



PUBLIC NOTICE is hereby given that pursuant to Utah Governor Gary R. Herbert’s Executive Order 2020-1, the Cache County Planning Commission will hold an **ELECTRONIC PUBLIC MEETING on THURSDAY, JANUARY 7, 2021**, via **ZOOM** Webinar at the following link:
<https://us02web.zoom.us/j/81794370784?pwd=VIZkV3FRM3ZsU2VyK2l0Rkx6SDlTZz09>

Instructions for downloading and using **ZOOM** can be found at <https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting> If you have downloaded ZOOM, you may join the meeting by using Meeting ID: **817 9437 0784** Passcode: **167954**

5:30 p.m.

Call to order

Opening remarks/Pledge – Brandon Spackman

Review and approval of agenda

Review and approval of the minutes of the 3 December 2020 meeting

5:35 p.m.

Regular Action Items

1. **Public Hearing (5:35 PM):** A proposed Ordinance to Repeal Resolution 2015-20, Amend the County Manual of Roadway Design & Construction Standards, and to Amend Related Provisions of the County Code
2. **Discussion:** Amendments to Title 17 regarding a new use type for a small-scale slaughter facility. *Continued from 3 December 2020*

Board Member Reports

Staff reports

Adjourn

PUBLIC PARTICIPATION GUIDE: PLANNING COMMISSION

This document is intended to guide citizens who would like to participate in a public meeting by providing information about how to effectively express your opinion on a particular matter and the general powers and limitations of the Planning Commission.

WHEN SPEAKING ON AN AGENDA ITEM

Once the Commission opens the public hearing or invites the public to comment on a public meeting agenda item, approach the podium to comment. Comments are limited to 3 minutes per person, unless extended by the Chair of the Planning Commission.

When it is your turn to speak:

1. State your name and address and the organization you represent, if applicable.
 2. Indicate whether you are for or against the proposal.
 3. Make your statement.
 - a. Include all pertinent facts within your knowledge;
 - b. Avoid gossip, emotion, and repetition;
 - c. Comments should be addressed to the Commission and not to individuals in the audience; the Commission will not allow discussion of complaints directed at specific individuals;
 - d. A clear, concise argument should focus on those matters related to the proposal with the facts directly tied to the decision you wish the Commission to make without repeating yourself or others who have spoken prior to your statement.
-

LEGISLATIVE (PUBLIC HEARING) VS. ADMINISTRATIVE (PUBLIC MEETING) FUNCTIONS

The Planning Commission has two roles: as a recommending body for items that proceed to the County Council for final action (legislative) and as a land use authority for other items that do not proceed to the County Council (administrative).

When acting in their legislative capacity, the Planning Commission has broad discretion in what their recommendation to the County Council will be and conducts a public hearing to listen to the public's opinion on the request before forwarding the item to the County Council for the final decision. Applications in this category include: Rezones & Ordinance Amendments.

When acting in their administrative capacity, the Planning Commission has little discretion and must determine whether or not the landowner's application complies with the County Code. If the application complies with the Code, the Commission must approve it regardless of their personal opinions. The Commission considers these applications during a public meeting and can decide whether to invite comment from the public, but, since it is an administrative action not a legislative one, they are not required to open it to public comment. Applications in this category include: Conditional Use Permits, Subdivisions, & Subdivision Amendments.

LIMITS OF JURISDICTION

The Planning Commission reviews land use applications for compliance with the ordinances of the County Land Use Code. Issues related to water quality, air quality, and the like are within the jurisdiction of the State and Federal government. The Commission does not have authority to alter, change, or otherwise act on issues outside of the County Land Use Code.



Planning Commission Minutes

3 December 2020

Item

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Regular Action Items

1. Public Hearing (5:35 PM): Amendments to Title 17..... 2
2. Discussion: Cannabis Production Amendments to Title 17 of the Cache County Code..... 2
3. Whisper Ridge Conditional Use Permit Revocation Review Update 3
4. Discussion: A Proposed ordinance to Repeal Resolution 2015-20 4
5. Elections for Chair and Vice Chair 4
6. 2020 Meeting Dates and Application Deadlines 4

1 **Present:** Chris Harrild, Angie Zetterquist, Nolan Gunnell, Lane Parker, Brandon Spackman, Jason
2 Watterson, Brady Christensen, Phillip Olsen, Matt Phillips, John Luthy, Megan Izatt

3 **Start Time: 05:33:00**

4 **Gunnell** called the meeting to order and **Parker** gave the opening remarks.

5 **05:35:00**

6 **Agenda**

7 Approved with no changes.

8 **05:35:00**

9 **Minutes**

10 **Parker** motioned to approve the minutes from November 5, 2020; **Watterson** seconded; **Passed 6, 0.**

11 **05:36:00**

12 **Regular Action Items**

13 **#1 Public Hearing (5:35 PM): Amendments to Title 17**

14 **Harrild** reviewed the information in the packet for amendments to Title 17 regarding a new use type for
15 a small scale slaughter facility.

16 **Staff** and **Commissioners** discussed the proposed language requiring that garbage and offal be removed
17 within 24 hours and how that would be handled if operations happen on a Saturday, Sunday, or holiday
18 weekend. Staff will talk with the health department regarding what requirements for garbage and offal
19 they would require. What would be considered a “small scale” operation was discussed.

20 **6:06:00**

21 **Watterson** motioned to open the public hearing: **Parker** seconded; **Passed 6, 0.**

22 **06:07:00**

23 **Watterson** motioned to close the public hearing: **Parker** seconded; **Passed 6, 0.**

24 **Staff** and **Commission** discussed animals coming in from out-of-state for slaughter, and small scale
25 operations.

26 **06:19:00**

27 **#3 Discussion: Cannabis Production Amendments to Title 17 of the County Code**

28 **Zetterquist** reviewed the Cannabis Production Amendments to Title 17 of the County Code.

1 **Staff** and **Commission** discussed regulating odor, and state licensing.

2 ***Christensen** motioned to recommend approval to the County Council for the Cannabis Production*
3 *Amendments to Title 17 of the County Code; **Watterson** seconded; **Passed 6, 0.***

4 **#4 Whisper Ridge Conditional Use Permit (CUP) Revocation Review Update**

5 **Dayson Johnson** commented that the stream alteration permit investigation had been opened with the
6 Army Corps of Engineers. An after-the-fact permit will need to be applied for and the Army Corps of
7 Engineers has indicated there should be no problem obtaining that permit.

8 **Gunnell** asked how long the permit will take.

9 **Mr. Johnson** stated that an evaporative loss study has been completed; the small dam permit and stream
10 alteration permit can now be applied for and should have no issue to be completed. There is no perfect
11 timeline on when those permits will be issued.

12 **Gunnell** asked about the letter from the corps.

13 **Mr. Johnson** stated Whisper Ridge had initiated contact with the Army Corps of Engineers and that is
14 what triggered the standard boiler plate response letter.

15 **Staff** and **Commission** discussed if revocation was still an option with the progress that has been made.
16 Some Commissioners expressed an interest in Whisper Ridge to continue updating the Commission.

17 **Christensen** asked about the bike trials.

18 **Mr. Johnson** commented that SWIPP measures are fine but to do commercial bike trails would require
19 an additional CUP.

20 **Christensen** asked if all the skiing requirements had been completed.

21 **Harrild** responded yes.

22 **Mr. Johnson** asked if he needed to keep coming back to the Commission or if he could work with staff
23 from this point forward.

24 **Christensen** asked if there were any parts of the operation that would not be able to start because of the
25 current concerns.

26 **Mr. Johnson** stated his understanding is that Whisper Ridge could continue to operate as they are as long
27 as there is no revocation.

28 **Staff** and Commissioners discussed not revoking and how updates would work going forward.

