc distance of 4.79 feet to a point of tangency;

Thence South 82 degrees 18 minutes 39 seconds East, a distance of 25.04 feet to a point;

Thence North 90 degrees 00 minutes 00 seconds East, a distance of 37.63 feet to a point

Thence North 82 degrees 09 minutes 33 seconds East, a distance of 53.29 feet to a point of curvature;

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EXHIBIT A

LEGAL DESCRIPTION
(Continued)

Thence along a curve concave to the West with a central angle of 119 degrees 42 minutes 58 seconds, a radius of 33.00 feet, an arc distance of 68.95 feet to a point of revers curvature;

Thence along a curve concave to the East with a central angle of 62 degrees 15 minutes 53 seconds, a radius of 33.00 feet, an arc distance of 35.86 feet to a point of tangency;

Thence along a curve concave to the East with a central angle of 62 degrees 15 minutes 53 seconds, a radius of 33.00 feet, an arc distance of 35.86 feet to a point of tangency;

Thence South 40 degrees 23 minutes 23 seconds East, a distance of 31.89 feet to a point of curvature;

Thence along a curve concave to the East with a central angle of 32 degrees 15 minutes 09 seconds, a radius of 33.00 feet, an arc distance of 18.58 feet to a point tangency;

Thence South 08 degrees 08 minutes 14 seconds East, a distance of 45.41 feet to a point of curvature;

Thence along a curve concave to the Northeast with a central angle of 92 degrees 41 minutes 05 seconds, a radius 27.00 feet, an arc distance of 43.68 feet to a point of reverse curvature;

Thence along a curve concave to the Southwest with a central angle of 80 degrees 22 minutes 21 seconds, a radius of 50.00 feet, an arc distance of 70.14 feet to a point of tangency;

Thence South 20 degrees 26 minutes 58 seconds East a distance of 108.95 feet to a point;

Thence South 18 degrees 27 minutes 01 seconds East, a distance of 178.82 feet to a point;

Thence South 06 degrees 27 minutes 52 seconds East, a distance of 55.21 feet to a point of curvature;

Thence along a curve concave to the Northeast with a central angle of 101 degrees 43 minutes 07 seconds, a radius of 10.00 feet, an arc distance of 17.75 feet to a point of tangency;

Thence North 71 degrees 49 minutes 01 seconds East, a distance of 38.50 feet to a point;

Thence North 76 degrees 50 minutes 50 seconds East, a distance of 68.81 feet to a point;

Thence North 84 degrees 15 minutes 17 seconds East, a distance of 77.15 feet to a point of curvature;

Thence along a curve concave to the North with a central angle of 82 degrees 06 minutes 26 seconds, a radius of 13.00 feet, an arc distance of 18.63feet to a point of tangency;

Thence North 23 degrees 24 minutes 14 seconds East, a distance of 29.75 feet to a point of curvature;

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EXHIBIT A

LEGAL DESCRIPTION
(Continued)

Thence along a curve concave to the Southeast with a central angle of 60 degrees 51 minutes 03 seconds, a radius of 10.00 feet, an arc distance of 10.62 feet to a point of tangency;

Thence South 74 degrees 29 minutes 21 seconds East, a distance of 23.39 feet to a point;

Thence along a curve concave to the Southwest, with a central angle of 60 degrees 26 minutes 27 seconds, a radius of 13.00 feet, an arc distance of 13.71 feet to a point of tangency:

Thence South 14 degrees 02 minutes 54 seconds East, a distance of 85.69 feet to a point;

Thence South 09 degrees 02 minutes 51 seconds East, a distance of 100.77 feet to a point;

Thence South 28 degrees 37 minutes 55 seconds East, a distance of 56.69 feet to a point;

Thence South 20 degrees 34 minutes 22 seconds East, a distance of 57.98 feet to a point;

Thence South 38 degrees 41 minutes 05 seconds West, a distance of 57.95 feet to a point;

Thence South 05 degrees 21 minutes 38 seconds East, a distance of 72.69 feet to a point;

Thence South 40 degrees 03 minutes 19 seconds West, a distance of 59.75 feet to a point of curvature;

Thence along a curve concave to the North with a central angle 90 degrees 48 minutes 48 seconds, a radius of 10.00 feet, an arc distance of 15.58 feet to a reverse curvature;

Thence along a curve concave to the South with a central angle of 52 degrees 04 minutes 15 seconds, a radius of 10.00 feet, an arc distance of 9.09 feet to a point of tangency;

Thence South 78 degrees 47 minutes 53 seconds West, a distance of 89.84 feet to a point;

Thence North 11 degrees 12 minutes 07 seconds West, a distance of 10.00 feet to a point;

Thence North 78 degrees 47 minute 53 seconds East, a distance of 83.67 feet to a point of curvature;

Thence along a curve concave to the Northwest with a central angle of 100 degrees 54 minutes 10 seconds, a radius of 10.00 feet, an arc distance of 17.61 feet to a point of tangency;

Thence North 22 degrees 06 minutes 18 seconds West, a distance of 129.50 feet to a point;

Thence North 03 degrees 00 minutes 56 seconds West, a distance of 86.06 feet to a point;

Thence North 08 degrees 53 minutes 18 seconds East, a distance of 73.25 feet to a point;

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EXHIBIT A

LEGAL DESCRIPTION
(Continued)

Thence North 19 degrees 52 minutes 18 seconds West, a distance of 76.24 feet to a point;

Thence along a curve concave to the South with a central angle of 75 degrees 52 minutes 25 seconds, a radius of 48.50 feet, an arc distance of 64.23 feet to a point of tangency;

Thence South 84 degrees 15 minutes 17 seconds West, a distance 16.18 feet to a point;

Thence South 76 degrees 50 minutes 50 seconds West, a distance of 67.51 feet to a point;

Thence South 71 degrees 49 minutes 01 seconds West, a distance of 44.61 feet to a point of curvature;

Thence along a curve concave to the Southeast with a central angle of 78 degrees 16 minutes 53 seconds, a radius of 10.00 feet, an arc distance of 13.66 feet to a point of tangency;

Thence South 06 degrees 27 minutes 52 seconds East, a distance of 32.75 feet to a point;

Thence South 15 degrees 46 minutes 35 seconds East, a distance of 134.59 feet to a point;

Thence North 89 degrees 08 minutes 44 seconds West, a distance of 152.07 feet to a point;

Thence North 07 degrees 10 minutes 49 seconds West, a distance of 257.87 feet to the True Point of Beginning.

(Basis of Bearings is the West line of Section 15, Township 11 North, Range 22 East, of the Gila and Salt River Base and Meridian, Navajo County, Arizona, said Bearing being North 00 degrees 56 minutes 19 seconds East.)

And also Except the following described Parcel (Hole 12):

A parcel located in a portion of the West half of Section 15, Township 11 North, Range 22 East, of the Gila and Salt River Base and Meridian, Navajo County, Arizona, more particularly described as follows:

Commencing at the Southwest corner of Section 15, Township 11 North, Range 22 East, of the Gila and Salt River Base and Meridian;

Thence North 43 degrees 36 minutes 43 seconds East, a distance of 1654.84 feet to a point;

Thence South 72 degrees 24 minutes 33 seconds East, a distance of 179.59 feet to a point of non-tangent curvature;

Thence along a curve concave to the East with a central angle of 26 degrees 01 minutes 49 seconds, a radius of 700.00 feet, an arc distance of 318.02 feet to point of tangency;

Thence North 24 degrees 47 minutes 07 seconds East, a distance of 165.92 feet to a point;

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EXHIBIT A

LEGAL DESCRIPTION
(Continued)

Thence North 24 degrees 57 minutes 07 seconds East, a distance 168.04 feet to a point of curvature;

Thence along a curve concave to the Southeast with a central angle of 90 degrees 00 minutes 00 seconds, a radius of 20.00 feet, an arc distance of 31.42 feet to a point of tangency;

Thence South 65 degrees 02 minutes 53 seconds East, a distance of 148.36 feet to a point;

Thence South 23 degrees 48 minutes 47 seconds West, a distance of 15.00 feet to the True Point of Beginning;

Thence South 85 degrees 24 minutes 32 seconds East, a distance of 63.30 feet to a point of curvature;

Thence along a curve concave to the South with a central angle of 11 degrees 04 minutes 48 seconds, a radius of 372.71 feet, an arc distance of 72.08 feet to a point of tangency;

Thence South 66 degrees 31 minutes 04 seconds East, a distance of 108.64 feet to a point;

Thence North 00 degrees 23 minutes 52 seconds West, a distance of 219.78 feet to a point;

Thence North 64 degrees 26 minutes 59 seconds East, a distance of 190.82 feet to a point of non-tangency curvature;

Thence along a curve concave to the Southeast with a central angle of 11 degrees 29 minutes 50 seconds, a radius of 390.00 feet, an arc distance of 78.26 feet to a point of non-tangency;

Thence North 37 degrees 03 minutes 19 seconds West, a distance of 296.93 feet to a point;

Thence North 82 degrees 14 minutes 12 seconds West, a distance of 90.00 feet to a point of non-tangency curvature;

Thence along a curve concave to the West with a central angle of 17 degrees 11 minutes 19 seconds, a radius of 1379.42 feet, an arc distance of 413.63 feet to a point of tangency;

Thence South 23 degrees 48 minutes 47 seconds West, a distance of 169.07 feet to the True Point of Beginning.

And also Except the following described Parcel (Hole 13)

A Parcel located in a portion of the West half of Section 15, Township 11 North, Range 22 East, of the Gila and Salt River Base and Meridian, Navajo County, Arizona, more particularly described as follows:

Commencing at the Southwest corner of Section 15, Township 11 North, Range 22 East, of the Gila and Salt River Base and Meridian;

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EXHIBIT A

LEGAL DESCRIPTION
(Continued)

Thence North 43 degrees 36 minutes 43 seconds East, a distance of 1654.84 feet to the True Point of Beginning;

Thence South 72 degrees 24 minutes 33 seconds East, a distance of 179.59 feet to a point of non-tangent curvature;

Thence along a curve concave to the East with a central angle of 26 degrees 01 minutes 49 seconds, a radius of 700.00 feet, an arc distance of 318.02 feet to a point of tangency;

Thence North 24 degrees 57 minutes 07 seconds East, a distance of 165.92 feet to a point;

Thence North 65 degrees 02 minutes 53 seconds West, a distance of 114.43 feet to a point;

Thence South 24 degrees 57 minutes 07 seconds West, a distance of 383.48 feet to a point of curvature;

Thence along a curve concave to the East with a central angle of 07 degrees 26 minutes 23 seconds, a radius of 870.00 feet, an arc distance of 112.97 feet to the True Point of Beginning.

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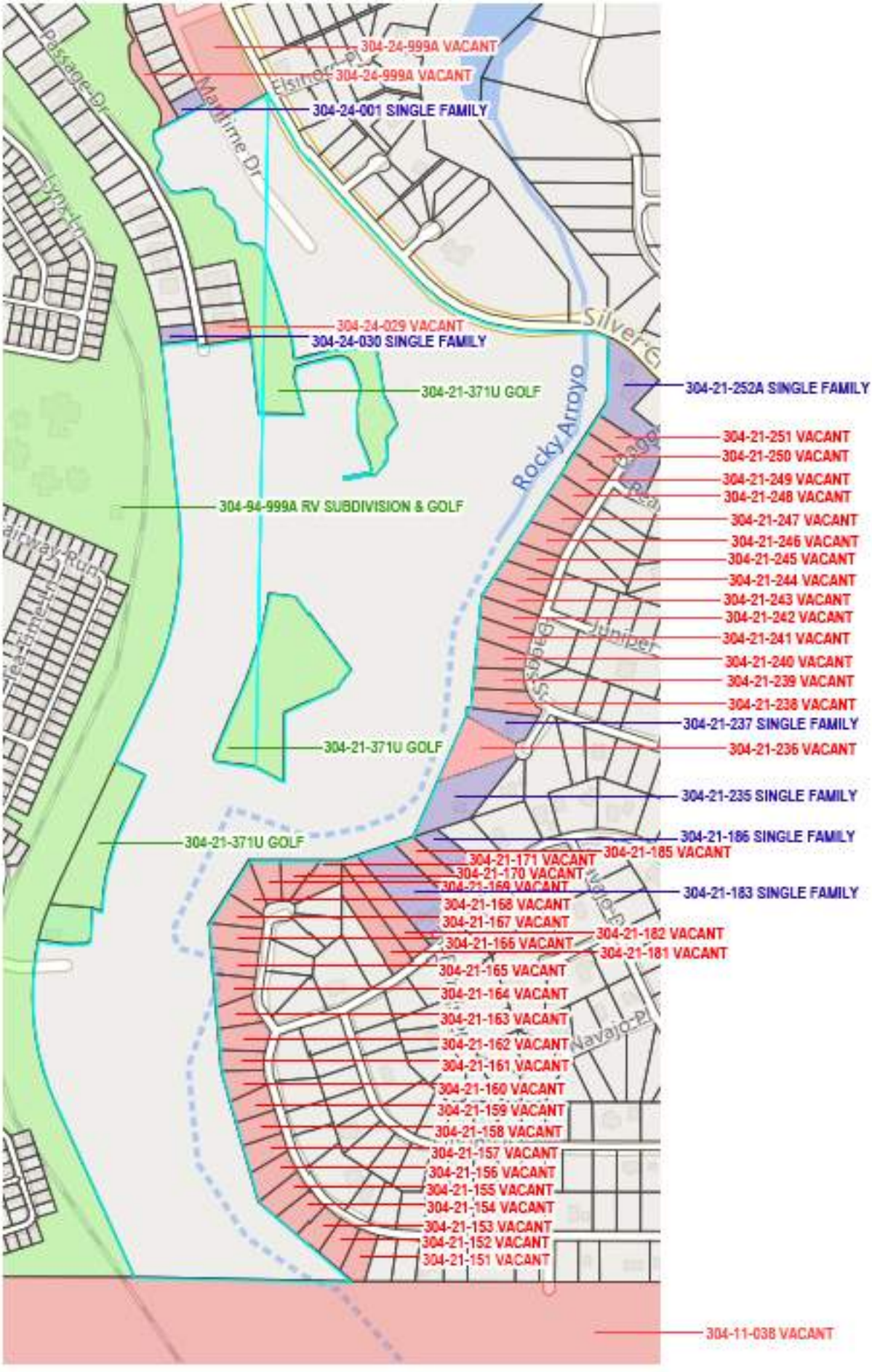
File Number: 76513277-065-SBM

EXHIBIT A

LEGAL DESCRIPTION
(Continued)

This page is only a part of a 2021 ALTA Commitment for Title Insurance. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I—Requirements and Schedule B, Part II—Exceptions and a counter-signature by the Company or its issuing agent that may be in electronic form.

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304-24-999A VACANT
304-24-999A VACANT
304-24-001 SINGLE FAMILY
304-24-029 VACANT
304-24-030 SINGLE FAMILY
304-21-371U GOLF
304-94-999A RV SUBDIVISION & GOLF
304-21-371U GOLF
304-21-371U GOLF
304-21-252A SINGLE FAMILY
304-21-251 VACANT
304-21-250 VACANT
304-21-249 VACANT
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304-21-186 SINGLE FAMILY
304-21-185 VACANT
304-21-171 VACANT
304-21-170 VACANT
304-21-169 VACANT
304-21-183 SINGLE FAMILY
304-21-168 VACANT
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304-21-155 VACANT
304-21-154 VACANT
304-21-153 VACANT
304-21-152 VACANT
304-21-151 VACANT
304-11-038 VACANT
Passage Dr
Maritime Dr
Rocky Arroyo
Juniper
Navajo Pl

NAVAJO COUNTY

Administration

Jayson Vowell
Finance Director

Bryan Layton
County Manager

Rochelle Lacapa
Government Relations Director

We are Navajo County

November 18, 2024

Re: Parcel 304-21-371Q- Special Assessment (28333)

To Whom It May Concern:

White Mountain Lakes Recreation Improvement District only has a maintenance agreement, since this is a maintenance fee and not a tax assessment on the assessed value, so not an encumbered improvement district; it is up to their board on how they handle their maintenance fees. The fee is assessed each year on the annual property tax to each parcel in improvement district, there is no payoff quote. It is an annual maintenance fee.

Hopefully this letter provides you with the information you needed. If you have any further questions, please call me at 928-524-4425.