29 ***Watterson** motioned to not revoke the Whisper Ridge Conditional Use Permit; **Spackman** seconded;*
30 ***Passed 6, 0.***

31 **06:45:00**

1 **#4 Discussion on Road Manual**

2 **Luthy** reviewed the information for the proposed ordinance to repeal Resolution 2015-20, amending the
3 County Manual of Roadway Design & Construction Standards, and to amend the related provisions of the
4 County Code.

5 **Staff** and **Commission** discussed private minor roads, major private roads, how accessory dwelling units
6 affect the average daily trips (ADTs) for homes, and structures within the right of way. **Staff** and
7 **Commissioners** also discussed how roads will be improved as more homes are added onto gravel or
8 paved roads, HOAs maintaining roads, authority and design exceptions, and how roads affect
9 development.

10 **07:35:00**

11 **#5 Elections for Chair and Vice Chair**

12 ***Christensen** motioned to nominate Brandon Spackman for chair; **Watterson** seconded; **Passed 5, 1***
13 ***(Spackman voted nay).***

14 ***Watterson** motioned to nominate Brady Christensen for vice chair; **Parker** seconded; **Passed 6, 0.***

15 ***Watterson** motioned to assign staff as the secretary; **Parker** seconded; **Passed 6, 0.***

16 **07:41:00**

17 **#6 2021 Meeting Dates and Application Datelines**

18 **Harrild** reviewed the 2021 meeting dates.

19 ***Christensen** motioned to accept the 2021 meeting dates and application datelines; **Parker** seconded;*
20 ***Passed 6, 0.***

21 **07:43:00**

22 **Adjourned**



**CACHE COUNTY
ORDINANCE NO. 2021-**

**AN ORDINANCE TO REPEAL RESOLUTION 2015-20; REVISE AND UPDATE THE
COUNTY'S MANUAL OF ROADWAY DESIGN & CONSTRUCTION STANDARDS;
AND AMEND RELATED PORTIONS OF THE COUNTY CODE**

WHEREAS, the Cache County Council adopted Resolution 2015-20 in order to control the cost of road maintenance in Cache County by limiting the expansion of road services on substandard roads that did not, at the time the resolution was adopted, already service existing homes; and

WHEREAS, Resolution 2015-20 was intended to be a temporary measure and kept in place only until other measures could be adopted; and

WHEREAS, certain revisions and updates to the County's Manual of Roadway Design & Construction Standards will bring the County's standards in line with current engineering and construction practices, provide for more efficient access to homes and businesses, and increase road safety; and

WHEREAS, revisions and updates to the County's Manual of Roadway Design & Construction Standards create a need to revise and update related portions of the County Code; and

WHEREAS, the proposed revisions and updates to the Manual of Roadway Design & Construction Standards and the County Code were considered by the Cache County Planning Commission on January 7, 2021, following a public hearing on the matter the same day; and

WHEREAS, the Planning Commission has recommended adoption of the proposed revisions and updates to the Manual of Roadway Design & Construction Standards and the County Code;

NOW, THEREFORE, the County Legislative Body of Cache County ordains as follows:

SECTION 1:

Resolution 2015-20 of the Cache County Council is hereby repealed.

SECTION 2:

The County's Manual of Roadway Design & Construction Standards is amended to read as set forth in the attached Exhibit A. The Manual of Roadway Design & Construction Standards set forth in the attached Exhibit A supersedes all prior versions of Cache County's Manual of Roadway Design & Construction Standards.

SECTION 3:

Chapter 2 of Title 12 of the Cache County Code is amended to read as follows:

12.02.010: STANDARDS:

- A. Intent: The intent of this chapter is to provide for the equitable development of roadways using standard engineering and construction practices and to provide for safe and efficient access to homes and businesses and for through travelers.
- B. Standards Adopted: The county council has adopted a Manual of Roadway Design & Construction Standards (the "Manual") setting forth the standards and requirements for the construction of roadways, accesses, and other development within county rights-of-way. The Manual provides the requirements for the construction of roadways for private development and county improvements and for modifications to existing roadways by private persons or entities. A copy of the Manual will be on file with the county clerk, and a copy of the Manual will be available for inspection and reference by the public in the office of the public works department.
- C. Violation: A violation of the Manual is a violation of this title.

12.02.020: DEVELOPMENT OF ROADWAYS:

- A. The roads in a new subdivision or development must connect to an existing county road, private road, improved state highway, or improved city street. Where the connection to an existing county road, private road, improved state highway, or improved city street cannot occur within or immediately adjacent to the new subdivision or development, the subdivider or developer must acquire the needed rights-of-way and construct the required improvements at the subdivider's or developer's expense.
- B. Where land abutting an existing substandard roadway is subdivided or developed, the subdivider or developer must at the subdivider's or developer's expense dedicate any necessary rights-of-way and improve the adjacent roadway to conform to the standards and requirements set forth in the Manual. The term "substandard roadway" in this subsection has the meaning given to that term in the Manual.
- C. It is unlawful for any person to commence work upon or within any county right-of-way until a permit has been granted in conformance with the requirements of the Manual.
- D. Any person or entity working within a county right-of-way or on a county facility must pay all costs associated with that work, including costs for the review of design and construction documents, costs for traffic impact studies, and costs for inspections of improvements. Any such costs charged directly by the county as fees must be adopted by the council within a fee schedule.

12.02.030: FEE IN LIEU OF REQUIRED IMPROVEMENTS:

- A. Where present conditions exist that make it unfeasible or impractical to install any required public improvements at the time of subdivision or development, the director of the public works department or the director's designee may require the subdivider or developer to pay to the county a fee equal to the estimated cost of such improvements as determined by the director of the public works department. Upon payment of the fee, the county will assume responsibility for future installation of the improvements.
- B. The county will establish an interest bearing ledger account for fees collected under this section. The county will maintain records identifying properties for which such fees have been collected, fee amounts collected for such properties, interest earned on such fees, and the expenditure of such fees.
- C. The county may expend a fee collected under this section with respect to a particular parcel, and any associated interest, only to install the improvements for which the fee was paid in lieu of. Except as provided in subsection D, the county must expend or encumber a fee collected under this section within 12 years after the fee is collected.
- D. The county may hold a fee collected under this section for longer than 12 years if it identifies in writing an extraordinary and compelling reason why the fee should be held longer than 12 years and an absolute date by which the fee will be expended.
- E. As used hereafter in this section:
 - 1. "Affected lot" means a parcel with respect to which the county collected a fee under this section where the fee is subject to a refund under subsection G.
 - 2. "Claimant" means (a) the original owner; (b) the person who paid a fee under this section; or (c) another person who, under subsection I, submits a timely notice of the person's valid legal claim to a fee refund.
 - 3. "Original owner" means the record owner of an affected lot at the time the county collected a fee under this section.
 - 4. "Unclaimed refund" means a fee collected under this section that is subject to refund under this section but which has not been refunded after application of subsections G and H.
- F. The county must refund any fee paid by a subdivider or developer under this section, plus interest earned on the fee, when the subdivider or developer does not proceed with the subdivision or development and has filed a written request for a refund, the fee has not been spent or encumbered, and no impact on the county has resulted.
- G. If a fee collected under this section is not spent or encumbered in accordance with subsection C, the county must, subject to subsection H, refund the fee to the original owner, if the original owner is the sole claimant, or to the claimants, as the claimants agree, if there are multiple claimants. If there are multiple claimants who fail to agree on how the refund should be paid to the claimants, the county must interplead the fee refund to a court of competent jurisdiction for a determination of the entitlement to the refund.