Sincerely,

Jackie Walker

Senior Accountant
Navajo County

• 928.524.4053 • Fax: 928.524.4239 • P.O. Box 668 • Holbrook, AZ 86025 •

• navajocountyaz.gov •

• bryan.layton@navajocountyaz.gov •

Navajo County - For Official Use Only

TIMBER MESA FIRE & MEDICAL DISTRICT
WWW.TIMBERMESAFIRE.ORG

June 20, 2024

Mr. Cody Cooper
Community Development Director
Navajo County
100 West Public Works Drive
Holbrook, Arizona 86025
928-524-4468

Subject: “Will Serve” Letter for provided fire services

Dear Mr. cooper,

Please accept this document as a “Will Serve Letter” in regard to the proposed development and expansion of the Juniper Ridge development APN 304-21-371Q. The property in question is located within the legal boundaries of the Timber Mesa Fire and Medical District (District). Subsequently, the development will be required to meet the minimum requirements of the 2018 International Fire Code as adopted by the district. District officials will have to meet with the members of the development team should rezoning be approved by the county and this requirement is understood by all parties involved, discussion on infrastructure, access, water systems etc. will need to be discussed. The district will issue notice of final approval upon completion of the proposed development. Any changes to the proposed development must be approved by the district prior to construction.

If there are any questions, please feel free to contact me for further information.

Sincerely,

J.D. Pepper
Fire Marshal
Timber Mesa Fire and Medical

Voyager at White Mountain Lake Water Company, Inc.
P.O. Box 90890 White Mountain Lake, AZ. 85912-0890
Office 928-537-8168 Mobile 928-521-8461 email: Office@VoyagerWMLWater.com

June 24, 2024

Attn: Bryant
Green Elephant Development

Subject: **Conditional Drinking Water Will Serve Letter** for proposed Rock Creek Resort development of the parcel known as APN 304-21-371Q, White Mountain Lake, Navajo County, Arizona.

Dear Bryant,

Voyager at White Mountain Lake Water Company, Inc. (Water Co.) has received your request for a drinking water will serve letter for your Rock Creek Resort (Project).

The Water Co. will serve the Project with drinking water services subject to the following:

1) The Project obtains approvals from Navajo County.

2) Water Co. reserves the right to modify the conditions and comments of this Conditional Will Serve Letter based on changes to the site plan.

3) Owner shall provide Water Co. the construction drawings for the required offsite and onsite infrastructure for the Water Co.'s review and approval.

4) Owner shall construct the required offsite and onsite infrastructure such as, but not limited to, water mains, service lines, fittings, hydrants and valves, at Owner's expense.

5) Water Co. shall inspect and approve all construction.

6) Owner shall title all infrastructures to the Water Co. for ownership and operational control.

7) Owner shall provide easements for all infrastructure for the Water Co.'s ingress and egress. Such easements shall be reviewed and approved by the Water Co.

8) This "Will Serve" Letter is valid for a period of six months from the date of this letter.

Respectfully,
White Mountain Lake Sanitation, Inc.

Marc Silliman
President

White Mountain Lake Sanitation, Inc.
P.O. Box 90780 White Mountain Lake, AZ. 85912-0780
Office 928-537-8168 Mobile 928-521-8461 email: WMLUtilities@proton.me

June 24, 2024

Attn: Bryant
Green Elephant Development

Subject: **Conditional Wastewater Will Serve Letter** for proposed Rock Creek Resort development of the parcel known as APN 304-21-371Q, White Mountain Lake, Navajo County, Arizona.

Dear Bryant,

White Mountain Lake Sanitation, Inc. (Sewer Co.) has received your request for a wastewater collection and treatment will serve letter for your Rock Creek Resort (Project).

The Sewer Co. will serve the Project with wastewater collection and treatment service subject to the following:

1) The Project obtains approvals from Navajo County.

2) Sewer Co. reserves the right to modify the conditions and comments of this Conditional Will Serve Letter based on changes to the site plan.

3) Owner shall provide Sewer Co. the construction drawings for the required offsite and onsite infrastructure for the Sewer Co.'s review and approval.

4) Owner shall construct the required offsite and onsite infrastructure such as, but not limited to, collection mains, service lines, fittings, valves, manholes, and lift stations at Owner's expense.

5) Sewer Co. shall inspect and approve all construction.

6) Owner shall title all infrastructures to the Sewer Co. for ownership and operational control.

7) Owner shall provide easements for all infrastructure for the Sewer Co.'s ingress and egress. Such easements shall be reviewed and approved by the Sewer Co.

8) Sewer Co. is applying to ADEQ to amend it's Aquifer Protection Permit (APP) and adjusting operational procedures to reduce nitrogen levels and expand capacity per consent order. These items need to be completed prior to accepting wastewater from the Project.

9) Sewer Co. will need to expand the effluent water distribution area per the APP to insure that sufficient capacity is available prior to accepting wastewater from the Project.

10) Owner shall pay to the Sewer Co. fees and charges such as capacity fees, establishment of service fees, deposits, and monthly service fees as agreed in the line extension and service agreement to be executed at a time in the future.

11) This "Will Serve" Letter is valid for a period of six months from the date of this letter.

Respectfully,
White Mountain Lake Sanitation, Inc.

Marc Silliman
President

741 S Main Street,
Snowflake, AZ 85937

June 24, 2024

Bryant Aplass

304-21-371Q, Show Low, AZ, 85901

Re : Rock Creek Resort

Dear Bryant Aplass,

The above referenced project is located in Arizona Public Service Company's electric service area. The Company extends its lines in accordance with the "Conditions Governing Extensions of Electric Distribution Lines and Services," Service Schedule 3, and the "Terms and Conditions for Standard Offer and Direct Access Services," Service Schedule 1, on file with the Arizona Corporation Commission at the time we begin installation of the electric facilities.

Application for the Company's electric service often involves construction of new facilities for various distances and costs depending upon customer's location, load size and load characteristics. It is ***important*** that you provide this information to the Company as soon as possible; if you do not or provide incomplete information, Arizona Public Service cannot complete our evaluation of your application and determine the conditions under which Arizona Public Service will extend its facilities.

Fill out an application or estimate request on the Portal to provide more details.

The Service Schedule 3 policy governs the extension of overhead and underground electric facilities to customers whose requirements are deemed by Arizona Public Service to be usual and reasonable in nature.

Sincerely,

Arizona Public Service Co.
CUSTOMER CONSTRUCTION NAVAJO Service Center

Proprietary

PAINTED SKY
Engineering & Survey, LLC

MEMO

To:	Whom It May Concern
Cc:	
From:	Doug Brimhall, P.E.
Date:	Wednesday, November 20, 2024
Subject:	Rock Creek – Drainage Memo

1.0 Overall Site Analysis

The purpose of this memo is to report on the drainage characteristics of the proposed Rock Creek Development. This property consists of approximately 68 acres, with approximately 49 of those acres proposed to be developed, while 16 of the acres will be left in its native state. The Rocky Arroyo, a waterway that has a Storm Stat 100 year flow rate of 3,910 CFS runs through the site. The stormwater in the proposed development will flow towards and into the Rocky Arroyo. The area that will not be developed includes the Rocky Arroyo as well as property on either side of the creek. Water will flow from the site into the Rock Arroyo from 5 main drainage basins located across the site, along with storm water originating from the adjacent Juniper Ridge RV Park.

The analysis utilized the AutoCAD Civil 3D "Hydraflow Hydrographs Extension" to calculate the peak flow rates for both the existing and proposed conditions for the 2-year, 10-year, 50-year and 100-year events. The peak flows were estimated using the Rational Method with a minimum time of concentration of 10 minutes for each drainage area. A different method may be used to determine flow rates for the final drainage report.

The site is currently vacant land with some native weeds, grasses, and cedar trees. Within the site perimeter, on property not owned by the developer, golf holes have been installed in the past. The Rocky Arroyo flows from the south end of the project, towards the north end of the project. The Rocky Arroyo has created a significant drainage channel through the years with several areas that have significant cliffs. The pre-construction flows from each of the drainage areas over towards the Rock Arroyo area shown below in Table 1.1.

Table 1.1. Pre-Development Flow Rates

DA-A		DA-B		DA-C	
2-Year	32 cfs	2-Year	39 cfs	2-Year	32 cfs
10-Year	50 cfs	10-Year	61 cfs	10-Year	50 cfs
50-Year	70 cfs	50-Year	84 cfs	50-Year	68 cfs
100-Year	80 cfs	100-Year	95 cfs	100-Year	77 cfs

176 N. Main Street, Snowflake, AZ 85937
Tel 928.537.7218

DA-D		DA-E			
2-Year	73 cfs	2-Year	52 cfs		
10-Year	114 cfs	10-Year	82 cfs		
50-Year	157 cfs	50-Year	113 cfs		
100-Year	177 cfs	100-Year	127 cfs		

As can be seen, the flows are quite significant. It is the intent to allow for most of these drainage basins to drain directly to the Rocky Arroyo through existing and new channels without first being detained. As each site is developed, detention facilities will be designed outside the existing and constructed channels to compensate for the expected increase in stormwater that will get to Rocky Arroyo. Currently it is Navajo County policy to provide detention facilities in all instances to decrease expected storm water runoff, however, in the future that policy may change, allowing storm water to flow directly to creeks and water bodies without any detention if it can be shown that it will not cause any significant impact to adjacent properties. The expected decrease in storm water from each drainage basin that will be required is shown in Table 1.2.

Table 1.2. Required Decrease in Storm Water per Drainage Basin

DA-A		DA-B		DA-C	
2-Year	8 cfs	2-Year	3 cfs	2-Year	12 cfs
10-Year	12 cfs	10-Year	4 cfs	10-Year	18 cfs
50-Year	17 cfs	50-Year	6 cfs	50-Year	25 cfs
100-Year	19 cfs	100-Year	6 cfs	100-Year	28 cfs
DA-D		**DA-D**			
2-Year	19 cfs	2-Year	12 cfs		
10-Year	30 cfs	10-Year	18 cfs		
50-Year	41 cfs	50-Year	25 cfs		
100-Year	46 cfs	100-Year	28 cfs		

The numbers above show the amount of storm water in a rate of cubic feet per second that will need to be reduced for each drainage basin. Another way to look at this project is to assume that the only place that needs to show a decrease in expected flows from the site is at a location just upstream of the crossing of Rocky Arroyo with Silver Creek Drive. If this becomes the controlling factor for the project, the location of a detention facility anywhere on the site that will provide the necessary decrease in flow rates can be design and constructed.

This project will be constructed in phases and either one or several detention basins will be designed and constructed to reduce the expected increase in flow rates from the site unless Navajo County requirements are changed prior to any of the phases of construction.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	32.31	1	10	19,384	------	------	------	DA-A
2	Rational	38.77	1	10	23,261	------	------	------	DA-B
3	Rational	31.50	1	10	18,900	------	------	------	DA-C
4	Rational	72.69	1	10	43,614	------	------	------	DA-D
5	Rational	52.01	1	10	31,208	------	------	------	DA-E
6	Rational	7.754	1	10	4,652	------	------	------	DA-A Post
7	Rational	2.585	1	10	1,551	------	------	------	DA-B Post
8	Rational	11.63	1	10	6,978	------	------	------	DA-C Post
9	Rational	18.74	1	10	11,243	------	------	------	DA-D Post
10	Rational	11.63	1	10	6,978	------	------	------	DA-E Post

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	50.81	1	10	30,484	------	------	------	DA-A
2	Rational	60.97	1	10	36,581	------	------	------	DA-B
3	Rational	49.54	1	10	29,722	------	------	------	DA-C
4	Rational	114.32	1	10	68,589	------	------	------	DA-D
5	Rational	81.80	1	10	49,080	------	------	------	DA-E
6	Rational	12.19	1	10	7,316	------	------	------	DA-A Post
7	Rational	4.065	1	10	2,439	------	------	------	DA-B Post
8	Rational	18.29	1	10	10,974	------	------	------	DA-C Post
9	Rational	29.47	1	10	17,681	------	------	------	DA-D Post
10	Rational	18.29	1	10	10,974	------	------	------	DA-E Post

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	69.87	1	10	41,920	------	------	------	DA-A
2	Rational	83.84	1	10	50,305	------	------	------	DA-B
3	Rational	68.12	1	10	40,872	------	------	------	DA-C
4	Rational	157.20	1	10	94,321	------	------	------	DA-D
5	Rational	112.49	1	10	67,492	------	------	------	DA-E
6	Rational	16.77	1	10	10,061	------	------	------	DA-A Post
7	Rational	5.589	1	10	3,354	------	------	------	DA-B Post
8	Rational	25.15	1	10	15,091	------	------	------	DA-C Post
9	Rational	40.52	1	10	24,314	------	------	------	DA-D Post
10	Rational	25.15	1	10	15,091	------	------	------	DA-E Post

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	78.77	1	10	47,263	------	------	------	DA-A
2	Rational	94.53	1	10	56,716	------	------	------	DA-B
3	Rational	76.80	1	10	46,082	------	------	------	DA-C
4	Rational	177.24	1	10	106,343	------	------	------	DA-D
5	Rational	126.82	1	10	76,094	------	------	------	DA-E
6	Rational	18.91	1	10	11,343	------	------	------	DA-A Post
7	Rational	6.302	1	10	3,781	------	------	------	DA-B Post
8	Rational	28.36	1	10	17,015	------	------	------	DA-C Post
9	Rational	45.69	1	10	27,413	------	------	------	DA-D Post
10	Rational	28.36	1	10	17,015	------	------	------	DA-E Post

DA-A

DA-B

DA-C

DA-D

DA-E

Ironside Engineering
Calculated Flows
Q 100 = 37.0 cfs
Q 50 = 33.0 cfs
Q 10 = 24.2 cfs
Q 2 = 15.5 cfs

CP-A
Q 100 = 80 cfs
Q 50 = 70 cfs
Q 10 = 50 cfs
Q 2 = 32 cfs

FEMA 100 Year
FLOODWAY
BOUNDARY

CP-B
Q 100 = 95 cfs
Q 50 = 84 cfs
Q 10 = 61 cfs
Q 2 = 39 cfs

CP-C
Q 100 = 77 cfs
Q 50 = 68 cfs
Q 10 = 50 cfs
Q 2 = 32 cfs

FEMA 100 Year
FLOODWAY
BOUNDARY

CP-D
Q 100 = 177 cfs
Q 50 = 156 cfs
Q 10 = 114 cfs
Q 2 = 73 cfs

CP-E
Q 100 = 127 cfs
Q 50 = 113 cfs
Q 10 = 82 cfs
Q 2 = 52 cfs

Rock Arroyo - Stream Stat
Q 100 = 3,910 cfs
Q 50 = 2,990 cfs
Q 10 = 1,380 cfs
Q 2 = 369 cfs

N

150' 75' 0 150'

SCALE: 1" = 150'

Bar Measures 1 inch

PAINTED SKY
Engineering & Surveying, LLC
www.paintedskyes.com
176 N. Main Street
Snowflake, AZ 85937
PHONE: (928) 537-7218

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
366.30
DOUGLAS LEE
BRIMHALL, SR.
Date Signed 11-20-24
ARIZONA, U.S.A.

MARK	DATE	DESCRIPTION

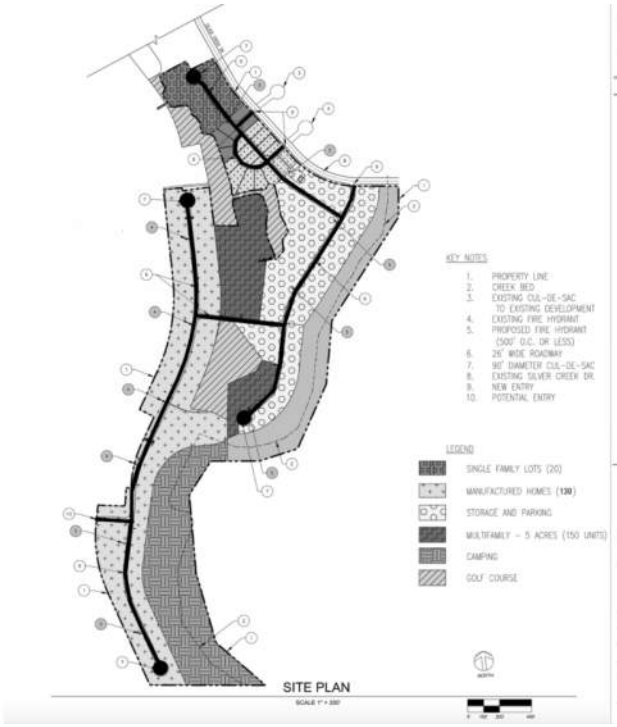
DRAINAGE EXHIBIT

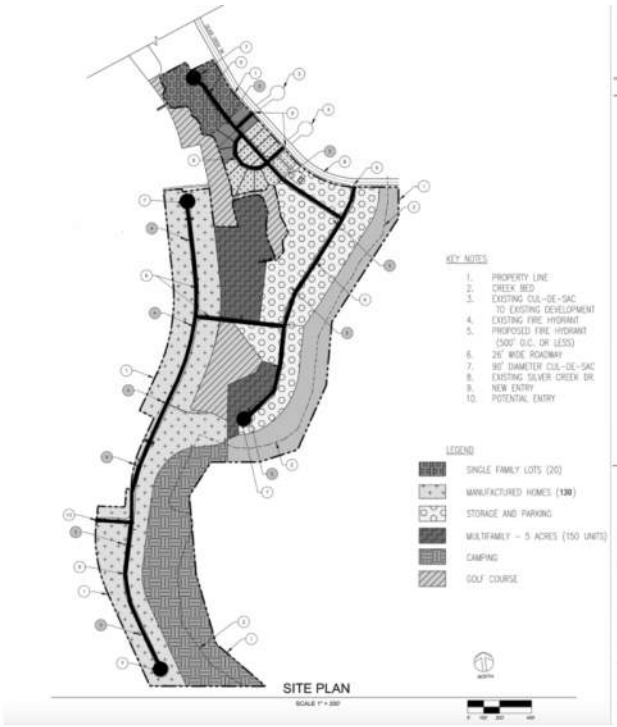
ROCK CREEK DEVELOPMENT
DRAINAGE EXHIBIT

Project No.:	180869 - 24001
Designed By:	VF
Drawn By:	VF
Checked By:	DJB

1

11/20/2024 6:21:01 PM - P:\SNOWFLAKE P DRIVE\180869\180869-24001\CAD\MODEL FILES\VISTAS 2 BASE.DWG - DOUG BRIMHALL


KEY NOTES
1. PROPERTY LINE
2. CREEK BED
3. EXISTING CUL-DE-SAC TO EXISTING DEVELOPMENT
4. EXISTING FIRE HYDRANT
5. PROPOSED FIRE HYDRANT (500' O.C. OR LESS)
6. 26' WIDE ROADWAY
7. 90' DIAMETER CUL-DE-SAC
8. EXISTING SILVER CREEK DR.
9. NEW ENTRY
10. POTENTIAL ENTRY
LEGEND
SINGLE FAMILY LOTS (20)
MANUFACTURED HOMES (130)
STORAGE AND PARKING
MULTIFAMILY - 5 ACRES (150 UNITS)
CAMPING
GOLF COURSE
SITE PLAN
SCALE 1" = 200'
VIDA
Architects
ROCK CREEK DEVELOPMENT
SITE PLAN
ISSUE
A1.0


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SITE PLAN
SCALE 1" = 200'
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ROCK CREEK DEVELOPMENT
SITE PLAN
ISSUE
A1.0

PUBLIC NOTICE

Allen Land Development, LLC

Please accept this invitation to attend a community meeting where the owners of APN 304-21-371Q would like to hear your feedback regarding the proposed subdivision plans. This meeting will be held on August 22, 2024 at 10:00 AM on site. We will meet approximately 485 feet southeast of Summer Pl. & Silver Creek Dr. (Lat 34.353721, Long -109.998214). This location is at the northeast side of our property. We look forward to sharing our plans and hearing from our neighbors. If you cannot attend, please feel free to contact Jasmine Valentine at 1-602-390-7203.

To:

PUBLIC NOTICE

Allen Land Development, LLC

Please accept this invitation to attend a community meeting where the owners of APN 304-21-371Q would like to hear your feedback regarding the proposed subdivision plans. This meeting will be held on August 22, 2024 at 10:00 AM on site. We will meet approximately 485 feet southeast of Summer Pl. & Silver Creek Dr. (Lat 34.353721, Long -109.998214). This location is at the northeast side of our property. We look forward to sharing our plans and hearing from our neighbors. If you cannot attend, please feel free to contact Jasmine Valentine at 1-602-390-7203.

To:

Citizen Review Plan Report

Proposed Subdivision
'Rock Creek'
APN 304-21-371Q

August 22, 2024
Allen Land Development, LLC
10356 E. Thornton Ave, Mesa, AZ 85212

In compliance with Section 2907 - Citizen Review, we make this notice to meet compliance with the requirements of Section 2907 and respectfully submit the following summary;
Attachments include:

- Address Lists used for invitations
- Sign-In Sheet from the meeting held
- Copies of the invitations sent out
- Copy of the Tentative Plat

An invitation to a community meeting was sent to all listed Owners and Agencies on August 6, 2024, providing relevant information and directions to the meeting site planned for August 22, 2024. Allen Land Development, LLC members drafted a 'letter of notice' with relevant information, inviting all property owners and agents of record, representing all properties within three hundred feet of our location to attend an on-site meeting where we held open discussions regarding our intentions.

Here are several additional items that were presented:

- **Priority Access to New Storage Units:** Community members will have the first opportunity to reserve new storage units.
- **New Recreational Opportunities:** We are planning to add new recreational facilities and amenities.
- **Community Feedback Welcome:** We value your input and will be seeking feedback through planned community meetings and a dedicated website.
- **Improving Local Infrastructure:** The project will explore improvements to roadways and infrastructure to enhance accessibility and convenience for residents in the area.
- **Enhanced Safety Measures:** New security features will be implemented to ensure a safe environment for everyone.
- **Better Access to Amenities:** The project will improve access to local amenities, such as the nearby golf course, resort, and White Mountain Lake, making everyday life more enjoyable.
- **Staying Informed:** Updates and information will be available through our website, social media channels, and email communications to keep the community informed.

The Letter of Notice was drafted and submitted to Cody Cooper. Mr. Cooper replied the same day with approval of the drafted invitation and further supplied us with a mailing list for comparison to ensure full compliance. We mailed out the invitations on August 6, 2024. The invitations were sent in advance as required, 16 days before the August 22 Neighborhood Community Meeting. (See attached copies of the invitation postcard sent).

Approximately 60 people participation. The meeting was held own-site where all interested parties were free to exchange information and discuss our intentions, along with opportunities for attended to voice concerns or questions. We presented copies of our proposed plat and gathered the names, phone numbers and email addresses of those in attendance. The meeting duration was approximately 1.5 hours. The list of attendees is attached. Each participant was provided with a pen, pad, and the Allen Land Development, LLC contact information including website, email and phone number. Complimentary water and snacks were provided. We also contacted the Home Owners Association of Juniper Ridge and White Mountain Lakes and encouraged staff to inform the entire community of the Neighborhood Community Meeting.

A list of people in attendance is attached. Some had accompanying spouses in attendance who did not list their names. Summaries of the questions and concerns with answers below;

Q1: Discussion on which local boards Rock Creek Development has been in contact with.
A: *HOA Presidents of Juniper Ridge Resort and White Mountain Lakes Vistas.*

Q2: Discussion on water, fire, sewer, medical and police concerns.
A: *We are working directly with Voyager at White Mountain Lake Water Company, Inc, White Mountain Sanitation, Inc and Timber Mesa Fire & Medical District and will we comply with all International fire codes and municipality codes required.*

Q3: Concerns were expressed related to the overall finished construction and aesthetics of the development.
A: *We have onboarded Vida Architects to work in alignment with Navajo County and the development team to enhance the overall aesthetics of the property. The goal of the development will be to improve and enhance what is currently existing and to bring amenities. Housing will be equal to or better than the current housing quality. All housing will meet or exceed current housing requirements and comply with current building and energy codes.*

Q4: Concerns were expressed related to wildlife.

A: *The development team will prioritize minimizing environmental disruption. Rock Creek development is committed to preserving the natural environment and are exploring options to mitigate any potential impacts.*

Q5: Homeowners presented concerns about maintaining an age restricted 55+ community.
A: We will be working with Juniper Ridge Resort and White Mountain Lakes Vistas along with Navajo county on providing more of what is already existing in the above sub divisions.

Q6: Discussed road way concerns and impact.
A: *A traffic impact study will be conducted to determine the necessary upgrades to ensure safe traffic flow.*

Q7: (Question directed to Chris Pasters from Real AZ) Does your funding come from the government entities or the people that you represent?
A: *Real AZ has members that pay dues. Our members pay dues, so all of the counties, the municipalities, the nonprofits, for profits, and the academic institutions, all pay dues, that goes to RealAZ. My salary is also supplemented by Navajo County. So Navajo County says we want economic development. As a region, we want this guy to be serving RealAZ's board.*

Q8: Discussed the groundbreaking date.
A: *We don't know when, but we will keep you all informed of our schedule.*

Q9: Discussion on deviation from original master plan.
A: *Due to updated feasibility studies and reports.*

Q10: Discussion regarding the density.
A: *We are currently working on a master plan with Navajo County that will designate the approved by public works.*

Q11: Homeowners expressed concern about light pollution.
A: *We would be open to communicating with the neighborhood facilitation with night sky rules that relate to lighting.*

Q12: Homeowners expressed concern about water retention and down flow impact to the lake, pollution, grading and drainage.

A: *We are working with our civil engineer to assist us in grading, drainage and hydrology.*

Q13: Homeowners expressed concern about the overall use of the proposed development.
A: *The goal of Rock Creek Development is to increase much needed housing with different living options and to promote lifestyle and healthy living. Rock Creek development will bring additional amenities to the local area.*

Q14: Were any of the county representatives invited to this meeting besides an independent, hired by the group?
A: *Multiple representatives were invited.*

We recognize the importance of keeping the community informed. We will provide timely updates as we gather more detailed information. A follow-up community meeting will be scheduled soon to discuss the results of our ongoing studies. In the interim, significant developments will be communicated through the contact information provided by attendees and on our website.

Allen Land Development, LLC intends to work with Navajo County's needs, continue to carefully consider the community preferences, and concerns, and develop based on feasibility reports for all good concerned while adhering to Navajo County's requirements.

Please note that we are considering the impact on lake views and will keep our plans adaptable to meet any necessary guidelines. We're currently working on the best approach to ensure compliance and maintain flexibility.

This concludes our Citizen Review Plan Report.
Thank you for your consideration and direction.

Bryant Aplass, Member Representative
Allen Land Development, LLC
1-480-703-5914

<u>Mailing List</u> retrieved from Navajo County with 225 mailing addresses.

APN:	Name:	Address:	City/State/Zip
304-21-171	Allen Karen E	1251 E Salado Cir	Mesa, AZ 852032053
304-21-371Q	Allen Land Development Llc	10356 E Thornton Ave	Mesa, AZ 852128341
304-21-337	Anderson Derek	16606 W Silverbell Rd	Marana, AZ 856539518
304-94-356	Appavu Family Living Trust Appavu Soloman I & Lily D Trustees	12805 E Crystal Frst	Gold Canyon, AZ 851182215
304-11-038	Arizona State Of	Po Box 668	Holbrook, AZ 860250668
304-24-002	Arntson Gary & Tracie Family Trust Arntson Gary D Jr & Tracie Trustees	1948 Maritime Dr	Show Low, AZ 859017684
304-24-044	Arp Janice M (Bd)	5019 E Florian Ave	Mesa, AZ 852062829
304-30-052	Arriola Antonio & Marin Barbara (Cprs)	4556 W Solano Dr N	Glendale, AZ 853016239
304-94-193	Athey Dale W & Sandra M Trustees	193 Juniper Ridge Resort	Show Low, AZ 859019524
304-21-033A	Avery Bobby & Jennifer (Cprs)	15429 W Jomax Rd	Surprise, AZ 853876945
304-94-189	Baillie Bruce T & Lucille (Cprs)	14138 E Stanhope Blvd	Vail, AZ 856415935
304-94-186	Barnes Richard Heftman Katherine (Jt)	334 Fresh Meadows Rd	Simi Valley, CA 930656817
304-94-066	Barrette Robert A & Deborah J (Cprs)	1082 N Paseo Iris	Green Valley, AZ 856143618
304-21-243	Barry Scott R Abbott Amanda C (Cprs)	8541 N Firethorn Ave	Tucson, AZ 857421089
304-94-192	Bassett Family Trust Bassett Francis D & Falter-Bassett Cynthia G Trustees	7872 W Discovery Way	Florence, AZ 851326016
304-94-103	Bauer Richard R & Barbara R	103 Uniper Ridge Resort	Show Low, AZ 85901
304-24-031	Bayer Arvid	Po Box 1228	Show Low, AZ 859021228
304-21-382	Benak James P Jenkins Lila Sue Trustees	1308 N Stockton Hill Rd # 320	Kingman, AZ 86401-5139
304-21-176, & 177	Berg Kirsten Berg Remilie S (Jt)	11951 N Cantata Dr	Oro Valley, AZ 857373767
304-21-381	Beutel Theresa R & William C Iii Jt	2321 N 150Th Ave	Omaha, NE 68116
304-21-031	Bisaha Marilynne J Lierman Brandy S (Jt)	6743 W Schmidt St	Glendale, AZ 85308-8080
304-21-242	Blanton Jennifer	7494 E Earll Dr Apt 205	Scottsdale, AZ 852516978
304-94-197	Bonadonna Diane Trust Bonadonna Diane Trustee	14702 W Huron Dr	Sun City West, AZ 853755990
304-94-169	Bonnivier Brad & Janice (Cprs)	5830 W Flying Circle St	Tucson, AZ 857134346
304-30-034 & 035	Bowman Sean	5190 N La Cholla Blvd	Tucson, AZ 85705-1257
304-21-169	Brandenburgh Deborah	1145 Sutter Ln	San Marcos, CA 92069-3173
304-94-120	Broome Albert & Diane (Cprs)	120 Juniper Ridge Resort	Show Low, AZ 859019549
304-94-248	Brown Patricia E Ackerman Marilyn J (Cprs)	650 N Hawes Rd # 3721	Mesa, AZ 852075833
304-94-178	Bruce Dennis A & Carol A Trustees	4565 E Dragoon Ave	Mesa, AZ 852065044
304-21-168	Buot David M & Martha R (Cprs) Adc #270746, Aspc Yuma/Cheyenne Unit	Po Box 8909	San Luis, AZ 853490376
304-94-176	Bustamante Pat Bustamante Vani Jt	311 San Jose Ave Apt C	San Francisco, CA 941104173
304-94-183	Butkowsky Williamb Dejong Joan G Trustees	14667 W Raindance Rd	Surprise, AZ 853743539
304-94-104	C B Armstrong 1034 Investments Llc	92 Juniper Ridge	Show Low, AZ 85901
304-24-034	Calahan Richard W Trustee 50% Freeman Christine Trustee 50% C/O Alexandra Calahan	11256 San Joaquin Rdg	Littleton, CO 801273610
304-94-179	Calahan Richard W Trustee 50% Freeman Christine Trustee 50% C/O Alexandra Calahan	11256 San Joaquin Rdg	Littleton, CO 801273610

304-94-179	Calahan Richard W Trustee 50% Freeman Christine Trustee 50% C/O Alexandra Calahan	11256 San Joaquin Rdg	Littleton, CO 801273610
304-94-181	Calahan Richard W Trustee 50% Freeman Christine Trustee 50%	11256 San Joaquin Rdg	Littleton, CO 801273610
304-94-188	Caramella Charles & Caryn (Cprs)	360 S Treston Ln	Tucson, AZ 857114563
304-21-183	Carlson Chris M & Rosanne	2725 E Paradise Dr	Phoenix, AZ 850281109
304-21-182	Carlson Eric & Carlynn	4724 W Corrine Dr	Glendale, AZ 85304-2053
304-94-107	Carlson Living Trust Carlson Lavern A & Penelope A Trustees	2205 N Nicklaus Dr	Mesa, AZ 852152660
304-94-187	Carman James & Betty Trustees	12401 W Palo Verde Dr	Litchfield Pk, AZ 853403801
304-24-043	Carnahan Olga Trust Carnahan Olga A Trustee	62856 E Thunder Rock Dr	Tucson, AZ 857392437
304-21-181	Carrion Anthony P	201 S Greenfield Rd Lot 278	Mesa, AZ 852061251
304-94-223	Catron Nelson & Jennifer (Cprs)	223 Juniper Ridge Resort	Show Low, AZ 859019529
304-30-033	Cepko John L & Virginia Cprs	7741 Downs Rd	Newark, MD 218412045
304-94-190	Charnholm Robert A & Linda J (Cprs) (Bd)	2233 E Behrend Dr Lot 234	Phoenix, AZ 850241867
304-94-355	Choppy Stephen N & Shirley M (Cprs)	11358 E Renata Ave	Mesa, AZ 852124076
304-24-006	Clare Etienne W & Marianne Trustees	14515 W Granite Valley Dr Apt C531	Sun City, AZ 853756071
304-94-109	Clark Howard W & Linda S (Jt)	240 S Geronimo Rd	Apache Junction, AZ 851198711
304-94-252	Claybaugh Family Living Trust Claybaugh Thomas A & Lynne J Trustees	3736 N 303Rd Ct	Buckeye, AZ 853967300
304-24-027	Clements Robert F S Clements Tina E Trustee	1923 Passage Dr	Show Low, AZ 859016905
304-94-381	Clewette Kathleen M (Bd)	381 Juniper Ridge Resort	Show Low, AZ 859019574
304-94-105	Collins Jerry W & Shirley M Trust Collins Shirley M Trustee	1070 W Kofa Ct	Yuma, AZ 853654012
304-94-231	Collyer James C Living Trust / Collyer James C Trustee Hull Linda M Living Trust / Hull Linda M Trustee	13330 W Paintbrush Dr	Sun City West, AZ 853752571
304-30-032	Coomer Shirley Christiansen Tina (Jt)	15656 W Impala Dr	Casa Grande, AZ 851227462
304-21-245	Coon Jamie L & Sherida R (Cprs)	4789 E Horse Mesa Trl	San Tan Valley, AZ 851407022
304-24-004	Crawford Americus L & Sharon E (Cprs) (Bd)	1060 E Birchwood Pl	Chandler, AZ 852495136
304-94-232	Cunningham Gary A & Catherine R Cprs	232 Juniper Ridge Resort	Show Low, AZ 859019529
304-94-185	Dailey-Millenaar Susan	177 Juniper Ridge Resort	Show Low, AZ 859019515
304-94-177	Dailey-Millenaar Susan L Bartlett Paul S (Jt)	177 Juniper Ridge Resort	Show Low, AZ 85901-9515
304-94-180	Daugherty Irrevocable Trust Daugherty Shannon E & Kirk Michael L Trustees	4975 S Desert Willow Dr	Gold Canyon, AZ 851186944
304-94-343	Davis Melanee A & Terry D (Cprs)	514 Americas Way # 7192	Box Elder, SD 577197600
304-94-347	Dean Gary C & Paula J Trustees	21054 N 135Th Ave	Sun City West, AZ 853752572
304-21-253	Deaton Patricia A Trustee	2802 E Landen St	Camarillo, CA 930103644
304-94-170	Deissler Helmut G Ray Linda L (Cprs)	1143 S Appaloosa Ln	Yuma, AZ 853643364
304-94-220	Desert Pines Baptist Association	Po Box 297	Snowflake, AZ 859370297
304-21-250	Dipley Mckinley Dipley Ramona L (Jt)	1132 E 3Rd St	Casa Grande, AZ 851224719
304-94-201	Donovan Judy K & Shermman Christopher Paul	201 Juniper Ridge Resort	Show Low, AZ 859019510
304-94-194	Dougherty John L Anderson Michelle A	544 W Duke Dr	Tempe, AZ 852831746
304-94-344	Ducray Ted J & Sandra L Trustees	1414 W Calle De Flores	San Tan Valley, AZ 851403001
304-21-166	Durante Salvatore A	480 W Linda Vista Blvd	Oro Valley, AZ 85704-6837
304-94-275	Dusenbury Wallace A Trustee	14660 W Yosemite Dr	Sun City West, AZ 85375-5654
304-94-129	Emerson Connie	1110 N Henness Rd Lot 30	Casa Grande, AZ 851225511