- H. If the original owner's last known address is no longer valid at the time the county attempts under subsection G to refund a fee to the original owner, the county must (1) post a notice on its website, stating the county's intent to refund the fee and identifying the original owner; (2) maintain the notice on the county's website for one year; and (3) disqualify the original owner as a claimant unless the original owner submits a written request for the refund within one year after the first posting of the notice.
- I. In order to be considered a claimant for a fee refund, a person, other than the original owner, must submit to the director of the public works department a written notice explaining the person's valid legal claim to the fee refund. The written notice must be submitted no later than 30 days after expiration of the 12-year time period for expending or encumbering the fee that is the subject of the refund.
- J. The county may retain an unclaimed refund and associated interest. The county must expend any unclaimed refund and associated interest on road construction or maintenance within the county.

SECTION 4: EFFECTIVE DATE

This ordinance takes effect 15 days following its passage and approval by the County Council.

PASSED BY THE COUNTY COUNCIL OF CACHE COUNTY, UTAH, THIS DAY OF JANUARY 2021.

	In Favor	Against	Abstained	Absent
Paul R. Borup				
David Erickson				
Nolan P. Gunnell				
Barbara Tidwell				
Karl Ward				
Gina Worthen				
Gordon Zilles				
Total				

CACHE COUNTY COUNCIL

By:

Karl Ward, Chair

ATTEST:

By: _____
Jess W. Bradfield, County Clerk

REDLINE VERSION OF CODE AMENDMENTS:

12.02.010: STANDARDS:

- A. Intent: The intent of this chapter is to provide for the equitable development of roadways using standard engineering and construction practices and to provide for safe and efficient access to homes and businesses and for through travelers.~~Standards Adopted: The county council shall adopt a "Manual Of Roadway Design And Construction Standards" (hereinafter "standard") relating to the standards and requirements for the construction of roadways, accesses, and any and all development within county rights of way. The standard shall provide the requirements for the development of all roadways for development, county improvements, or for modification made to roadways by other entities. The standard shall be on file with the county clerk and available for reference in the development services office.~~
- B. Standards Adopted: The county council has adopted a Manual of Roadway Design & Construction Standards (the "Manual") setting forth the standards and requirements for the construction of roadways, accesses, and other development within county rights-of-way. The Manual provides the requirements for the construction of roadways for private development and county improvements and for modifications to existing roadways by private persons or entities. A copy of the Manual will be on file with the county clerk, and a copy of the Manual will be available for inspection and reference by the public in the office of the public works department.~~Intent: The intent of this chapter is to provide for the equitable development of roadways utilizing standard engineering and construction practices and to provide for safe and efficient access to homes, businesses, and for through travelers.~~
- C. Violation: A violation of the Manual~~standard~~ is~~shall be~~ a violation of this title.
- ~~D. Roadway Construction And Design Standards: The county shall maintain within the standard a roadway classification system with requirements for the construction of each road by type.~~
- ~~E. Typical Roadway Sections: See "Manual Of Roadway Design And Construction Standards" for further details (notes within table 12.02.010 of this subsection refer to this manual).~~

TABLE 12.02.010
TYPICAL ROADWAY SECTIONS

	Private ⁶	Public Roadways				
		Mountain Road ^{1,2,6}	Rural ⁶	Local	Collector	Arterial
Planned:						
Planned design limits—approximate ADT	Under 30	Under 30	Under 30	30—1,500	1,500—5,000	Over 5,000
Minimum width (feet):						
Lane width ³	10	12	10	10	11	12
Right-of-way	33	66	66	66	80	100
Median/turn lane ⁴	-	-	-	12	12	14
Shoulder (each side)	0	0	2	5	6	8
Paved width of shoulder	0	0	0	1	3	3
Clear zone ⁷	0	5	7	7	10	10
Road surface material ⁵	Gravel (A)	Gravel (A)	Gravel (A)	Paved (B)	Paved (B)	Paved (C)

Notes:

1. ~~Single lane roads may be permitted for mountain roadways.~~
2. ~~Single lane roads do not provide adequate levels of service to development and may be required to meet the rural road standard, provide pullouts, or other improvements as deemed necessary to provide adequate service provision in compliance with the manual, this code, and the latest edition of the international fire code.~~
3. ~~Minimum roadway is 2 lanes of traffic unless otherwise specified.~~
4. ~~Provided only where needed as determined by the county engineer or a traffic impact study.~~
5. ~~Refer to appendix table A-8, typical cross section structural values.~~
6. ~~No commercial or industrial development shall be permitted.~~
7. ~~See section 5.4.~~

12.02.020: DEVELOPMENT OF ROADWAYS:

- A. The ~~streets or~~ roads in a new subdivision or development ~~shall~~must connect to an existing county road, private road, ~~a maintained road system, an~~ improved state highway, or ~~an~~ improved city street. Where the connection to an existing county road, private road, improved state highway, or improved city street cannot occur within or immediately adjacent to the new subdivision or development, an off site connection is necessary to provide access to such a road or highway, the subdivider or developer must~~shall~~ acquire the needed rights ~~of~~—way and construct the required improvements ~~required~~ at the subdivider's or developer's ~~their~~ expense.
- B. Where land abutting an existing substandard ~~street or road~~way is subdivided or developed, the subdivider or developer must~~shall~~ at the subdivider's or developer's expense dedicate any necessary ~~additional~~ rights ~~of~~—way and improve the adjacent

roadway to conform to the ~~county's~~ standards and requirements set forth in the Manual. The term “substandard roadway” in this subsection has the meaning given to that term in the Manual.

- C. It is unlawful for any person to commence work upon or within any county right-of-way until a permit has been granted in conformance with the requirements of the Manual ~~standard~~.
- D. ~~The county shall cause a~~Any person or entity working within ~~at~~the county right-of-way or on a county facility ies must to pay any and all costs associated with that work, including costs for the review of design/ and construction documents, costs for traffic impact studies, and costs for inspections of improvements, or any other costs associated with the improvement of county facilities. Any such costs charged directly by the county as fees must ~~All fees shall~~ be adopted by the council within a fee schedule.

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 - 2. “Claimant” means (a) the original owner; (b) the person who paid a fee under this section; or (c) another person who, under subsection I, submits a timely notice of the person’s valid legal claim to a fee refund.

3. "Original owner" means the record owner of an affected lot at the time the county collected a fee under this section.
4. "Unclaimed refund" means a fee collected under this section that is subject to refund under this section but which has not been refunded after application of subsections G and H.
- F. The county must refund any fee paid by a subdivider or developer under this section, plus interest earned on the fee, when the subdivider or developer does not proceed with the subdivision or development and has filed a written request for a refund, the fee has not been spent or encumbered, and no impact on the county has resulted.
- G. If a fee collected under this section is not spent or encumbered in accordance with subsection C, the county must, subject to subsection H, refund the fee to the original owner, if the original owner is the sole claimant, or to the claimants, as the claimants agree, if there are multiple claimants. If there are multiple claimants who fail to agree on how the refund should be paid to the claimants, the county must interplead the fee refund to a court of competent jurisdiction for a determination of the entitlement to the refund.
- H. If the original owner's last known address is no longer valid at the time the county attempts under subsection G to refund a fee to the original owner, the county must (1) post a notice on its website, stating the county's intent to refund the fee and identifying the original owner; (2) maintain the notice on the county's website for one year; and (3) disqualify the original owner as a claimant unless the original owner submits a written request for the refund within one year after the first posting of the notice.
- I. In order to be considered a claimant for a fee refund, a person, other than the original owner, must submit to the director of the public works department a written notice explaining the person's valid legal claim to the fee refund. The written notice must be submitted no later than 30 days after expiration of the 12-year time period for expending or encumbering the fee that is the subject of the refund.
- J. The county may retain an unclaimed refund and associated interest. The county must expend any unclaimed refund and associated interest on road construction or maintenance within the county.

CACHE COUNTY, UTAH
MANUAL OF ROADWAY DESIGN



JANUARY 2021~~22 OCTOBER 2013~~ & CONSTRUCTION STANDARDS

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1.1 **IntroductionScope of Work.**

This Manual of Roadway Design & Construction Standards ("Manual") provides standards for construction and maintenance of new and existing roads and appurtenant structures and utilities within County-owned rights-of-way. ~~section defines~~ establishes the general requirements for roadway related improvements in the unincorporated areas of Cache County and for roadways owned by Cache County that are located within incorporated municipalities designed and constructed as public infrastructure.