304-21-041	Engdahl Llc C/O Victor Engdahl	28 W Lewis Ave	Phoenix, AZ 850031037
304-19-619	Engdahl Victor E	28 W Lewis Ave	Phoenix, AZ 850031037
304-21-190A	Erickson Michael J & Cynthia A Cprs	8304 Skyline Drive	Show Low, AZ 85901
304-21-240	Evance John P & Diane M Trust	Po Box 430	Arivaca, AZ 856010430
304-21-148	Evans Jeffrey D	8297 Ridge Dr	Show Low, AZ 859017519
304-21-185 & 186	Fabco Inc C/O Joe Sorce	3340 E Mossman Rd	Tucson, AZ 85706-4641
304-21-158	Fabok David R & Judy M Cprs	15213 N 177Th Dr	Surprise, AZ 853887612
304-21-175	Finch Eugene S & Nadine	33692 Haywood Ct	Temecula, CA 925925533
304-21-378	Forkum Emory T	Po Box 884	Sahuarita, AZ 856290884
304-94-238	Foster Thomas D Jr Ramos Laura (Cprs)	53545 Avenida Velasco	La Quinta, CA 922533571
304-21-151 & 152	Gagnon Carol A	Po Box 98	Williams, AZ 860460098
304-21-236	Garling Richard J & Angela Cprs	Po Box 90774	White Mtn Lake, AZ 85912
304-30-055	Georgiu John & Adriana (Cprs)	98 31St Ave	Milton, WA 983549380
304-94-279	Gill Thomas S & Annette K (Jt)	279 Juniper Ridge Resort	Show Low, AZ 859019529
304-21-380	Gilles Dimitri Reed-Smith Ishmia	1027 S Hopi Ln	Goodyear, AZ 85338
304-21-246	Gonzales Mary M Milligan Boniface Jr	1292 French Rd	Winslow, AZ 860472875
304-94-165	Grisham Rosalie E Reinhardt Teresa R (Jt)	118 E Gila Dr	Florence, AZ 851328823
304-94-196	Griswold Michael F	10213 N 109Th Ave	Sun City, AZ 853514324
304-94-106	Hackett Donald & Anita (Cprs)	15023 W Huron Dr	Sun City West, AZ 853755987
304-94-175	Haltom Rodney & Cynthia (Cprs) (Bd)	175 Juniper Ridge Resort	Show Low, AZ 859019515
304-21-149 & 150	Harris Bradley A & Jeanne F Jt	Po Box 4041	Cave Creek, AZ 85327-4041
304-21-188A	Hart Patricia A	Po Box 90772	White Mountain Lakes, AZ 85912
304-21-032	Hatch Timothy & Donna Jt	1315 W Greer Ave	Holbrook, AZ 86025-1902
304-94-353	Hauschild Michael L Living Trust 1/2 Hauschild Dorothy J Living Trust 1/2	3049 S Lindenwood Cir	Mesa, AZ 852122244
304-94-306 & 307	Haveman Carl W & Karen (Cprs)	680 Five Oaks Cir	Canyon Lake, TX 781335148
304-30-028A	Hernandez Roberto A & Virginia (Cprs)	8298 Silver Creek Dr	Show Low, AZ 859017678
304-30-041	Hess Family Trust Hess Steven F & Jacqueline S Trustees	290 N Country Club Dr	Snowflake, AZ 859376423
304-94-222	Hicks Larry & Joan (Cprs)	125 E Mesa Dr	Florence, AZ 851328815
304-24-033A	Hopper Street 3545 Llc	21544 W Granite Ridge Rd	Buckeye, AZ 853963581
304-21-156 & 157	Horsley Living Trust Horsley Randi L Trustee	3527 W Oakland St	Chandler, AZ 852264030
304-21-029B	Hudspeth James H	Po Box 90781	White Mountain Lake, AZ 859120
304-21-252A	Hurst Scott T	8315 Silver Creek Dr	Show Low, AZ 859017546
304-94-235	Jackson John W Jr & Colette I Trustees	723 N Sparks St	Burbank, CA 915061637
304-24-026	Jaffe Todd & Shirley Whitfield Marth R (All Jt)	1925 Passage Dr	Show Low, AZ 859016905
304-94-171	James Helen K Trustee	17678 N Raindance Rd	Surprise, AZ 853743551
304-94-174	Jaster Leo J & Patricia C Cprs	174 Juniper Ridge Resort	Show Low, AZ 85901-9515
304-21-159 & 160	Jenkins John D & Vicki L (Cprs)	15770 2625 East St	Princetcn, IL 613568861
304-21-180	Jensen Kara A	1414 E Topeka Dr	Phoenix, AZ 850248205
304-21-379	Johnson Ilene A Trustee	1034 W Estate Dr	Miami, AZ 85539-9716
304-94-267	Johnson Rich Revocable Living Trust Johnson Richard & Jane Trustees	6762 S Santa Rita Way	Chandler, AZ 852499095
304-94-119	Johnson Walter B & Jamey (Cprs)	119 Juniper Ridge Resort	Show Low, AZ 859019549

304-94-119	Johnson Walter B & Jamey (Cprs)	119 Juniper Ridge Resort	Show Low, AZ 859019549
304-94-184	Jones Marjorie G Living Trust/Jones Marjorie G Trustee Donald Jerry M Living Trust/Donald Jerry M Trustee	8145 E Monte Ave	Mesa, AZ 852095260
304-94-999A	Juniper Ridge Rec Vehicle Subd Assoc	Po Box 10000	Prescott, AZ 86304
304-94-380	Kamada Living Trust Kamada Curtis F & Jo Ann Trustees	60223 E Sabino Dr	Oracle, AZ 856237446
304-94-202	Khrenovsky Louis	1857 Par Circle Lot 202	Showlow, AZ 85901
304-94-268	Kingsbury Alto T & Sharen Cprs	268 Juniper Ridge Resort	Show Low, AZ 85901-9529
304-24-035	Kirkland Michael W & Robin E Trustees	1928 Passage Dr	Show Low, AZ 859016899
304-21-153	Kotch Noah	14428 S 18Th St	Phoenix, AZ 850484513
304-94-237	Krause Robert W & Faye R Trustees	2819 S Teakwood Cir	Mesa, AZ 852122898
304-94-172	Krause Waltraut	7777 Barnes Rd	Palmetto, GA 302681906
304-94-354	Laube Dale L	1452 S Ellsworth Rd Unit 3062	Mesa, AZ 852093700
304-30-021A, 022,	Lawson Keith B & Margaret E Trustees	4536 E Elmwood St	Mesa, AZ 852055211
304-94-254	Ledsworth Judith M	6928 E Superstition Way	Florence, AZ 851328044
304-21-272	Loeding Ryan	2863 E Park Ave	Gilbert, AZ 852346357
304-94-236	Lorch Jeanne M	8248 Bogie Loop #236	Show Low, AZ 85901
304-24-037	Low Mary E & Douglas W (Cprs)	2201 S Diamond D Dr	Tucson, AZ 857136844
304-21-179A	Ludwig Russell W (Bd)	Po Box 91094	White Mountain Lake, AZ 859121
304-94-346	Magnuson Daryl R & Yvonne A (Cprs)	346 Juniper Ridge Resort	Show Low, AZ 859019573
304-24-005	Marshall Edith Family Trust Marshall Edith Trustee	1954 Maritime Dr	Show Low, AZ 859017684
304-21-244	Martindelcampo Jesus	805 Caminito Linares	Chula Vista, CA 919117056
304-21-174	Martinez Robert & Judy Cprs	8512 Glade Dr	Temple, TX 765027475
304-21-154	Matson Brian Jon	1025 200Th Ave	Slayton, MN 56172-1999
304-21-155	Matson Brian Jon	1025 200Th Ave	Slayton, MN 56172-1999
304-21-249	Mccutcheon Jay C & Karla B (Cprs)	6659 Az Highway 260	Show Low, AZ 85901
304-21-036	Mcmeechan William D	1029 Westmont Ter	Modesto, CA 953562056
304-21-238, 239 &	Mej East Lyme Limited Partnership	68 First St	Malrose, MA 02176
304-94-342	Mellen Donald & Barbara (Cprs)	20407 N Desert Glen Dr	Sun City West, AZ 853755560
304-94-311	Merrifield Stephen & Barbara (Cprs)	8230 Alameda Falls Ave	Las Vegas, NV 891311500
304-21-030	Meyer Harry E Trustee	7362 W Dawson Dr	Golden Valley, AZ 864138173
304-94-234	Meyers Revocable Trust Meyers Kenneth & Joan Trustees	234 Juniper Ridge Resort	Show Low, AZ 859019529
304-24-036	Middlewood Mark & Wendy (Cprs)	1930 Passage Dr	Show Low, AZ 859016899
304-24-041	Miller Fern L & Wendell R Trustees	1940 Passage Dr	Show Low, AZ 859016899
304-21-354	Miller Kathryn F	8460 Powells Ln	Show Low, AZ 85901
304-21-353	Mills John & Mills Joseph	3552 W Ross Ave	Glendale, AZ 853082143
304-21-037, 038, 03	Mills Judy A & Larry A Revocable Trust Christensen Juday A & Mills Larry A Trustees	25047 N 95Th Ave	Peoria, AZ 853831332
304-94-166	Molloy Scott A & Virginia D (Cprs)	20260 Dovekie Ln	Indian Land, SC 297070081
304-94-221	Moore Bruce R & Teri B Trustees	1108 Coconino Dr	Blythe, CA 922251081
304-30-044 & 045	Morgan Gary W	1461 Deborah Dr	Clarkdale, AZ 86324-3232
304-94-308	Myers David R & Connie Cprs	3508 Amberwood Ln	Lake Havasu City, AZ 86404-3461
304-19-591	Navarro Edith	3701 E Alvord Rd	Tucson, AZ 857064717
304-94-110	Nelson Family Trust	942 N 87Th Pl	Scottsdale, AZ 85257-4519
304-94-345	Nelson Raymond S & Cathey L (Cprs) (Bd)	345 Juniper Ridge Resort	Show Low, AZ 859019574
304-94-198	Nelson Roger & Brooke (Cprs)	2304 E Hammer Lane	Fort Mohave, AZ 86426
304-94-348	Nelson Vasco Living Trust Nelson Vasco Trustee	17200 W Bell Rd Lot 2361	Surprise, AZ 853749883

304-21-035	Osuna Charlene A Trust	4134 N Kearny Dr	Prescott Valley, AZ 863147545
304-94-233	Page Geraldine M	17188 N Moccasin Trl	Surprise, AZ 853749628
304-24-030	Paget-Gardner Family Living Trust Paget Paul L & Gardner Lynn Trustees	1918 Passage Dr	Show Low, AZ 859016899
304-24-039	Pawluk Richard & Angela	1936 Passage Dr	Show Low, AZ 859016899
304-94-309	Pellerino Rita Trust	8262 Lake Shore Dr Lot 309	Show Low, AZ 85901
304-21-172	Perkins James E & Mary Jane (Jt)	7770 N Sin Salida Ct	Tucson, AZ 857044543
304-94-108	Perry Karen L	108 Juniper Ridge Resort	Show Low, AZ 859019548
304-94-182	Polizzi Tim G & Susan J Trustees	14408 W Sky Hawk Dr	Sun City West, AZ 853755923
304-30-042A & 053	Ponce De Leon James Living Trust Ponce De Leon James Trustee	2181 N Calle Del Suerte	Tucson, AZ 857459695
304-30-054	Ponce De Leon James Living Trust Ponce De Leon James Trustee	281 N Calle Del Suerte	Tucson, AZ 85745
304-24-029, 040	Power Connections Llc	1251 E Salado Cir	Mesa, AZ 852032053
304-94-173	Rader Joyce S Pinson Donna S (Jt)	15994 W Quail Brush Ln	Surprise, AZ 853746113
304-21-234	Ramsey Kimberly D & Darren F (Cprs)	1863 Daggs St	Show Low, AZ 859017548
304-94-249	Rester Kenneth R Jr & Loretta A (Cprs)	134 Concho Trl	Harper, TX 786315294
304-21-336	Retzlaff William G	1336 S Avenida Conalea	Tucson, AZ 85748-7717
304-24-003	Rich Dennis A & Diana Y (Cprs)	1950 Maritime Dr	Show Low, AZ 859017684
304-21-165	Rink Robert	8234 N 15Th Pl	Phoenix, AZ 85020-3821
304-30-037	Rivas Ricardo R Waldriff-Rivas Trina (Cprs)	1938 Canchas Pl	Show Low, AZ 85901
304-21-333 & 334	Roadifer Ashley	14338 W Verde Ln	Goodyear, AZ 853958332
304-94-274	Roberts Barbara L & Chesnut Thomas J Living Trust Roberts Barbara L & Chesnut Thomas J Trustees	13650 N Frontage Rd # 1264	Yuma, AZ 853677423
304-94-349	S & T Karaoke Trust Bourdo Thomas F & Sonya L Trustees	17915 N Windfall Dr	Surprise, AZ 853741905
304-30-036	San Julian Cynthia	25023 S Chrisman Rd	Tracy, CA 95304-9167
304-94-277	Saunders John S & Joyce A Trustees	4149 Trimaran Dr	Lake Havasu City, AZ 864069264
304-30-018A	Scafetta Philip (Bd)	23612 N 105Th Ln	Peoria, AZ 853839704
304-94-350	Schneible Dennis E & Alyce K Trustees	20879 N Sweet Dreams Dr	Maricopa, AZ 851383129
304-21-231	Schwinghamer David E	28208 N 56Th St	Cave Creek, AZ 853313467
304-94-310	Scott Marty & Phyllis (Cprs)	310 Juniper Ridge Resort	Show Low, AZ 859019573
304-94-352	Sheldon Lissa M Trustee	5001 E Main St Lot 261	Mesa, AZ 852058056
304-21-164	Sheremeta Adrian	47775 7 Mile Rd	Northville, MI 481679208
304-24-001	Shoemaker Fred Jr & Pamela S (Cprs)	1946 Maritime Dr	Show Low, AZ 859017684
304-94-131	Short-Meneley Gary W Meneley Laurel M Trustees	14221 N Trade Winds Way	Oro Valley, AZ 857558844
304-94-251	Sigler Richard & Shannon (Cprs)	1846 Par Cir Sp 251	Show Low, AZ 85901
304-21-371B	Silver Creek Irrigation District	General Delivery	Show Low, AZ 859019999
304-21-235	Silvis Bobby A & Michelle L (Cprs)	14157 E 49Th St	Yuma, AZ 853677914
304-94-130	Simleness Gary L & Marilyn L (Cprs)	17200 W Bell Rd Lot 765	Surprise, AZ 853749831
304-94-379	Slanina Family Living Trust Slanina William C & Ann M Trustees	850 Yattahhey Dr	Lake Havasu City, AZ 864067315
304-94-191	Smith Bobby L & Dottie E (Cprs)	19931 N 98Th Ave	Peoria, AZ 853824125
304-21-377	Smith Rodney O Trust	5874 Sagebrush Rd	La Jolla, CA 92037-7037
304-21-237	Smith Scot R & Linda Cprs	196 S Laguna Dr	Gilbert, AZ 85233-5734
304-94-276	Smyton Paul W & Martha M Trustees	11105 W Jacaranda Dr	Sun City, AZ 853731513
304-21-247	Stangle Darrel E & Taryn (Jt)	1467 E Saratoga Ct	Gilbert, AZ 852962530

304-21-271	Steenbakker Emmanuel 1/3, Steenbakker Rebecca 1/3 Steenbakker Raymond 1/3	11441 E Placita Madre	Tucson, AZ 857499212
304-94-266	Stier Donald M Schultz Linda (Jt)	266 Juniper Ridge Resort	Show Low, AZ 859019529
304-94-250	Story Norman D & Carol M Trustees	5842 E Leland St	Mesa, AZ 852152716
304-24-028	Sullivan Diane C C/O Jancie Smith	8500 Kingbird Loop Apt 823	Estero, FL 339675781
304-21-187	Syrek Robert W & Autumn K Jt	8801 Misty Creek Ave	Las Vegas, NV 891297073
304-94-168	Sythe Richard & Patricia Living Trust Sythe Richard B & Patricia R Trustees	168 Juniper Ridge Resort	Show Low, AZ 859019505
304-94-351	Thomas George A	3541 Oro Grande Blvd	Lake Havasu City, AZ 864067206
304-24-038	Thomas Rose M Trustee 50% Clements Robert F & Tina E Trustees 50%	1925 Passage Dr	Show Low, AZ 859016905
304-21-162 & 163	Thompson Frank J	23635 Messina	Laguna Hills, CA 926531831
304-94-278	Tovaas Robert M & Bonita E Trustees	745 Zaphiro Ct	San Jacinto, CA 925836812
304-21-170	Treitel Peter S & Ellen Jt	1554 E Tam O Shanter St	Ontario, CA 91761-6353
304-21-251	Triumph Property Llc	9393 N 90Th St #102-633	Scottsdale, AZ 85258
304-30-038 & 039	Trosko Megan Aschebrock Cassidy (Jt)	2319 E Electra Ln	Phoenix, AZ 850248650
304-94-167	Turgeon Family Trust Turgeon Steven C & Lynn J Trustees	9117 W Willow Haven Ct	Sun City, AZ 853511769
304-21-355	Tweedy Wanda M	4880 N Hobo Cir	Prescott Valley, AZ 863145109
304-30-040	Ulan Family Limited Partnership Llp	5320 N 16Th St Ste 111	Phoenix, AZ 850163241
304-21-248	Valdez Alfred R	2526 S Perillo Dr	Tucson, AZ 857109112
304-21-167	Valenzuela Benjamin Louis & Karen (Jt)	3138 W Juniper Ave	Phoenix, AZ 850533027
304-21-161	Valenzuela Linda A	1752 N Calle Del Suerte	Tucson, AZ 85745-9633
304-21-241	Valles Ronald B & Karlie L (Cprs)	4111 Holcomb Creek Dr	Buford, GA 305198802
304-21-371U	Voyager At Juniper Ridge Homeowners Ass. C/O Hoamco	Po Box 10000	Prescott, AZ 863040010
304-94-195	Watson Carol J	9105 E Citrus Ln N	Sun Lakes, AZ 852486414
304-24-999A	White Mountain Lake Vistas Homewoners Association	Po Box 10000	Prescott, AZ 863040010
304-24-042	Whiteman Chance L & Barbara A Trustees	1942 Passage Dr	Show Low, AZ 859016899
304-94-253	Wood Dennis D & Barbara (Cprs)	13704 W Robertson Dr	Sun City West, AZ 853752030
304-21-173	Yake Linda C (Lange)	213 E Clearwater Rd	Lindenhurst, NY 11757-6524

<u>Sign In Sheet</u> with 55 people who signed in.

Rock Creek
Neighborhood Community Meeting
Thursday, August 22, 2024

NO.	NAME	EMAIL	PHONE
1	Kara Janser		602 389 2517
2	Paul Paget	pmpet11@gmail	928-301-9787
3	Lynn Gardner	lynner49@gmail.com	970-988-2736
4	Denis Olstad	denisolstad@hotmail.com	
5	Fern Miller	fernlet9@gmail.com	928 940-2379
6	Paul Millner	Mill9399@aol.com	928 941 1218
7	Bob Riester	1788 Morgan	928-532-5744
8	Nick Riester	1788 Morgan	928-532-5744
9	Paul S. Moskowitz	Paul@themoskowitzgroup.com	602-509-5200
10	Mark Middlewood	1930 Passage Dr	360-903-2249
11	Gerard Kindt	1955 Passage	302-690-8628
12	Dallas Chapman	chapmandallas@gmail.com	530-451-4984
13	E GRABENAUER	grab32@gmail	
14	Gary Antson	yoooright47.0	yahoo.
15	Linda & Brian Bergeson	Lbergeson.5e@gmail.com	480 688 0202
16	Debra Citron	d.citron52@gmail.com	928.400.0716
17	Tim + Susan Polizzi	Suejoy867@gmail.com	559-301-6
18	KATHLEEN GLUMBIK	KGlumbik@GMAIL	509-590-9959
19	Randy Reister	Kenreister59@GMAIL.com	
20	Chuck Fowler	president@rimlvhoa.com	719-649-9026
21	Luann Fowler	luann@fowlerfam.com	719-649-9036
22	DENNIS RICH	HYDRAULICR@HOTMAIL.COM	219-384-3342
23	JEFF MIZE	Jeffe leadingedge Services.us	602.989.6340
24	Mike Gallagher	M.gallagher@yahoo	
25	Frank Bacher		928-242-0481

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Rock Creek
Neighborhood Community Meeting
Thursday, August 22, 2024

NO.	NAME	EMAIL	PHONE
1	Howard Clay	howard.clay@cox	480.225-7442
2	Kristen Engebretson	KristenENH@gmail.	928 368 3002
3	Victoria Russell	snowflowers10@gmail.	4807984781
4	Linda Scot Smith	lindasmith196@yahoo	—
5	Stacey Marshall	STACEY-MARSHALL@COX.NET	530-515-3796
6	Linda Schultz	LICSCHULTZ1958@gmail	8106258095
7	DON STIER	playnayer@gmail.com	928-205-8865
8	Marty-Phyllis Scott	JJT8260@GM	970-209-2504
9	Pam Shoemaker	PAMASTERCAT@gmail	970 560 1740
10	[illegible]	—	208 790 4814
11	Jeff Johnson	—	760-2386685
12	[illegible]	—	—
13	[illegible]	tom.bonardo@gmail	—
14	[illegible]	dan20@cox.net@gmail.com	
15	[illegible]	—	—
16	[illegible]	BOARD[illegible]@cox.com	480-[illegible]
17	Michele & Ed Dressell	michele.dressell@gmail.com	
18	Donna & Eric Gierst	DGGIERST@Gmail.com	
19	Debbie Bismarck	—	—
20	Doug Davis	doug.fonrose@gmail.com	4807860492
21	Susan Fox	"	"
22	B. Hayden	BHFrank@cox.net	5126381874
23	Karen Perry	KenPerry10@gmail.com	520-444-1174
24	Tom + Barbara Chesnut	tom.chesnut@aol.com	
25	Jessica Delaney	wmicommunityevents@gmail.com	916-708-3986

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Rock Creek
Neighborhood Community Meeting
Thursday, August 22, 2024

NO.	NAME	EMAIL	PHONE
1	STACEY GALOP	STACEYGALOP@AOL	928 815-1367
2	Nancy Mackin	nancy.mackin@comcast.net	520 560-2207
3	Steve & Tina Allen	Steve61.freedom@gmail.com	928-892-90
4	Gary & Judy Lynne	metaecwgary@gmail.com	402 2343
5	Debi Bismarck	WMLCA	352 - 215 - 3728
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<u>Post Card</u> (Front) sent to all 225 addresses.

PUBLIC NOTICE

Allen Land Development, LLC

Please accept this invitation to attend a community meeting where the owners of APN 304-21-371Q would like to hear your feedback regarding the proposed subdivision plans. This meeting will be held on August 22, 2024 at 10:00 AM on site. We will meet approximately 485 feet southeast of Summer Pl. & Silver Creek Dr. (Lat 34.353721, Long -109.998214). This location is at the northeast side of our property. We look forward to sharing our plans and hearing from our neighbors. If you cannot attend, please feel free to contact Jasmine Valentine at 1-602-390-7203.

To:

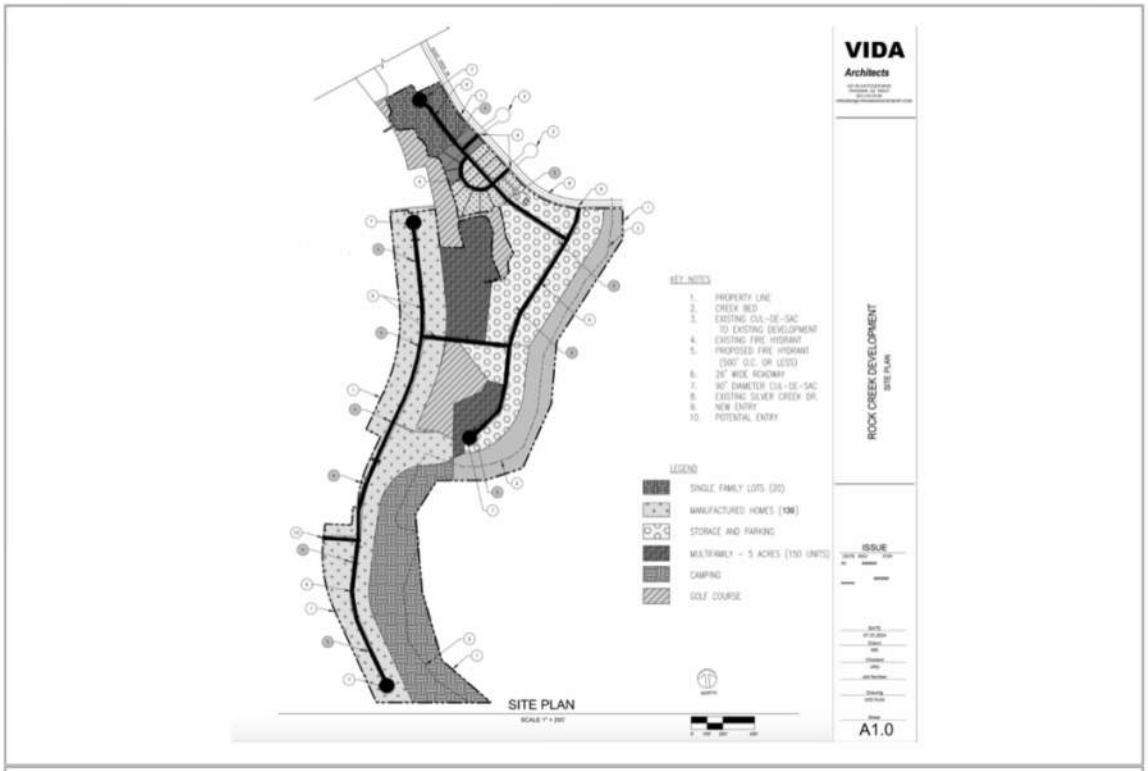
PUBLIC NOTICE

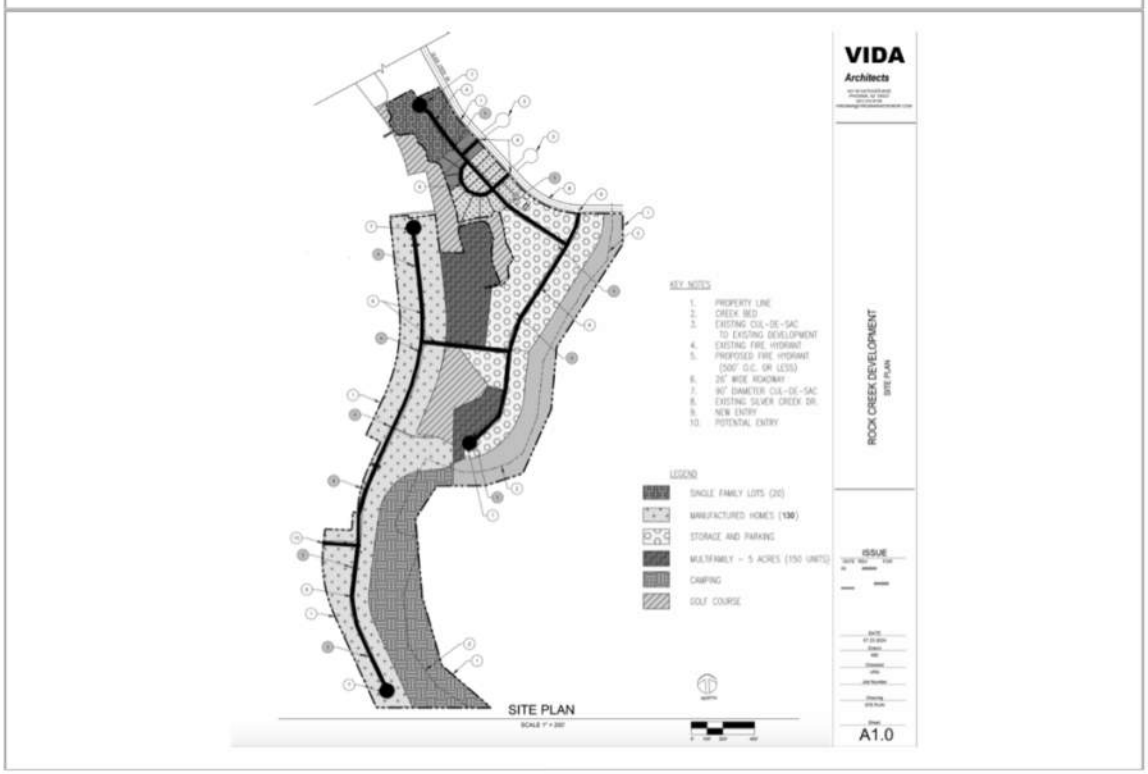
Allen Land Development, LLC

Please accept this invitation to attend a community meeting where the owners of APN 304-21-371Q would like to hear your feedback regarding the proposed subdivision plans. This meeting will be held on August 22, 2024 at 10:00 AM on site. We will meet approximately 485 feet southeast of Summer Pl. & Silver Creek Dr. (Lat 34.353721, Long -109.998214). This location is at the northeast side of our property. We look forward to sharing our plans and hearing from our neighbors. If you cannot attend, please feel free to contact Jasmine Valentine at 1-602-390-7203.