The improvements to which this Manual applies shall include all ~~public~~ utilities (i.e.e.g., sanitary sewer and culinary water facilities that lie in or cross County rights-of-wayas ~~pertains to roadway crossings~~, storm sewer facilities, and drainage facilities), grading, surfacing, erosion control, traffic signing, traffic control, and roadway improvements (collectively, "Improvements"). ~~Roadway related i~~Improvements must be installed so as to facilitate provide for future extension beyond the proposed development to which they directly apply and must be compatible with the contour of the ground for proper drainage and for servicing future development.

Developers are responsible for all up-front costs associated with the design and construction of Improvements made necessary by their proposed developments and for all up-front costs associated with the acquisition of necessary rights-of-way. Developers ~~shall be required to~~ must make ~~i~~Improvements ~~to roadways~~ in accordance with the County's adopted design standards. ~~The d~~Developers ~~are~~ is encouraged to work with owners of adjacent propertiesy owners that will benefit from ~~said the roadway~~ iImprovements ~~for the purpose of mutual participation.~~ ~~The developer is responsible for all up-front costs associated with the design, acquisition of rights-of-way, and construction of the proposed improvements.~~

1.2 **Definitions**

Wherever used in this Manual, the each of the following terms has the meaning indicated, which meaning is applicable to both the singular and plural form of the word defined. Any terms or words not specifically defined herein shall be terms as defined in the common-English language.

A. AASHTO – The American Association of State Highway and Transportation Officials.

- B. APWA – The American Public Works Association.
- C. Average Daily Traffic (ADT) – A measure of the amount of annual average traffic on a roadway per day. A single family home is designated as impacting a roadway with 10 average trips per day. Business uses will vary in their impact.
- D. County – Cache County, Utah.
- E. Developing Parcel – aA parcel or lot being developed through the process of a subdivision, conditional use permit, building permit for a single family home, or commercial business.
- A.F. Driveway – A privately owned and maintained access road connecting not more than two legal lots or parcels to a public or private roadway.
- B.G. Substandard Roadway – Any roadway that does not meet the standards as established ~~within~~by this ~~document~~ Manual based on the existing classification of the roadway or, when development is proposed, on the classification that would apply to the roadway upon completion of the proposed development and the existing conditions of the roadway.
- C. Private Road – A privately owned and maintained access road serving three or more legal lots or parcels constructed and maintained by private individual(s) or private entity(s).
- D. Average Daily Traffic – A measure of the amount of annual average traffic on a roadway per day. A single family home is designated as impacting a roadway with ten (10) average trips per day. Business uses will vary in their impact. Abbreviated as ADT.
- H. UDOT – Utah Department of Transportation.

1.3 Electronic Deliverable Requirements

Prior to final acceptance of improvements, surveys in electronic format shall be submitted and accepted by Cache County.

The electronic drawings shall be in either Computer Aided Drafting (CAD) or Geographic Information Systems (GIS) file format. File formats shall be approved by the County Engineer.

All CAD and GIS files shall be registered to the North American Datum 83 (NAD 83) Utah State Plane North Zone coordinate system (grid) with ties to two public monuments. Information on monuments is available through the Cache County Surveyor.

1.4 Licensed Professional Seal Requirements

Complete and detailed construction plans and drawings of all improvements shall be submitted to the Cache County Public Works Department~~Development Services~~ for review and approval prior to issuance of a permit(s). The plans containing the appropriate approval signatures and the current adopted specifications shall be the only valid documents from which the contractor shall construct the permitted improvements. The contractor shall have a copy of the approved plans and permit available at the construction site and shall make them available to the County's representative upon request.

Any final infrastructure improvement plan or report shall bear the seal of a professional licensed to prepare such plans in Utah. Additionally, the signature of the individual named on the seal and the date shall appear across the face of each original seal.

1.5 Inspection

All construction work involving the installation or repair of public improvements shall be subject to inspection by the County. It shall be the responsibility of the person responsible for construction to ensure that inspections take place where and when required as indicated in the specifications, on the permit, and as determined by the County. Certain types of construction will require continuous inspection while others will only require periodic inspections. The type and amount of inspection performed shall be determined by the County.

Continuous inspection may be required on the following types of work:

- A. Placement of road surfacing
- B. Placing of concrete
- C. Laying of drainage pipe
- D. Testing and backfilling as per approved specifications
- E. Roadway grading and gravel base placement and compaction

For construction requiring continuous or periodic inspection, no work shall start until an inspection request has been made to the County by the person responsible for the construction and the required submittals received and approved by the County. Notice of the initiation of work and requests for inspection shall be made at least two (2) working days prior to the commencing of the work. Construction completed without a required inspection will be required to be removed and reinstalled at the Contractor's expense.

Work performed by the Contractor which requires periodic or continuous inspection beyond the normal working hours of Cache County, on weekends, or on County holidays shall require payment of current County overtime rates by the contractor.

1.6 Guarantee of Work

For all private and public roadway improvements required as part of a project approval, the contractor shall provide a performance bond or other approved financial surety in the amount of 110% of the value of the proposed work naming Cache County as owner for a term covering the project construction up to final acceptance by the County. If out of specification work is not corrected by the contractor, then the value of the work necessary to correct it will be applied against the performance bond. Following final project acceptance by the County, the performance bond shall continue to extend for a one (1) year period of time or as otherwise allowed by Utah Code §17-27a-604.5 (1953 as amended). Roadway improvement financial sureties may be incorporated into development agreements that also cover additional development needs (utilities, etc.).

The contractor will be required to correct any work of the initial construction that fails as determined by the County Engineer, within the time frame of the bond. If the contractor

does not respond in a timely manner County forces (or a designated contractor) will complete the work with costs being applied against the performance bond.

The developer/contractor will be responsible to see that the excavation, backfilling, and compaction are properly and adequately completed and that all necessary permitting is obtained. Settlement of trenches within a period of one (1) year after final acceptance of the project shall be considered incontrovertible evidence of inadequate compaction, and the developer/contractor shall be responsible for correcting the condition in accordance with the provisions of these standards and specifications.

1.7 Other Standards Adopted

In addition to the ~~standards set forth in this Manual~~~~adopted Cache County standards~~, the County adopts the following as standards for all issues related to the design, construction, ~~and maintenance, and other related road, utility, and infrastructure of i~~Improvements not specifically covered ~~by this Manual within this document~~:

- A. ~~American Public Works Association~~ APWA: Manual of Standard Specifications (current edition)
- B. ~~American Public Works Association~~ APWA: Manual of Standard Plans (current edition)
- C. AASHTO ~~(American Association of State Highway and Transportation Officials)~~: A Policy on Geometric Design of Streets and Highways (current edition)
- D. AASHTO: Standard Specifications for Transportation Materials and Methods of Sampling and Testing (current edition)
- E. UDOT: Roadway Drainage Manual of Instruction (current edition)
- F. AASHTO: Road~~sideway~~ Design Guide (current edition)
- G. Manual of Uniform Traffic Control Devices (MUTCD) (current edition)
- G.H. AASHTO: Guidelines for Geometric Design of Low Volume Roads (current edition)

As to any particular issue, if a conflict exists between any of the foregoing standards, the higher standard as determined by the Director of Public Works or the Director's designee applies.