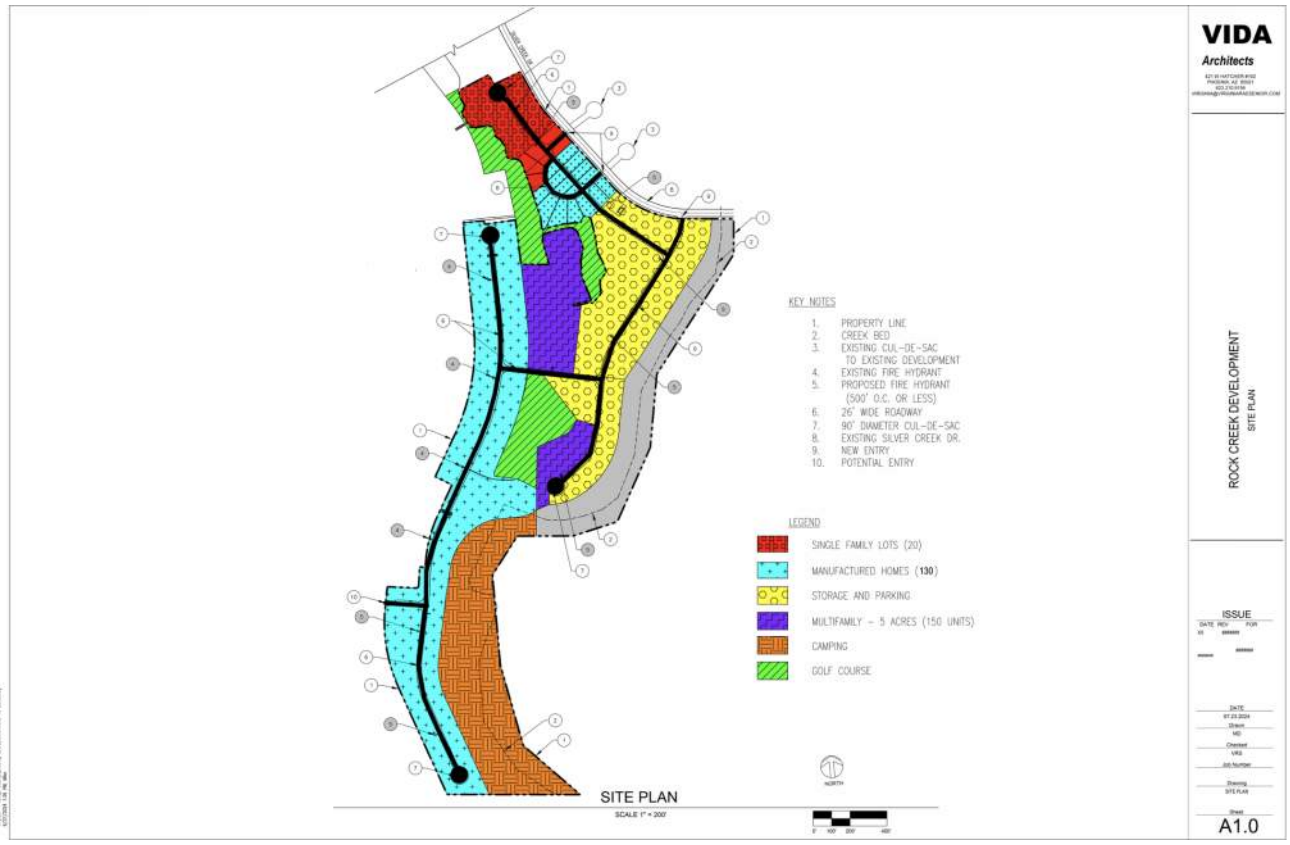
To:

<u>Post Card</u> (Back)





Site Plan


VIDA
Architects
ROCK CREEK DEVELOPMENT
SITE PLAN
KEY NOTES
1. PROPERTY LINE
2. CREEK BED
3. EXISTING CUL-DE-SAC TO EXISTING DEVELOPMENT
4. EXISTING FIRE HYDRANT
5. PROPOSED FIRE HYDRANT (500' O.C. OR LESS)
6. 26' WIDE ROADWAY
7. 90' DIAMETER CUL-DE-SAC
8. EXISTING SILVER CREEK DR.
9. NEW ENTRY
10. POTENTIAL ENTRY
LEGEND
SINGLE FAMILY LOTS (20)
MANUFACTURED HOMES (130)
STORAGE AND PARKING
MULTIFAMILY - 5 ACRES (150 UNITS)
CAMPING
GOLF COURSE
NORTH
SITE PLAN
SCALE 1" = 200'
ISSUE
A1.0

WHEN RECORDED, RETURN TO:
WMLV Unit II, LLC
Attn: Manager
1925 Passage Drive
Show Low, AZ 85901
Courtesy Recording
No Title Liability

2022-04275
Page 1 of 18
Requested By: Pioneer Title Agency
Michael Sample - Recorder
Navajo County, AZ
03/01/2022 02:21 PM Recording Fee $30.00

DECLARATION OF AFFIRMATIVE LAND USE AND RESTRICTIVE COVENANTS

Declarant: WMLV Unit II, LLC

The Beneficiaries: White Mountain Lake Vistas Homeowners Association; and Juniper Ridge Resort Homeowners Association

Navajo County Assessor's Tax Parcel #: 304-21-371Q

This Declaration of Land Use Restriction and Real Property Covenant ("the Real Property Covenant") is made this 28th day of February 2022, by WMLV Unit II, LLC ("Declarant"), for the benefit of White Mountain Lake Vistas Homeowners Association; and Juniper Ridge Resort Homeowners Association, referred to herein as "the Beneficiaries".

WHEREAS, the Declarant makes the following recitals:

A. Declarant is the sole owner in fee simple of the real property located in Navajo County, Arizona, legally described on Exhibit A (the "Property"). A map of the property is attached to and made part of this Real Property Covenant, as Exhibit B.
B. The ultimate uses and activities on the Property are of great importance to Declarant and the Beneficiaries.
C. The Beneficiaries each own an "Age-Restricted Housing Community" or an "Age-Restricted Housing Resort", operated for occupancy by at least one person fifty-five (55) years of age or older per Residential Unit, with permitted exceptions, under the Fair Housing Amendments Act of 1988, 42 U.S.C. § 3600, et seq., as amended by the Housing for Older Persons Act of 1995, and the rules and regulations interpreting such act published by the Department of Housing and Urban Development under 24 CFR Part 100 et al (the "HOPA") and the Arizona Fair Housing Act, A.R.S. § 44-1491, et seq.
D. The Property, which shares west and north boundaries with the Beneficiaries' properties, was intended by its former owner and the developer of the Beneficiaries' communities to be an age-restricted community.
E. Juniper Ridge Resort Homeowners Association, one of the Beneficiaries, owns an 18-hole executive golf course as a common area amenity. Four of its golf holes are partially or entirely surrounded by the Property and six others run along the Property's west boundary.
F. The Declarant is creating a Real Property Covenant on this Property for the purpose of protecting the quality of the age-restricted lifestyle on the property of the Beneficiaries.
G. Pursuant to a Purchase Contract dated October 19, 2021 and Addendum dated October 21, 2021, as assigned, the Declarant agreed to sell the Property to WM Land Management LLC ("Declarant's Successor and Assign") for the purpose of development of the approximately 67.2 acre vacant land parcel.

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WHEN RECORDED, RETURN TO:
WMLV Unit II, LLC
Attn: Manager
1925 Passage Drive
Show Low, AZ 85901

NOW, THEREFORE, in consideration of the above and the covenants, terms, conditions and restrictions contained herein, Declarant, does hereby establish a Real Property Covenant on the Property as follows:

1. *Declaration of Real Property Covenant*

Declarant voluntarily establishes this Real Property Covenant in perpetuity over the Property on the terms and conditions set forth herein exclusively for the purpose of maintaining compatibility with the age-restricted quality of the Beneficiaries' neighborhood while ensuring development of the Property achieves its highest and best use.

2. *Purpose*

It is the purpose of this Real Property Covenant to ensure that the Property will be used for such activities as are consistent with and compatible with the provisions of this Real Property Covenant.

3. *Rights of The Beneficiaries*

To accomplish the purpose of this Real Property Covenant the following rights may be exercised by the Beneficiaries:

(a) To prevent any activity on or use of the Property that is inconsistent with the purpose of this Real Property Covenant; and

(b) To stop inconsistent activity or use, pursuant to the remedies set forth in Section 8.

4. *Prohibited Uses*

Any activity on or use of the Property inconsistent with the purpose of this Real Property Covenant is prohibited. Notwithstanding the Property's zoning, and without limiting the generality of the foregoing, the following activities and uses are expressly prohibited, except as permitted in Section 5:

(a) *Industrial Development.* Any industrial use or activity on the Property.

(b) *Commercial Development.* Any commercial use or activity on the Property that is not compatible with an age-restricted community.

(c) *Agricultural Activities.* Any domestic animal grazing or agricultural activities of any kind.

(d) *Signs.* The placement of commercial signs, billboards, or other commercial advertising material on the Property that is not compatible with an age-restricted community.

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WHEN RECORDED, RETURN TO:
WMLV Unit II, LLC
Attn: Manager
1925 Passage Drive
Show Low, AZ 85901

(e) *Mineral Development.* The exploration for, or development and extraction of, any minerals or hydrocarbons.

(f) *Waste Disposal.* The disposal, storage, or release of hazardous substances, rubbish, garbage, debris, unregistered vehicles, abandoned equipment, parts thereof, or other unsightly or offensive waste or material on the Property. The term "release" shall mean any release, generation, treatment disposal, storage, dumping, burying, abandonment, or migration from off-site. The term "hazardous substances" as used in this Real Property Covenant shall mean any substances, materials, or wastes that are hazardous, toxic, dangerous, harmful or are designed as, or contain components that are, or are designated as, hazardous, toxic, dangerous, or harmful and/or which are subject to regulation as hazardous, toxic, dangerous or harmful or as a pollutant by any federal, state, or local law, regulation, statute, or ordinance, including, but not limited to, petroleum or any petroleum product.

5. *Reserved Rights*

Declarant reserves for itself and its successor(s) and/or assign(s) (including WM Land Management LLC and its successor(s) and/or assign(s)) any use of, or activity on, the Property that is not inconsistent with the purpose of the Real Property Covenant and that is not prohibited herein. Without limiting the generality of the foregoing, and notwithstanding the Property's zoning, Declarant specifically reserves the following uses and activities provided: (i) they are adequately fenced from the Beneficiaries' properties; (ii) any Residential, Recreational Vehicle Lot, Vacation Rental, Common Area Recreational or Commercial Development that abuts or is within 100 feet of the Beneficiaries' homeowner lots shall be operated as or for an Age-Restricted Housing Community or Resort, as defined in the recitals; and (iii) no development structure or fence shall obstruct the view of White Mountain Lake from any White Mountain Lake Vistas residential lot:

(a) *Residential Development.* Any residential use or activity on the Property, whether multifamily or single-family housing, site-built or manufactured, owned or leased.

(b) *Recreational Vehicle Lot Development.* Any recreational vehicle use or activity on the Property, whether lots are owned or leased.

(c) *Vacation Rental Development.* Any vacation rental use or activity on the Property, whether houses, cabins, cottages, lodges, villas, etc., site-built or manufactured.

(d) *Common Area Recreational Development.* Any common area recreational use or activity on the Property, whether in buildings or outdoor facilities, that are part of a permitted community or resort as described in 5.(a), 5.(b) or 5.(c).

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WHEN RECORDED, RETURN TO:
WMLV Unit II, LLC
Attn: Manager
1925 Passage Drive
Show Low, AZ 85901

(e) *Commercial Development*. Select commercial uses or activities that are compatible with, incidental to or complimentary to the development of a permitted community or resort, as described in 5.(a), 5.(b) or 5.(c). This may include, but is not limited to, restaurant, convenience store, RV and boat storage, self-storage building(s), senior care facility, and services provided primarily to residents of the permitted community or resort and the Beneficiaries. All commercial structures must be aesthetically pleasing.

(f) *Subdivision*. The right to divide the Property into two or more parcels of land that may each be independently transferred by deed or otherwise to an independent party. In the event of such subdivision of the Property, this Real Property Covenant shall apply to each such parcel, with the exception of any parcel deeded or transferred to Navajo County or other governmental body.

(g) *Emergencies*. The right to undertake other activities necessary to protect public health, property improvements, or human safety, or which are actively required by and subject to compulsion of any governmental agency with authority to require such activity.

(h) *Fence*. The right to install and maintain appropriate fences around the Property, and the Beneficiaries agree not to remove or damage said fences.

6. *Responsibilities of Declarant Not Affected*

Other than as specified herein, this Real Property Covenant is not intended to impose any legal or other responsibility on the Beneficiaries, or in any way to affect any existing obligation of the Declarant as owner of the Property.

7. *Access*

No right of access by the general public to any portion of the Property is created by this Real Property Covenant.

8. *Enforcement*

The Beneficiaries shall have the right to prevent and correct violations of the terms of this Real Property Covenant as set forth below..

(a) *Notice of Failure*. If The Beneficiaries determine that the Declarant is in violation of the terms of this Real Property Covenant or that a violation is threatened, the Beneficiaries shall give written notice to Declarant of such violation and demand corrective action sufficient to cure the violation

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WHEN RECORDED, RETURN TO:
WMLV Unit II, LLC
Attn: Manager
1925 Passage Drive
Show Low, AZ 85901

(b) *Declarant's Failure to Respond.* The Beneficiaries may bring an action as provided for in Section 8.(c) below if Declarant fails to cure the violation within thirty (30) days after receipt of notice thereof from the Beneficiaries; fails to begin curing such violation within the thirty (30) day period under circumstances where the violation cannot reasonably be cured within the thirty (30) day period; or fails to continue diligently to cure such violation until finally cured.

(c) *The Beneficiaries' Action.* The Beneficiaries may bring action at law or in equity in a court of competent jurisdiction to enforce the terms of this Real Property Covenant, to enjoin the violation, *ex parte* as necessary and as allowed under the applicable civil rules, by temporary or permanent injunction.

(d) *Costs of Enforcement.* Provided the Beneficiaries first provide Declarant with a Notice of Failure and Declarant fails to respond, all reasonable costs incurred by the Beneficiaries in enforcing the terms of this Real Property Covenant against Declarant, including, without limitation, costs and expenses of suit and reasonable attorney's fees and reasonable consultant's fees shall be borne by Declarant. The substantially prevailing party in a judicial enforcement action regarding this Real Property Covenant shall be entitled to reimbursement of all reasonably incurred attorney's fees and litigation expenses.

(e) *The Beneficiaries' Discretion.* Any forbearance by the Beneficiaries to exercise rights under this Real Property Covenant in the event of any violation of any terms of this Real Property Covenant shall not be deemed or construed to be a waiver of such term or of any rights under this Real Property Covenant. No delay or omission by the Beneficiaries in the exercise of any right or remedy shall impair such right or remedy or be construed as a waiver.

9. *Alternate Dispute Resolution*

If a dispute arises between the Parties concerning the consistency of any proposed use or activity with this Real Property Covenant, the Parties shall attempt to resolve the dispute through informal discussion. The Parties may also agree to refer the dispute to mediation and shall select a single mediator to hear the matter. Each party shall bear its own costs, including attorney's fees, if mediation is pursued under this Section 9. The Parties shall share equally the fees and expenses of the mediator.

10. *Notice and Approval*

(a) *Notice.* Whenever notice is required under this Real Property Covenant, the party required to give notice ("Notifying Party") shall give reasonable written notice prior to the date the Notifying Party intends to undertake the use or activity in question. The notice shall describe the nature, scope, design, location, timetable, and any other material aspect of the proposed activity in sufficient detail to permit the other party to make an informed judgment as to its consistency with the purpose and terms of this Real Property Covenant.

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WHEN RECORDED, RETURN TO:
WMLV Unit II, LLC
Attn: Manager
1925 Passage Drive
Show Low, AZ 85901

(b) *Evaluation of Proposed Activities.* The purpose of requiring the Notifying Party to notify the other party prior to undertaking certain permitted uses and activities is to afford the other party an opportunity to ensure that the use or activity in question is designed and carried out in a manner consistent with the purpose and terms of this Real Property Covenant.

11. *Notice of Real Property Covenant by Virtue of Transfer of Property by Declarant and Successors and Assigns*

Anytime the Property itself, or any interest in it, is transferred by the Declarant or its successors and/or assigns to a third party, such third party shall be deemed to have received notice of this Real Property Declaration, regardless of whether the document of conveyance expressly refers to this Real Property Covenant.

12. *Termination of Real Property Covenant*

(a) *Frustration of Purpose.* This Real Property Covenant may only be terminated with the concurrence of the Beneficiaries.

(b) *Economic Value.* The fact that any use of the Property that is expressly prohibited by this Real Property Covenant, or any other use as determined to be inconsistent with the purpose of this Real Property Covenant, may become greatly more economically valuable than permitted uses, or that neighboring properties may in the future be put entirely to uses that are not permitted thereunder, has been considered by the Declarant in granting this Real Property Covenant. It is the intent of both Declarant and the Beneficiaries that any such changes shall not be assumed to be circumstances justifying the termination or extinguishment of this Real Property Covenant pursuant to this section.

13. *Modification*

This Real Property Covenant may be amended only with the concurrence of the Beneficiaries, provided that any such amendment shall be consistent with the purpose of the Real Property Covenant and shall not affect its perpetual duration. All amendments shall be in writing, approved by the Beneficiaries and recorded in the real property records of Navajo County.

14. *Interpretation*

This Real Property Covenant shall be interpreted under the laws of Arizona, resolving any ambiguities and questions of the validity of specific provisions so as to give maximum effect to its intent and purpose.

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WHEN RECORDED, RETURN TO:
WMLV Unit II, LLC
Attn: Manager
1925 Passage Drive
Show Low, AZ 85901

15. *Perpetual Duration*

This Real Property Covenant shall be a binding servitude running with the land in perpetuity.

16. *Notices*

Any notices required by this Real Property Covenant shall be in writing and shall be personally delivered or sent by first class mail to the Declarant, at the following address, unless the Beneficiaries have been notified of a change of address.

To Declarant: WMLV Unit II, LLC
Attn: Rose M. Thomas
1925 Passage Drive
Show Low, Arizona 85901

17. *Severability*

If any provision of this Real Property Covenant is found to be invalid, illegal or unenforceable, that finding shall not affect the validity, legality or enforceability of the remaining provisions.

In Witness Whereof, the Declarant has set its hand on the date first written above.

Declarant: WMLV Unit II, LLC

By: Rose M. Thomas
Rose M. Thomas
Chief Executive Manager

State of Arizona)
) ss.
County of Navajo)

On this 28 day of February, 2022, before me personally appeared Rose M. Thomas (name of signer), whose identity was proven to me on the basis of satisfactory evidence to be the person who he or she claims to be, and acknowledged that he or she signed the above/attached document.

Melissa M. Hartman
Notary Public

(Seal)
MELISSA M. HARTMAN
Notary Public - State of Arizona
NAVAJO COUNTY
My Commission Expires
March 29, 2022

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Exhibit "A"

That part of Section 15 Township 11 North, Range 22 East, of the Gila and salt River Base and Meridian, Navajo County, Arizona Described as follows:

Commencing at the Southwest corner of Section 15;

Thence along the South line of said Section 15, South 89 degrees 59 minutes 01 seconds East, 1443.18 feet to the True Point of Beginning;

Thence continuing along said Southerly line South 89 degrees 59 minutes 01 seconds East, 720.93 feet to the Southwest corner of White Mountain Lakes Unit No. 3, recorded in Book 9 of Maps, Page 5, records of Navajo County, Arizona;

Thence along the Westerly line of said White Mountain Lakes Unit No. 3, the following 10 courses;

Thence North 49 degrees 30 minutes 00 seconds West, 408.06 feet;

Thence North 16 degrees 00 minutes 00 seconds West, 453.81 feet;

Thence North 05 degrees 00 minutes 00 seconds West, 489.33 feet;

Thence North 32 degrees 30 minutes 00 seconds East, 250.00 feet;

Thence East, 305.00 feet;

Thence North 72 degrees 00 minutes 41 seconds East, 251.50 feet;

Thence North 23 degrees 45 minutes 00 seconds East, 440.25 feet;

Thence North 05 degrees 00 minutes 00 seconds East, 397.25 feet;

Thence North 32 degrees 45 minutes 00 seconds East, 770.53 feet;

Thence North 203.96 feet to a point on the Southerly right of way line of Silver Creek Drive as shown on Plat of White Mountain Lakes No. 8, recorded in Book 9 of Maps, Page 30, records of Navajo County, Arizona;

Thence leaving said Westerly line and along said Southerly line the following 6 courses;

Thence West, 252.67 feet to the beginning of a tangent curve concave Northeasterly and having a radius of 540.00 feet;

Thence Northwesterly along said curve through a central angle of 47 degrees 30 minutes 00 seconds, am arc length of 447.68 feet;

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Thence tangent to said curve North 42 degrees 30 minutes 00 seconds West, 520.29 feet to the beginning of a tangent curve, concave Northeasterly and having a radius of 480.00 feet;

Thence Northwesterly along last said curve through a central angle of 13 degrees 00 minutes 00 seconds, an arc length of 108.91 feet;

Thence tangent to last said curve North 29 degrees 30 minutes 00 seconds West, 245.00 feet to the beginning of a tangent curve, concave Northeasterly and having a radius of 1040.00 feet;

Thence Northwesterly along last said curve through a central angle of 14 degrees 30 minutes 00 seconds, an arc length of 263.20 feet;

Thence North 15 degrees West, 314.88 feet;

Thence leaving said Southerly line South 75 degrees 00 minutes 00 seconds West, 853.82 feet to a point on the Easterly line of Juniper Ridge Phase 1, a 529 Recreational Vehicle Resort, according to the plat recorded in Book 15 of Maps, Page 45, records of said County, said point being also the beginning of a non-tangent curve, concave Northeasterly and having a radius of 2830.00 feet, a radial at said point bears North 61 degrees 21 minutes 25 seconds East;

Thence along said Easterly line the following courses:

Southeasterly along last said curve through a central angle of 09 degrees 20 minutes 18 seconds, an arc length of 461.25 feet;

Thence tangent to last said curve South 37 degrees 58 minutes 53 seconds East, 471.11 feet to the beginning of a tangent curve, concave Northeasterly and a having a radius of 1120.00 feet;

Thence Southeasterly along last said curve through a central angle of 31 degrees 57 minutes 24 seconds, an arc length of 624.48 feet;

Thence tangent to last said curve South 06 degrees 01 minutes 29 seconds East, 538.60 feet to the beginning to a tangent curve, concave Westerly and having a radius of 1100.00 feet;

Thence Southerly along last said curve through a central angle of 30 degrees 58 minutes 36 seconds, an arc length of 596.71 feet;

Thence tangent to last said curve South 24 degrees 57 minutes 07 seconds West, 720.55 feet to the beginning of a tangent curve, concave Easterly and having a radius of 870.00 feet;

Thence Southerly along last said curve through a central angle of 49 degrees 34 minutes 53 seconds, an arc length of 752.86 feet;

Thence South 24 degrees 37 minutes 46 seconds East, 631.48 feet to the True Point of Beginning; and

Except that part of the Southwest quarter of Section 15, Township 11 North, Range 22 East, of the Gila and Salt River Base and Meridian, Navajo County, Arizona, described as follows:

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Beginning at the Southwest corner of said Section 15 and the Southwest corner of Juniper Ridge Subdivision as recorded in Book 15 of Maps, Page 45 of the Plats of Navajo County, said corner being marked by a 5/8 inch rebar and aluminum cap;

Thence South 89 degrees 59 minutes 01 seconds East along the South line of said Section 15 and subdivision, a distance of 1443.09 feet;

Thence North 24 degrees 36 minutes 02 seconds West along said subdivision boundary, a distance of 631.48 feet to a point of tangency of a curve, said curve being concave to the East and having a radius of 870.00 feet;

Thence Northeasterly and to the right along said curve and subdivision boundary through a central angle of 33 degrees 50 minutes 51 seconds, an arc distance of 513.95 feet to the True Point of Beginning;

Thence South 82 degrees 25 minutes 01 seconds East, a distance of 68.61 feet to a point of tangency of a curve, said curve being concave to the North and having a radius of 275.00 feet;

Thence Northeasterly and to the left through a central angle of 10 degrees 19 minutes 40 seconds, an arc length 0f 49.57 feet;

Thence North 87 degrees 34 minutes 16 seconds East, a distance of 38.10 feet to a point of tangency, a curve, said curve being concave to the Northwest and having a radius of 20.00 feet;

Thence Northeasterly and to the left along said curve a central angle of 88 degrees 17 minutes 10 seconds, an arc length of 30.82 feet to a point of reverse curvature;

Thence Northeasterly and to the right along said curve whose radius is 1250.00 feet through a central angle of 03 degrees 20 minutes 14 seconds, an arc distance of 72.81 feet;

Thence North 02 degrees 37 minutes 20 seconds East, a distance of 27.94 feet;

Thence North 87 degrees 22 minutes 40 seconds West, a distance of 149.49 feet to the boundary line of said Juniper Ridge Subdivision and a point on a curve, said curve being concave to the Southeast and having a radius of 870.00 feet;

Thence Southerly and to the left along said subdivision boundary and curve, through a central angle of 08 degrees 00 minutes 20 seconds, an arc length of 121.56 feet to the True Point of Beginning.

And Except that subdivision known as White Mountain Lake Vistas, Unit 1, according to the plat of record in the Office of the County Recorder of Navajo County, Arizona, recorded in Book 25 of Surveys, Page 24;

And Except the following described property:

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From: Rhoni Paladino <paladinorhonda@gmail.com>
Sent: Friday, December 6, 2024 1:00 PM
To: Planning
Subject: White Mountain Lakes/Bourdon Ranch Road

Some people who received this message don't often get email from paladinorhonda@gmail.com. Learn why this is important

Caution: This email originated from outside of Navajo County.

To Whom it May Concern:

Please do not let a housing development build in my neighborhood. It's already grown so much in the time I've lived there. I can't afford to move somewhere with less people. Please do not pollute my neighborhood with more people. The area that is being considered for development serves as home to elk, pronghorn, and other wildlife that will be displaced by a development. Additionally, the area does not have the infrastructure to support an influx of new residents, and the people who already live in the area are not interested in "improving" the infrastructure – we moved out there to be in a scaled back, quiet, SMALL, community. Please don't let people ruin it.

Rhonda Paladino
White Mountain Lakes Resident

From: donna g <dggierst@gmail.com>
Sent: Friday, December 6, 2024 1:03 PM
To: Planning; Harold
Subject: MDP-A 24-002 Rock Creek Development

Caution: This email originated from outside of Navajo County.

This communication is being sent in response to a posted notification signage of a pending Planning & Zoning Commission hearing to be held on Dec 19th

I am in **opposition** to this proposal as outlined. I had personally attended this Developer's required 'site meeting' and was unimpressed by their presentation, as few questions/concerns were properly answered or addressed.

There had also been poor follow up by staff.

One of my main issues is their proposal to have unsightly Cargo Container storage, and RV/trailer parking, designated for an area immediately adjacent to Rocky Arroyo, a beautiful, important creek that feeds White Mountain Lake. Cargo Container storage with unknown stored items, RVs and vehicles, with resulting oil seepage and possible contamination to our groundwater and of a vital water source to our lake, is of serious concern, and certainly not well thought through.

Not to mention how this proposed parking lot would destroy the views & vistas of existing waterfront properties historically & currently enjoying a valuable view of this gorgeous creek bed. (*Btw, to be clear here, we do not own one of these affected properties)*

The proposed low income apartment buildings present a huge density issue, and they have failed to provide a plan showing adequate parking. This community has no capabilities for public transportation, with no city bus service available out here. Our area also offers minimal local commerce for employment opportunities nearby either.

I'm ordinarily not opposed to thoughtful development, but this seems to need way more scrutiny before allowing approval to move forward.

Please don't allow this proposal as presented.

From: Kara Jensen <kara.jensen.az@gmail.com>
Sent: Friday, December 6, 2024 2:20 PM
To: Planning
Subject: Public Meeting Dec 19th 2024 6:00pm - comment to be submitted

Some people who received this message don't often get email from kara.jensen.az@gmail.com. Learn why this is important

Caution: This email originated from outside of Navajo County.

MDP-A 24-2002 Rock Creek Development, District III

No agenda is posted so I cannot identify the item number on the agenda.

I am very much against this proposed development. The community does not have the resources or infrastructure to accommodate the potential residents of this development.

The location of this development is on a dangerous curve and dip in the road where many accidents, some fatal, have happened. Adding two streets to enter this development in this area for residents to turn left or right into it would cause even more accidents and fatalities.

The proposed storage is simply putting unsightly shipping containers on the pristine land that is a corridor for wildlife.

The recreation area for camping is planned in the ravine that often floods, and is directly behind residential lots. At this time lot owners in this area already experience trespassers who leave trash and make noise that echoes through the ravine disturbing residents. Adding places for camping will only increase the disturbances and trash and has the potential to harbor homeless encampments.

Several homes in that area are seasonal or periodical residents, with homes unoccupied it only increases the chance for crime such as vandalism and break-ins.

This area is also a major travel route for wildlife such as deer and elk. It is also a safe haven for the elk to breed during rutting season in the fall.

My name is Kara Jensen
I own a lot on Skyline Dr

My phone number is 602-309-2517

Katherine Wright

From: LYNDA KEARSE <lynkearse@gmail.com>
Sent: Friday, December 6, 2024 2:46 PM
To: Planning
Subject: Project on White Mountain Lakes

Follow Up Flag: Flag for follow up
Flag Status: Flagged

[Some people who received this message don't often get email from lynkearse@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Caution: This email originated from outside of Navajo County.

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>
> Dear Sirs:
>
> I am writing regarding the proposal to develop the property on Silver Creek Dr. in the White Mountain Lake area. I am a resident and owner at Juniper Ridge Resort. When I moved here, I understood that while the White Mountain Lake Vistas no longer controlled the property south of their development that it was deeded to be an over-55 community with a master plan indicating homes similar to the homes at the Vistas.
>
> I strongly object to the proposed changes to that Master Plan. The reasons for my objections are as follows:
>
> 1. There is a Declaration of Affirmative Land Use and Restrictive Covenants attached to the deed for the property which clearly states that "(ii) any Residential, Recreational Vehicle Lot, Vacation Rental, Common Area Recreational or Commercial Development that abuts or is within 100 feet of the Beneficiaries' homeowner lots shall be operated as or for an Age-Restricted Housing Community or Resort."
>
> 2. The lots that are designated as single-family lots (20) and manufactured homes along the western boundary of the property on their proposed development are adjacent to or within 100 feet of homeowner lots at White Mountain Vistas. This must be addressed.
>
> 3. Adding 300 housing units that are not age limited will radically change the atmosphere of Juniper Ridge Resort and the Vistas which are both over-55 communities. It will make it very difficult for us to maintain the quiet and privacy that the communities currently provide.
>
> 4. Both communities are gated to provide security for the homeowners. Adding non-over-55 housing units that are not gated will compromise our security because much of their development lies adjacent to our golf course.
>
> 5. Adding 300 housing units to the community instead of the number in the Master Plan raises the density of the community to too high a level. Their plan provides no greenspace of any size (aside from our golf holes) to mitigate the density of the housing and instead allocates a great deal of the parcel to the storage, parking and camping areas.
>
> 6. The plan for 150 manufactured homes is also problematic. It is becoming increasingly difficult in this area to obtain homeowners insurance for park models and manufactured homes. Adding stick-built houses as per the Master Plan makes more sense in this insurance environment.
>
> 7. I do not believe that the addition of 150 multifamily apartments is either desirable or needed. The White Mountain Lake area is predominantly a summer recreation area. We have little or no infrastructure for full-time residents with no schools and little shopping. We are located over 10 miles from Show Low proper where most of the employment is located. People renting apartments are also a concern to our residents because of security concerns.
>
> 8. Juniper Ridge Resort has its own RV and vehicle storage lots that can be easily expanded. They are rented to our residents at a very reasonable rate. Thus, they are not an asset to the community. Their location along Silver Creek Rd will produce a potential eyesore. And there is the potential for pollution of Silver Creek from vehicles parked in storage.
>

> 9. There is no indication of how anyone will access the camping they are proposing along the Silver Creek drainage or how many and what kind of campsites they are proposing. Camping will further reduce the quiet, privacy and security of our over-55 gated communities.
>
> 10. The addition of both the camping area and 300 more housing units raises a serious concern regarding our roads. Both White Mountain Lake Rd and Silver Creek Dr. are two-lane country roads with no verges. Adding 3 more egresses for theiparcel will not increase safety. The 300 proposed housing units will increase the number of trips per day on these roads considerably. Camping will also increase the usage of these roads in the summer.
>
> 11. There is great concern regarding the strain this proposed development will place on our water and sewer companies. The sewer company is especially problematic since it has been out of compliance for so long and has no approved plan for expansion.
>
> Sincerely,
> Mark & Lynda Kearse
340 Juniper Ridge Resort
> 8236 Lakefront Dr.
> Juniper Ridge Resort
>
> Sent from my iPhone

Katherine Wright

From: Rick & Jane Johnson <rvpeople2@gmail.com>
Sent: Saturday, December 7, 2024 12:44 PM
To: Planning
Subject: Proposed development on Silver Creek Drive

Follow Up Flag: Flag for follow up
Flag Status: Flagged

[Some people who received this message don't often get email from rvpeople2@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Caution: This email originated from outside of Navajo County.

Dear Sirs:

I am writing regarding your proposal to develop your property on Silver Creek Dr. in the White Mountain Lake area. I am a resident and owner at Juniper Ridge Resort. When I moved here, I understood that while the White Mountain Lake Vistas no longer controlled the property south of their development that it was deeded to be an over-55 community with a master plan indicating homes similar to the homes at the Vistas.

I strongly object to the proposed changes to that Master Plan. The reasons for my objections are as follows:

1. There is a Declaration of Affirmative Land Use and Restrictive Covenants attached to the deed for the property which clearly states that "(ii) any Residential, Recreational Vehicle Lot, Vacation Rental, Common Area Recreational or Commercial Development that abuts or is within 100 feet of the Beneficiaries' homeowner lots shall be operated as or for an Age-Restricted Housing Community or Resort."

2. The lots that are designated as single-family lots (20) and manufactured homes along the western boundary of the property on your proposed development are adjacent to or within 100 feet of homeowner lots at White Mountain Vistas. This must be addressed.

3. Adding 300 housing units that are not age limited will radically change the atmosphere of Juniper Ridge Resort and the Vistas which are both over-55 communities. It will make it very difficult for us to maintain the quiet and privacy that the communities currently provide.

4. Both communities are gated to provide security for the homeowners. Adding non-over-55 housing units that are not gated will compromise our security because much of your development lies adjacent to our golf course.

5. Adding 300 housing units to the community instead of the number in the Master Plan raises the density of the community to too high a level. Your plan provides no greenspace of any size (aside from our golf holes) to mitigate the density of the housing and instead allocates a great deal of the parcel to the storage, parking and camping areas.

6. The plan for 150 manufactured homes is also problematic. It is becoming increasingly difficult in this area to obtain homeowners insurance for park models and manufactured homes. Adding stick-built houses as per the Master Plan makes more sense in this insurance environment.