1.8 Authority and Design Exceptions

- A. The Director of ~~Public Works Development Services~~ ~~(herein referred to as the "Director")~~ ~~shall have or the Director's designee has~~ the authority to enforce the provisions of this Manual~~policy~~. ~~Requests for D~~design exceptions to the standards and specifications of this Manual~~Standard~~ will be considered ~~and evaluated on an case-by-case individual~~ basis by the Director ~~, or the Director's designee~~. A request for a design exception must include a written statement explaining Full justification and documentation must be provided explaining the reasoning as to why the applicable roadway standards or specification cannot reasonably be met, and why an alternative design or construction method can meet the intent of the roadway applicable standards or specification. When considering a request for a design

exception, the Director or the Director's designee may request documentation or other information relevant to the request, and including any other relevant information.

- B. ~~A.~~ In considering any request for a design exception, the Director may consult with the following individuals based on the needs of the project or infrastructure in question:

1. Cache County Executive
2. Cache County Road Superintendent
3. Cache County Engineer
4. Cache County Fire Chief
5. Cache County Director of Development Services
- 4.6. Cache County Attorney or Cache County Attorney's designee

- C. ~~The Director or Director's designee must~~shall evaluate a request for a design exceptions ~~to the standards and specifications set forth in this Manual to the standards as set forth in this policy~~ and approve, deny, or modify the requested exception. Approval of a request in one project will not constitute a precedent for other projects. The Director or Director's designee may grant an exception to the standards and specifications only when at least one of the following conditions is met:

1. The standard or specification does not apply in the particular application;
2. Topography, right-of-way, or other geographic conditions impose an undue economic hardship on the applicant and an alternative is available which can accomplish the same safety and design objectives;
3. A minor change to a standard or specification is required to address a specific design or construction problem related to the particular project which if not allowed will result in an undue economic hardship to the applicant.

- D. ~~An Appeals~~ of the Director's ~~or Director's designee's~~ decision on a request for a design exception to the requirements set forth in this Manual may ~~shall~~ be made to the County Council. On appeal, the applicant has the burden of proving that an error was committed or that the requested exception meets the criteria of Subsection B and the requested alternative equals or exceeds the applicable standard or specification as to function, performance, and safety.

- ~~C. For design exceptions on land use issues heard by the County Planning Commission or County Council, a further review and recommendation on the infrastructure improvements may be forwarded from the Commission to the County Council. The County Council shall have the final authority to provide an exception to this standard.~~

1.9 Traffic Impact Studies

The Director may require that a Traffic Impact Study (TIS) be completed for any project where it is deemed necessary.

- A. The purposes of the TIS are as follows:

- 5.7. Document whether or not the access request or roadway can meet the standards and requirements of this Standard and other applicable County ordinances and policies.
- 6.8. Analyze appropriate location, spacing, and design of access connection(s) necessary to mitigate traffic impacts.

7.9. Analyze operational impacts on the roadway in accordance with this Standard and any other applicable County ordinances and policies.

8.10. Recommend the need for any improvements to the adjacent and nearby roadway system to maintain a satisfactory level of service and safety and to protect the function of the road system while providing appropriate and necessary access to the proposed development.

9.11. Assure that the internal traffic circulation of the proposed development is designed to provide safe and efficient access to and from the adjacent and nearby roadway system consistent with this standard.

B. Traffic Impact Study Requirements

The traffic study shall, at a minimum, incorporate traffic engineering principles and standards as presented in national practices. Additional requirements and investigation may be imposed upon the applicant as necessary.

The County shall determine the need and requirements for a traffic impact study. The requirements of the TIS may be expanded, reduced, or altered by the County based on the proposed project being analyzed.

1. Study Area - Defined by the County.

The study area, depending on the size and intensity of the development and surrounding development, may be identified by parcel boundary, area of immediate influence, or reasonable travel time boundary.

2. Design Year - Opening day of project.

3. Analysis Period - Identify site and adjacent road traffic for weekday A.M. and P.M. peak hours.

4. Data Collection

Identify site and adjacent road roadway and intersection geometries.

Identify adjacent road(s) traffic volume and characteristics.

5. Conflict / Capacity Analysis

Diagram flow of traffic at access point(s) for site and adjacent development.

Perform capacity analysis as determined by the County.

6. Right-of-Way Access

Identify right-of-way, geometric boundaries, and physical conflicts.

Investigate existence of private, city, federal, state, or no access/limited access control lines.

7. Design and Mitigation

Determine and document safe and efficient operational design needs based on site and study area data. Identify operational concerns and mitigation measures to ensure safe and efficient operation pursuant to appropriate County Roadway Functional Classifications (See Section 2.1).

C. Study Report and Format

Traffic impact studies shall be prepared by a firm or individual approved by the County as capable of performing a traffic analysis and when necessary, include engineered drawings based on County standards drawings and specifications. The traffic impact study should follow the recommended format below.

1. Introduction and Summary

2. Proposed Project

3. Study Area Conditions
4. Analysis of Existing Conditions
5. Projected Traffic
6. Traffic Analysis
7. Conclusions
8. Recommendations
9. Appendices
 - Traffic Counts
 - Traffic Capacity Analysis
 - Accident Summary
 - Request for change of access (if applicable)
10. Figures and tables
 - a. Site location – showing area roadways
 - b. Site Plan
 - i. Identify geometric / physical concerns relating to area, site, and specific access points. Include adjacent road and access points.
 - c. Existing roadway and traffic control features (number of lanes, lane widths, alignment, location of traffic signals, signs). Include off-system features as related to site plan and access point(s).
 - d. Existing daily volumes (directional if possible) and peak hour turning volumes. Discuss traffic characteristics (vehicle mix, % make-up, and any special vehicle requirements).
 - e. Collision diagram summary.
 - f. Site generated trip summary. Discuss trip/vehicle make-up and any special vehicle requirements. Discuss trip reduction strategies, if applicable.
 - g. Directional distribution of site generated traffic.
 - h. Assignment of non-site related traffic (existing, background, and future). Document both existing and committed development, and when appropriate other background planned development traffic. Assignment of total future non-site traffic for design year.
 - i. Assignment of Site Traffic
 - j. Traffic Capacity Analysis
 - i. Projected levels of service without the project – coincide with development phase years.
 - ii. Projected levels of service with the project (by development phase years)
 - iii. Recommended mitigation / improvement

Scaled schematic drawings illustrating alignment, number of lanes, lane widths, signing, and pavement markings. If traffic signal modifications are proposed, signal phasing, signal head locations, and lane marking shall be shown.

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2.0 **Roadway Design Introduction**

The whole of Cache County, including its cities and unincorporated communities, was developed with the road grid as the basic building block of settlement. The grid provides multiple options for travel direction which reduces traffic congestion; provides for a clear, consistent, and understandable method for the arrangement of housing and business; and provides for interconnectivity within the transportation network.

Continued emphasis should be placed on maintaining the gridded network of public roads. New development shall be required to follow the grid pattern in all new roads being constructed wherever practical. Connections to existing and future planned roads shall also be required as development progresses. New roads proposed by county, city, state, and federal governments shall closely follow the established road grid where possible. All roads shall be located on the grid, and rights-of-way should vary based on roadway functional classification.

2.1 **Roadway Functional Classification**

~~A. Current Roadway Classification~~

~~Cache County has a tiered classification system for all roadways that are under the jurisdiction and maintenance of the County (See Table 2.1). Appendix E—Current Road Conditions Classification provides for a graphical reference to the County's roadways and their classification.~~

The concept of functional classification of roadways is fundamental to establishing criteria to be used in the geometric design of highways and streets. The functional classification of a roadway identifies the relative importance of the mobility and access functions for that roadway.

The Director of the Public Works Department is authorized to determine the classification of each County-owned roadway and each privately owned roadway in the unincorporated area of the County. A roadway classification determination by the Director may be appealed to the County Council.

Table 2.1 identifies the roadway classifications used by Cache County along with their abbreviations. These classifications are based on guidance from AASHTO.