7. I do not believe that the addition of 150 multifamily apartments is either desirable or needed. The White Mountain Lake area is predominantly a summer recreation area. We have little or no infrastructure for full-time residents with no schools and little shopping. We are located over 10 miles from Show Low proper where most of the employment is located. People renting apartments are also a concern to our residents because of security concerns.

8. Juniper Ridge Resort has its own RV and vehicle storage lots that can be easily expanded. They are rented to our residents at a very reasonable rate. Thus, they are not an asset to the community. Their location along Silver Creek Rd will produce a potential eyesore. And there is the potential for pollution of Silver Creek from vehicles parked in storage.

9. There is no indication of how anyone will access the camping you are proposing along the Silver Creek drainage or how many and what kind of campsites you are proposing. Camping will further reduce the quiet, privacy and security of our over-55 gated communities.

10. The addition of both the camping area and 300 more housing units raises a serious concern regarding our roads. Both White Mountain Lake Rd and Silver Creek Dr. are two-lane country roads with no verges. Adding 3 more egresses for your parcel will not increase safety. The 300 proposed housing units will increase the number of trips per day on these roads considerably. Camping will also increase the usage of these roads in the summer.

11. There is great concern regarding the strain this proposed development will place on our water and sewer companies. The sewer company is especially problematic since it has been out of compliance for so long and has no approved plan for expansion.

Sincerely,

Rick and Jane Johnson
Lot # 267
Juniper Ridge Resort
775-720-3480

Katherine Wright

From: BONNIE TOVAAS <btovaas@aol.com>
Sent: Sunday, December 8, 2024 9:40 AM
To: Planning
Subject: Fwd: Hearing Dec 19,2024, MDP-A 24-002 Rock Creek Development District III

Follow Up Flag: Flag for follow up
Flag Status: Flagged

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>>
>>>>> Dear Sirs:
>>>>>
>>>>> I am writing regarding the proposal to develop the property on Silver Creek Dr. in the White Mountain Lake area. I am a resident and owner at Juniper Ridge Resort. When I moved here, I understood that while the White Mountain Lake Vistas no longer controlled the property south of their development that it was deeded to be an over-55 community with a master plan indicating homes similar to the homes at the Vistas.
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>>>>>
>>>>> 2. The lots that are designated as single-family lots (20) and manufactured homes along the western boundary of the property on their proposed development are adjacent to or within 100 feet of homeowner lots at White Mountain Vistas. This must be addressed.
>>>>>
>>>>> 3. Adding 300 housing units that are not age limited will radically change the atmosphere of Juniper Ridge Resort and the Vistas which are both over-55 communities. It will make it very difficult for us to maintain the quiet and privacy that the communities currently provide.
>>>>>
>>>>> 4. Both communities are gated to provide security for the homeowners. Adding non-over-55 housing units that are not gated will compromise our security because much of their development lies adjacent to our golf course.
>>>>>
>>>>> 5. Adding 300 housing units to the community instead of the number in the Master Plan raises the density of the community to too high a level. Their plan provides no greenspace of any size (aside from our golf holes) to mitigate the density of the housing and instead allocates a great deal of the parcel to the storage, parking and camping areas.
>>>>>
>>>>> 6. The plan for 150 manufactured homes is also problematic. It is becoming increasingly difficult in this area to obtain homeowners insurance for park models and manufactured homes. Adding stick-built houses as per the Master Plan makes more sense in this insurance environment.
>>>>>
>>>>> 7. I do not believe that the addition of 150 multifamily apartments is either desirable or needed. The White Mountain Lake area is predominantly a summer recreation area. We have little or no infrastructure for full-time residents with no schools and little shopping. We are located over 10 miles from Show Low proper where most of the employment is located. People renting apartments are also a concern to our residents because of security concerns.
>>>>>
>>>>> 8. Juniper Ridge Resort has its own RV and vehicle storage lots that can be easily expanded. They are rented to our residents at a very reasonable rate. Thus, they are not an asset to the community. Their location along Silver Creek Rd will produce a potential eyesore. And there is the potential for pollution of Silver Creek from vehicles parked in storage.
>>>>>

>>>>> 9. There is no indication of how anyone will access the camping they are proposing along the Silver Creek drainage or how many and what kind of campsites they are proposing. Camping will further reduce the quiet, privacy and security of our over-55 gated communities.
>>>>>
>>>>> 10. The addition of both the camping area and 300 more housing units raises a serious concern regarding our roads. Both White Mountain Lake Rd and Silver Creek Dr. are two-lane country roads with no verges. Adding 3 more egresses for theiparcel will not increase safety. The 300 proposed housing units will increase the number of trips per day on these roads considerably. Camping will also increase the usage of these roads in the summer.
>>>>>
>>>>> 11. There is great concern regarding the strain this proposed development will place on our water and sewer companies. The sewer company is especially problematic since it has been out of compliance for so long and has no approved plan for expansion. Furthermore we live on the golf course in JRR which is private and we have a wonderful view and do not want that disturbed by housing and unsightly properties. The current ad from the developer indicates a golf course as part of the development which we believe is false. All proposed properties would back up to JRR Golf Course which is private to our community and paid for by residents. So not sure why Alan Development is indicating a golf course. Sounds to me as though trying to have those properties proposed to have access to ours. We will oppose that. We understand the need for more housing but this proposal is not acceptable and if proposed 55 plus being built we will applaud that. Many other areas in White Mountains in which to build.

Sincerely
Robert and Bonnie Tovaas
278 Juniperridge Resort
Show Low , Az. 85901

>>>>>
>>>>> Sent from my iPhone

Katherine Wright

From: Pam Shoemaker <grandmimi11@yahoo.com>
Sent: Sunday, December 8, 2024 2:55 PM
To: Planning
Subject: Allen development project

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Some people who received this message don't often get email from grandmimi11@yahoo.com. Learn why this is important

Caution: This email originated from outside of Navajo County.

I did not write this letter but want to attach my name as my husband and I built in lit #1 in White mountain lake vistas and are very opposed to this project. Fred and Pam Shoemaker
https://www.facebook.com/groups/juniperidgeownersrenters/permalink/2287655024944432/?mibextid=rS40aB7S9Ucbxw6v

Yahoo Mail: Search, Organize, Conquer

Katherine Wright

From: Mona Juravic <monie48744@gmail.com>
Sent: Sunday, December 8, 2024 7:51 PM
To: Planning
Subject: Navajo County Planning and Commission meeting December19,2024

Follow Up Flag: Flag for follow up
Flag Status: Flagged

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RE: MDP-A 24-002 ROCK CREEK DEVELOPMENT DISTRICT III

Dear Sirs: I am writing regarding the proposal to develop the property on Silver Creek Dr. in the White Mountain Lake area. I am a resident and owner at Juniper Ridge Resort. When I moved here, I understood that while the White Mountain Lake Vistas no longer controlled the property south of their development that it was deeded to be an over-55 community with a master plan indicating homes similar to the homes at the Vistas. I strongly object to the proposed changes to that Master Plan. The reasons for my objections are as follows: 1. There is a Declaration of Affirmative Land Use and Restrictive Covenants attached to the deed for the property which clearly states that "(ii) any Residential, Recreational Vehicle Lot, Vacation Rental, Common Area Recreational or Commercial Development that abuts or is within 100 feet of the Beneficiaries' homeowner lots shall be operated as or for an Age-Restricted Housing Community or Resort." 2. The lots that are designated as single-family lots (20) and manufactured homes along the western boundary of the property on their proposed development are adjacent to or within 100 feet of homeowner lots at White Mountain Vistas. This must be addressed. 3. Adding 300 housing units that are not age limited will radically change the atmosphere of Juniper Ridge Resort and the Vistas which are both over-55 communities. It will make it very difficult for us to maintain the quiet and privacy that the communities currently provide. 4. Both communities are gated to provide security for the homeowners. Adding non-over-55 housing units that are not gated will compromise our security because much of their development lies adjacent to our golf course. 5. Adding 300 housing units to the community instead of the number in the Master Plan raises the density of the community to too high a level. Their plan provides no greenspace of any size (aside from our golf holes) to mitigate the density of the housing and instead allocates a great deal of the parcel to the storage, parking and camping areas. 6. The plan for 150 manufactured homes is also problematic. It is becoming increasingly difficult in this area to obtain homeowners insurance for park models and manufactured homes. Adding stick-built houses as per the Master Plan makes more sense in this insurance environment. 7. I do not believe that the addition of 150 multifamily apartments is either desirable or needed. The White Mountain Lake area is predominantly a summer recreation area. We have little or no infrastructure for full-time residents with no schools and little shopping. We are located over 10 miles from Show Low proper where most of the employment is located. People renting apartments are also a concern to our residents because of security concerns. 8. Juniper Ridge Resort has its own RV and vehicle storage lots that can be easily expanded. They are rented to our residents at a very reasonable rate. Thus, they are not an asset to the community. Their location along Silver Creek Rd will produce a potential eyesore. And there is the potential for pollution of Silver Creek from vehicles parked in storage. 9. There is no indication of how anyone will access the camping they are proposing along the Silver Creek drainage or how many and

what kind of campsites they are proposing. Camping will further reduce the quiet, privacy and security of our over-55 gated communities. 10. The addition of both the camping area and 300 more housing units raises a serious concern regarding our roads. Both White Mountain Lake Rd and Silver Creek Dr. are two-lane country roads with no verges. Adding 3 more egresses for theiparcel will not increase safety. The 300 proposed housing units will increase the number of trips per day on these roads considerably. Camping will also increase the usage of these roads in the summer. 11. There is great concern regarding the strain this proposed development will place on our water and sewer companies. The sewer company is especially problematic since it has been out of compliance for so long and has no approved plan for expansion. Sincerely,

PAUL AND RAMONA JURAVIC
JUNIPER RIDGE RESORT, LOT 308 & LOT 358
503-705-5563

Katherine Wright

From: Alex Shaffer <amsphx49@aol.com>
Sent: Monday, December 9, 2024 6:47 PM
To: Planning
Subject: FOR THE MEETING ON THE PROPERTY AT SILVER CREEK Thrusday Dec 19,2024 6:00 pm see MDP # below

Some people who received this message don't often get email from amsphx49@aol.com. Learn why this is important

Caution: This email originated from outside of Navajo County.

MDP-A 24-002 ROCK CREEK DEVELOPMENT , DISTRIC lll

Dear Sirs:

I am writing regarding the proposal to develop the property on Silver Creek Dr. in the White Mountain Lake area. I am a resident and owner at Juniper Ridge Resort. When I moved here, I understood that while the White Mountain Lake Vistas no longer controlled the property south of their development that it was deeded to be an over-55 community with a master plan indicating homes similar to the homes at the Vistas.

I strongly object to the proposed changes to that Master Plan. The reasons for my objections are as follows:

1. There is a Declaration of Affirmative Land Use and Restrictive Covenants attached to the deed for the property which clearly states that "(ii) any Residential, Recreational Vehicle Lot, Vacation Rental, Common Area Recreational or Commercial Development that abuts or is within 100 feet of the Beneficiaries' homeowner lots shall be operated as or for an Age-Restricted Housing Community or Resort."

2. The lots that are designated as single-family lots (20) and manufactured homes along the western boundary of the property on their proposed development are adjacent to or within 100 feet of homeowner lots at White Mountain Vistas. This must be addressed.

3. Adding 300 housing units that are not age limited will radically change the atmosphere of Juniper Ridge Resort and the Vistas which are both over-55 communities. It will make it very difficult for us to maintain the quiet and privacy that the communities currently provide.

4. Both communities are gated to provide security for the homeowners. Adding non-over-55 housing units that are not gated will compromise our security because much of their development lies adjacent to our golf course.

5. Adding 300 housing units to the community instead of the number in the Master Plan raises the density of the community to too high a level. Their plan provides no greenspace of any size (aside from our golf holes) to mitigate the density of the housing and instead allocates a great deal of the parcel to the storage, parking and camping areas.

6. The plan for 150 manufactured homes is also problematic. It is becoming increasingly difficult in this area to obtain homeowners insurance for park models and manufactured homes. Adding stick-built houses as per the Master Plan makes more sense in this insurance environment.

7. I do not believe that the addition of 150 multifamily apartments is either desirable or needed. The White Mountain Lake area is predominantly a summer recreation area. We have little or no infrastructure for full-time residents with no schools and little shopping. We are located over 10 miles from Show Low proper where most of the employment is located. People renting apartments are also a concern to our residents because of security concerns.

8. Juniper Ridge Resort has its own RV and vehicle storage lots that can be easily expanded. They are rented to our residents at a very reasonable rate. Thus, they are not an asset to the community. Their location along Silver Creek Rd will produce a potential eyesore. And there is the potential for pollution of Silver Creek from vehicles parked in storage.

9. There is no indication of how anyone will access the camping they are proposing along the Silver Creek drainage or how many and what kind of campsites they are proposing. Camping will further reduce the quiet, privacy and security of our over-55 gated communities.

10. The addition of both the camping area and 300 more housing units raises a serious concern regarding our roads. Both White Mountain Lake Rd and Silver Creek Dr. are two-lane country roads with no verges. Adding 3 more egresses for theiparcel will not increase safety. The 300 proposed housing units will increase the number of trips per day on these roads considerably. Camping will also increase the usage of these roads in the summer.

11. There is great concern regarding the strain this proposed development will place on our water and sewer companies. The sewer company is especially problematic since it has been out of compliance for so long and has no approved plan for expansion.

Sincerely,
ALEX M. SHAFFER 49 JUNIPER RIDGE RESORT, SHOW LOW 85901 602-316-0786
amsphx49@aol.com

Katherine Wright

From: Carl Haveman <havemancw@yahoo.com>
Sent: Tuesday, December 10, 2024 1:18 PM
To: Planning
Subject: MDP-A 24-002 ROCK CREEK DEVELOPMENT, DISTRICT III

Some people who received this message don't often get email from havemancw@yahoo.com. Learn why this is important

Caution: This email originated from outside of Navajo County.

Dear Sirs or Madam,

I am going on record to **strongly oppose** the request by Allen Land Development , LLC for a Master Development Plan Amendment for Phases II, III, and IV of White Mountain Lake Vistas which allowed for a total of 216 single-family lots **(which I definitely opposed**), to a new Master Development Plan which **would** allow for 24 single-family lots, 133 manufactured homes, 133 multi-family units, storage and parking facilities, **golf course** and undisturbed/recreation area in the White Mountain Lakes area.

I am a property owner in the Juniper Ridge Resort which is located within 300 feet of this Master Development Plan which would most assuredly **STRESS** the local infrastructure (water and sewer facilities) resulting in a grave outcome in the functional reliability of those facilitates to my property and indeed all property owenrs in the the Juniper Ridge Resort.

I respectfully request that this Master Development Plan Amendment be rejected.

Sincerely,
Carl W. Haveman, Property Owner
210-237-9904
havemancw@yahoo.com

Katherine Wright

From: Deborah Engebretson <de@themeadows.us>
Sent: Wednesday, December 11, 2024 8:05 AM
To: Planning
Cc: Deborah Engebretson
Subject: Agenda item # and Title: MDP-A 24-002 ROCK CREEK DEVELOPMENT, DISTRICT II

Some people who received this message don't often get email from de@themeadows.us. Learn why this is important

Caution: This email originated from outside of Navajo County.

Planning and Zoning Commission meeting date: Thursday the 19th of December at 6pm
Agenda item # and Title: MDP-A 24-002 ROCK CREEK DEVELOPMENT, DISTRICT II
Owner: Allen Land Development, LLC

Dear Navajo County Planning and Zoning Board,

I am a resident of White Mountain Lake. I **oppose** the approval of amending the currently approved 216 single-family lots the **extremely dense** new master development plan.
Our current infrastructure cannot handle this dense development. White Mountain Lake Road/Silver Creek can't handle the additional traffic, estimating 780-1000+ motor vehicles and the influx of recreational vehicles/campers.
Our current water system , Voyager Water, has been making upgrades to the poor condition water lines since the death of Lem Cook , myself along with the homeowners are paying an additional 29.00 per month for a two-year period.
I learned at the first meeting held on site by Allen Land Development that they would be putting in camp sites along the creek (silver creek) which feeds the inlet to White Mountain Lake. The creek and the land boarding are utilized by big game animals and an array of wildlife. I live on the opposite side of the creek from this proposed development, allowing these campsites will destroy the game paths of the animals, increase crime in our neighborhood, not to mention my quiet enjoyment of property owners.
Please consider my request to oppose the new master plan development.

Respectfully,

Deborah Engebretson
1830 Navajo Pl
White Mountain Lake
928-242-0124
de@themeadows.us
NOTICE: This e-mail (and any attachments) may contain PRIVILEGED OR CONFIDENTIAL information and is intended only for the use of the specific individual(s) to whom it is addressed. It may contain information that is privileged and confidential under state and federal law. This information may be used or disclosed only in accordance with law, and you may be subject to penalties under law for improper use or further disclosure of the information in this e-mail and its attachments. If you have received this e-mail in error, please immediately notify the person named above by reply e-mail, and then delete the original e-mail. Thank you.