Table 2.1
Roadway Functional Classifications

<u>Category Assignment</u>	<u>County Designation</u>
<u>A</u>	<u>Minor Arterial</u>
<u>MC</u>	<u>Major Collector</u>
<u>C</u>	<u>Minor Collector</u>
<u>ML</u>	<u>Major Local</u>
<u>L</u>	<u>Minor Local</u>
<u>MP</u>	<u>Major Private</u>
<u>P</u>	<u>Minor Private</u>
<u>SR</u>	<u>Seasonal/Recreation</u>
<u>AG</u>	<u>Agricultural Access</u>
<u>U</u>	<u>Unimproved</u>

Table 2.1
Roadway Functional Classifications

<u>Category Assignment Abbreviations</u>	<u>County Designation Level-of-importance Roadway Categories</u>
<u>A</u>	<u>Arterial</u>
<u>C</u>	<u>Collector</u>
<u>L</u>	<u>Local</u>
<u>R</u>	<u>Rural</u>
<u>P</u>	<u>Private</u>
<u>M</u>	<u>Mountain</u>
<u>U</u>	<u>Unimproved</u>

1. Arterial (A) — This category is appropriate for use on roadways that have the capacity for moderate speed (generally 45 mph or higher) and moderate to high traffic volumes. There is a reasonable ability for direct access, but the priority is for safety, through transit, and mobility needs within this category. These facilities move traffic across multiple communities or jurisdictions, typically connecting facilities of system importance and through urban areas that have significant potential for development or redevelopment of adjacent land to the highest and best use.
2. Collector (C) — This category is appropriate for use on roadways that have the capacity for moderate to low speeds (generally to a speed range of 40 mph or less) and moderate to high traffic volumes. While this category provides service to through traffic movements, it allows more direct access to occur. These facilities move traffic across multiple communities or jurisdictions, typically connecting

facilities of system importance, but through urban areas that are significantly developed to the point where function (travel speed and capacity) has eroded.

3. **Local (L)**—This category is appropriate for use on roadways that have the capacity for moderate to low speeds and moderate volumes. This category provides a balance between through traffic movements and direct access. These facilities move both regional and local rural traffic with emphasis on local movements.
4. **Rural (R)**—This category is appropriate for use on roadways that have the capacity for moderate to low speeds and low volumes. This category provides access to farms, other agricultural uses, and dispersed rural residences. Gravel or chip & seal road surfacing is typically acceptable.
5. **Private**—This category is appropriate for use on roadways that have the capacity for moderate to low speeds and low volumes. This category provides access to farms, other agricultural uses, and dispersed rural residences. These roads are not typically through roads providing public access to points beyond the areas the road is intended to serve. Gravel or chip & seal road surfacing is typically acceptable.
6. **Mountain**—This category is appropriate for use on forest access roads, mountain roads, back roads, and other special use facilities. Gravel roads are most typical, but some roads have limited improvements or are “two-track” in nature.
7. **Unimproved**—This category is appropriate for roadways that are within a designated County right-of-way, but are not improved for most passenger vehicles. Access may be limited to OHV, horses, hiking or bicycling, or access may be restricted.

B. Planned Roadway Classification

—Given the existing roadway conditions and the current classification of County roads, *Appendix F—Planned Road Conditions Classification* provides for a graphical reference to the County’s planned roadway classifications.

The following is a brief description of each classification.

Minor Arterial (A) – Minor arterial roads link cities, larger towns, and other large traffic generators and are capable of facilitating travel over long distances. These routes have relatively high travel speeds and minimal interferences to the through movement of traffic.

Major Collector (MC) – Major collector roads serve larger towns and other traffic generators of equivalent inter-county importance, such as schools, shipping points, and county parks, which are not directly served by minor arterial roads.

Minor Collector (C) – Minor collector roads provide service to smaller communities and link important traffic generators with the rural hinterland. These routes should be spaced at intervals consistent with population density in order to accumulate traffic from local roads and bring traffic from all developed areas within a reasonable distance of collector roads.

Local Roads – Local roads are roads whose primary function is to provide access to residences, farms, businesses, or other properties that abut the road, rather than to serve through traffic. Although some through traffic may occasionally use a local road, through traffic service is not the primary purpose of local roads. For purposes of design and construction standards, local roads are subdivided into Major Local (ML) and Minor Local (L) roads.

Major Local (ML) – Major local roads serve a dual function of providing access to properties that abut the road as well as providing through or connection service between higher road classification facilities. Major local roads may have significant local continuity and may operate at relatively high speeds. Because of the possibility of through traffic, a meaningful segment of traffic on major local roads may include drivers who are unfamiliar with the roads. Traffic on major local roads is largely composed of passenger vehicles or other smaller vehicle types. Where a significant proportion of traffic is trucks or other heavy vehicles, additional design considerations will be required.

Minor Local (L) – Minor local roads serve almost exclusively to provide access to properties adjacent to the road. Minor local roads generally serve residential or other non-commercial land uses. Many minor local roads are cul-de-sacs or loop roads with no through continuity. The length of minor local roads is typically short. Because the sole function of local roads is to provide local access, such roads are used predominantly by drivers who are familiar with them.

Private Roads – Private roads are not intended for use by the public. These roads are privately owned, provide access to two or more legal lots or parcels, and are not maintained by the County. Geometric and structural design standards for private roads are the same as those used for public roads. For purposes of design and construction standards, private roads are subdivided into Major Private (PM) roads and Minor Private (P) roads.

Major Private (PM) – Major private roads are private roads with an expected ADT of 50-200. Where it is determined that ADT will exceed 200, the Director of Public Works may require that the road be dedicated to the County and improved to public road standards.

Minor Private (P) – Minor private roads are private roads with an expected ADT of 0-50.

Seasonal/Recreation – Seasonal/Recreation roads are found primarily in rural areas and serve lands that are subject to specialized uses, including parks, tourist attractions, cabins, forest access, and recreational facilities, such as campsites, boat-launch ramps, and trailheads. These routes are typically open to the general public and are more likely than other functional classes of roads to be used by drivers who are unfamiliar with them. In many cases these roads are used only seasonally, they accommodate a wide range of speeds, and they may be relatively long.

Agricultural Access Roads (AG) – Agricultural access roads are used exclusively to provide access to fields and farming operations. Vehicle types that use such roads include combines, tractors, and other large and slow-moving vehicles with unique operating characteristics. Drivers are repeat users who are familiar with the road and its characteristics.

Unimproved (U) – Unimproved roads are roadways that are within a County right-of-way but which are not improved for some or all passenger vehicles. Access to unimproved roads may be limited to OHV's, horses, and/or hiking or bicycling, and access to these routes may be restricted.

2.2 County Roads ~~In~~ and Adjacent to Municipalities

A. Municipal County Roads

1. County roadways within municipalities ~~boundaries shall~~will be designated with a roadway classification as designated within Table 2.1, but also identified with a – MC.
2. County roadways within municipalities ~~shall~~must meet the minimum standards of Cache County, but may, through agreement with the affected municipality, be required to meet the road standards and requirements of ~~said~~that municipality.
3. ~~In order for a County road to be used to service a development within a municipality, County approval must be obtained before the municipality issues for the development a building permit, encroachment permit, or permit or license for a change in land use. Any development being serviced by County roads within a municipality shall require the approval of the County prior to the issuance of a building permit, encroachment permit, or change in land use requiring a permit or license from the municipality.~~

B. Municipal Annexation Areas

1. County roads that are adjacent to municipalities, within the declared annexation area of a municipality, and designated by the County Council as a municipal annexation road (–MA) may have their *Planned Road Conditions Classification* designated by a municipality by the agreement and consent of the County.
2. ~~Any~~When planned development activities related to ~~the roadway on~~a municipal annexation road, ~~the County will provide the relevant municipality an opportunity to~~ shall be reviewed by the affected municipality the planned development and provide comments and requests to the County regarding the classification of the road and the design standards to be applied to the road. -The County ~~shall~~will review any comments or requests made by ~~an~~the affected municipality.

2.3 Roadway Sections

~~A. Roadway Typical Sections: All Cache County roadways shall comply with the design elements shown on the roadway typical section in Table 2.2. Traveled way width, shoulder width, and clear zone dimensions shall be based on the design speed, design year traffic volumes, and guidance found in the Appendix.~~

Table 2.2 – Roadway Typical Sections

		PUBLIC ROADWAYS					
		Private ⁶	Mountain Road ^{1,2,6}	Rural ⁶	Local	Collector	Arterial
Planned	Design Limits – Approximate ADT	Up to 30	Up to 30	Up to 30	40–1500	1600–5000	Over 5000
Minimum Width (ft)	Travel Lane ³	10	12	10	10	11	12
	Right-of-Way	33	66	66	66	80	100
	Median/Turn Lane ⁴	-	-	-	12	12	14
	Shoulder (each side)	0	0	2	2	6	8
	Paved Shoulder	0	0	0	1	3	3
	Clear Zone ⁷	0	5	7	7	10	10
	Road Surface Material ⁵	Gravel (A)	Gravel (A)	Gravel (A)	Paved (B)	Paved (B)	Paved (C)

¹ Single lane roads may be permitted for Mountain roadways.

² Single lane roads do not provide adequate levels of service to development and may be required to meet the Rural road standard, provide pullouts, or other improvements as deemed necessary to provide adequate service provision in compliance with this standard, the County Code, and the latest edition of the International Fire Code.

³ Minimum roadway is 2 lanes of traffic unless otherwise specified.

⁴ Provided only where needed as determined by the County or a Traffic Impact Study

⁵ Refer to Appendix Table A-8 Typical Cross Section Structural Values

⁶ No commercial or industrial development shall be permitted.

⁷ See Section 6.4

Roadway standard structural cross sections shall must comply with the standards sections as shown in Table AB-8 in the Appendix. -The applicable structural section may be amended based on a review of the roadway by the Director. -Consideration will be given to traffic volumes and general knowledge of site conditions. -As an alternative, the proposed roadway structural section thickness design may be based on subsurface soil conditions and design year traffic volumes. Structural section thickness shall be determined by a licensed geotechnical engineer and approved by the County. -A soils investigation shall must be submitted that includes but is not necessarily limited to:

- A. Soil borings along roadway centerline and other areas as needed.
- B. Analysis on the overall bearing capacity of the soil.
- C. Recommendation for structural road cross section.
- D. Recommendation as to the requirements for land drains to adequately collect groundwater that may adversely affect development.
- E. Cut and fill slope requirements.
- F. Compaction requirements.

2.4 Improvements to County Roadways

A. Any and all improvements made to County roads or within County rights-of-way or roadway easements ~~shall~~ **must** meet the minimum standards ~~as adopted within this Manual.~~ **County Manual of Roadway Design and Construction Standards.**

1. Basic Improvement Requirements

- a. ~~All public roadways shall be identified and mapped (Appendix E) by roadway functional classification (Section 2.1).~~ Improvements made to roadways through the County's Capital Improvement Plan or by any other interested parties shall comply with the requirements established within this standard based on the functional classification for the roadway.
- b. A primary access point for all development shall be identified based on current conditions and projected travel demand for the proposed development. A development may be required to provide multiple access points if it is deemed necessary for health, safety and welfare reasons.
- c. No development shall be approved on inadequate roadways, public or private.
 - i. Roads along the identified access to proposed development shall be required to meet the minimum roadway standards as outlined herein.
 - ii. Development that is serviced by multiple substandard roads shall be reviewed on the ability of the entire road network providing service to said development. Substandard roadways that are not directly adjacent to a proposed development, but that still provide service to the development, shall be required to meet the minimum standards outlined in this section for development to be approved.
 - iii. ~~Unmanned utility facilities and agricultural structures are exempt from meeting the roadway standards. The facilities must provide appropriate access including easement/rights-of-way as needed.~~
- d. Developer controlled property shall provide all necessary rights-of-way dedication along the frontage of any roadway.
- e. Roadways shall be constructed across the entire frontage of the proposed development.

2. County Implemented Roadway Improvements

- a. All County roadway improvements shall be designated on the County's Capital Improvements Plan. ~~Repair and emergency maintenance of roadways shall be completed at the discretion of the Director.~~ **Road Superintendent.** The County shall not maintain, improve, or cause any public funding to be expended on private roads within the County.

3. Improvements Required for Development:

a. ~~Private and Mountain Roads~~

- i. ~~A roadway section, in conformance with Table 2.2, shall be required on all roads of the identified access that provide service to a proposed development.~~

~~ii.i.~~ Any substandard roads that provide the identified access to a development shall be fully improved to the minimum roadway standard.

b. ~~Rural, Local, Collector, and Arterial Roads~~

- ~~ii.ii.~~ Roadway travel lanes, in conformance with Table ~~B-62.2~~, shall be required on all roads of the identified access that provide service to a

proposed development.

~~ii.iii.~~ Full shoulder and clear zone improvements shall be made for the immediate frontage of any developing parcel as determined by the County.

~~iii.iv.~~ At the discretion of the County and based on traffic volume and site/safety considerations, shoulder improvements and clear zone issues may be required to be addressed and completed on both sides of any affected roadway.

~~iv.v.~~ With the approval of ~~Cache County~~ the Director the developer may offer alternative roadway improvements to the road network servicing a development. ~~The County Director~~ may accept alternative roadway improvements if they are deemed to create a safer operational system, improve the access situation for the development and the general public, and meet the general intent of this Standard Manual.

4. Requests for Permits on Existing Roadways

a. The granting of the following requests ~~shall~~ must be conditioned on the requirement that the requesting party required to meet the standards set forth and adopted in this Manual:

i. Subdivisions and subdivision amendments that create ~~one (1)~~ or more new building lots, including ~~one lot (1) lot~~ subdivisions

ii. Conditional use permits

~~iii. Boundary line adjustments~~

~~iv.iii.~~ Zoning clearances for commercial structures

~~v.iv.~~ Zoning clearances for residential structures on:

~~I. 1970/1978/2000 Legal Parcels~~

~~H.I. Other~~ Legal Lots where no specific approval has been issued for said parcel

~~HH.II.~~ Legal Lots with a legal Accessory/Agricultural Structures

b. Residential building permit requests on the following types of lots are considered to be excepted from the standards adopted in this Manual; grandfathered, however, the Director shall review the proposed development ~~through the Design Exemption process~~ and apply minimum safety standards to the roadway access: (i) lots created by a previously approved subdivision or for which a conditional use permit was previously granted; (ii) lots that have been modified by a subdivision amendment where no new lot was created; and (iii) legal lots with a pre-existing, legal residential structure. A building permit may still be denied for such lots if the access roadway cannot meet minimum health and safety requirements.

~~i. Lots created by an approved subdivision or conditional use permit~~

~~ii. Subdivision amendments where no new lots are created~~

~~iii. Legal Lots with a legal Residential Structure~~

~~Permits may still be denied if roadways cannot meet the minimum health and safety requirements. At a minimum, a full improvement of the parcel frontage is required.~~

c. The minimum standard for Non-Commercial Accessory/Agricultural Structures or Utility Facilities/Structures is a 12 foot all weather surface

roadway or as otherwise approved through a design exception and by the Fire District.

~~i. The minimum standard shall be a 12 foot all-weather surface roadway or as otherwise approved through a Design Exception and by the Fire District.~~

2.5 Roadway Layout

- A. The arrangement, character, extent, width, grade, and location of all roadways shall be in conformity with the official Cache County Comprehensive Plan, regulations, this document, and any further plans adopted by the County and any applicable State and Federal laws. If geographical/geological conditions prevent this from being observed, any deviations must first be approved through the design exception process.
- B. Where appropriate to the design and terrain, proposed roads shall be continuous and in alignment with existing planned or platted roads with which they are to connect and based on the grid system common to Cache County. Proposed new roadways shall be located appropriately to be placed and numbered on the historic block system grid, avoiding mid-block numbering where possible.
- C. Provision for the continuation of existing roadways to adjoining areas (or their proper protection where adjoining land is not subdivided, insofar as such may be deemed necessary for public use by Director) shall be made in the arrangement of roadways in new developments. Where cul-de-sacs are proposed, the road and/or a road right-of-way shall be extended to the edge of the property to provide road connectivity and access alternatives for current, proposed, and future development.
- D. The creation of looped through roads within the established roadway grid system will be encouraged wherever Director finds that such type of development will not interfere with normal traffic circulation in the area.
- E. In order to promote road connectivity and mobility options, dead end roadways shall not be allowed except for cul-de-sac roads not exceeding 500 feet in length, and situations where the Director determines that topographic constraints will not allow through roads. Roads that are temporarily terminated in a cul-de-sac but are planned as through roads may be allowed under section 2.5(F). Reconfiguration of the proposed road layout may be required by the Director to provide through roads. Dead end roads, when approved, shall meet the following requirements:
 - 1. Length: Terminal roads shall not be longer than 500 feet from the centerline of the adjoining road to the center of the cul-de-sac.
 - 2. Cul-de-sac: A dead end road shall terminate in a circular turnaround or cul-de-sac consisting of a 48-foot radius paved surface and a right-of-way radius which allows for the shoulder improvements of the corresponding road section.
 - 3. Corner Radii: The corners at the entrances to the cul-de-sac shall have a radius of not fewer than 15' at the edge of the asphalt.
 - 4. Drainage Facilities: If surface water drains into the dead end road due to the grade of the road, then necessary catch basins, drainage systems and easements shall be provided.
 - 5. Utility & Pedestrian Easement: The County may require the reservation of up to a thirty-three foot (33') wide easement to provide for continuation of pedestrian traffic and utilities to nearby roads.

- F. Temporary Dead End Roads: Temporary turnarounds shall be required on all roads which will be extended in the future and which exceed 300 feet or one lot in depth from the centerline intersections of the closest intersecting road.
1. Temporary turnarounds shall consist of a forty-eight (48) foot radius all weather graded or paved surface.
 2. Additional rights-of-way or easements necessary to construct and maintain the temporary turnaround are also required.
 3. At such time that the temporary turnaround is removed due to adjacent improvements, a typical road section shall be constructed.
 4. Temporary dead end roads shall have right-of-way sufficient to allow a planned continuation of the roadway and shall be required to extend a fully improved roadway section to the terminal end of the project site.
- G. Service Roads: Roadways that are constructed to provide alternative access to high level roadway facilities or adjacent to difficult to cross areas (rivers, railroads, or other natural features) with the primary intent being to provide an adequate and safe method of providing access to properties that may otherwise have limited access options.
1. Where a development borders on or contains a railroad right-of-way or limited access highway right-of-way, existing or planned, Cache County may require a road approximately parallel to and on each side of such right-of-way, at a distance suitable for the appropriate use of the intervening land.
 2. When a development abuts or contains an existing or proposed collector, or arterial roadway, Cache County may require provisions for adequate protection of residential properties or to separate through and local traffic. These provisions may include:
 - a. Limited access roads
 - b. Reverse frontage with screen planting contained in a non-access reservation along the rear property line
 - c. Deep lots with rear service alleys
 - d. Other treatment as may be necessary
- H. Intersection Sight Distance: Intersection sight distance shall conform to the guidance in the latest edition of the AASHTO publication of [A Policy on the Geometric Design of Streets and Roads](#). ~~[A Policy on the Geometric Design of Streets and Roads](#)~~.

2.6 Right-of-Way Encroachment Permits

- A. A right-of-way encroachment permit issued by the Development Services Department is required for any person desiring to perform work in a County right-of-way or on County owned property. The base requirement for each permit is established in Table 2.23 Encroachment Permit Requirements. The decision by the County to issue a permit shall be based on, among other factors determined by the County, the following:
1. The capacity of the public right-of-way to accommodate the facilities or structures proposed to be installed in the public right-of-way.
 2. The capacity of the public right-of-way to accommodate multiple utilities, such as electrical, telephone, gas, sewer, water, or other conduits or pipes.
 3. The potential for damage or disruption, if any, of public or private facilities,

- improvements, or landscaping previously existing in the public right-of-way.
4. The public interest in minimizing the cost, and disruption of construction from numerous excavations in the public right-of-way.
 5. Compliance with the County Roadway Standard.
 6. Signing, flagging, detouring, traffic control, roadway surface impact and restoration, cleanup following construction, clear zone requirements, construction duration, contractor performance bonding, utility installation by use of tunneling, implementation of best management practices during construction, assumption of liability by licensee, and other site specific factors.
 7. Any other restrictions or requirements as established by current Cache County ordinance(s) or any other considerations.
- B. The permit holder shall assume liability and maintenance of utilities placed in the public right-of-way, including relocation or removal as may be determined by the County.
- C. The permit holder shall forfeit the encroachment permit upon failure to comply with the conditions and stipulations of the encroachment permit. The County may require that the contractor's bond or other financial surety be utilized to finish the project, correct deficiencies created by the contractor, or to return the infrastructure to its pre-construction status.
- D. Any person maintaining facilities within County rights-of-way may proceed with emergency work on said facilities if the circumstances demand the work be done immediately; provided that a permit cannot be reasonably and practicably obtained prior to commencing the work. Any emergency work shall conform to these Standards, and the person(s) doing the work shall immediately contact the County Road Superintendent or the County.
- E. Inspection of Construction: The County shall cause the inspection of roadway, access, utility, or other development to be inspected as deemed necessary. Any costs associated with the inspection process shall be paid by the developer of the improvements. The County has the right to require the correction of construction deficiencies that fail to meet this standard or generally accepted construction standards. The County may refuse to accept any infrastructure improvements that fail to meet this standard and can cause the correction or reconstruction of said infrastructure.
- F. Licensed and Bonded Contractor Required:
1. The contractor performing the proposed work shall be licensed and bonded to perform the type of work proposed. A performance bond for a one-year term in the amount equivalent to the value of the proposed work shall be posted naming the County as owner.
 2. If corrective action pertaining to permitted work is necessary, the County shall request the contractor to perform such work at no cost to the County. If a favorable response is not received in a reasonable time frame the County will call upon the bond to complete the work.
 3. The County may inspect and approve project components as deemed necessary.
 4. The County may waive this requirement if it is deemed to not be necessary.

Table 2.23 - Encroachment Permit Requirements

Road/Work Type	Permit Required	Traffic Control	Inspection	L/B Contractor Required
Mountain Road				
Minor Work	Yes	TBD	TBD	TBD
Major Work	Yes	Yes	Yes	Yes
Rural Road				
Minor Work	Yes	TBD	TBD	TBD
Major Work	Yes	Yes	Yes	Yes
Local, Collector, or Arterial				
Minor Work	Yes	TBD	TBD	TBD
Major Work	Yes	Yes	Yes	Yes

Minor Work	Agricultural Access, Driveway Access, placement of mailboxes/fences etc., other work that does not impact the traveled way.
Major Work	Any work that disrupts the roadway surface or structure including but not limited to road rebuild/widening/resurfacing/excavation, shoulder or drainage work, installation of utilities, or other items as determined by the permit authority.
TBD	The County shall provide a determination as to the need for various portions of the permit based on the work being performed.

2.7 Right-of-Way Encroachments

Third party obstructions that currently exist within the County's right-of-way that do not comply with this standard shall be allowed to remain unless it is determined by the County that said obstruction creates an unreasonable safety hazard to the traveling public or infringes substantially on the ability of the County to safely utilize its right-of-way. The County does not assume liability for obstructions that are built or placed within the County's right-of-way or easement that are not in compliance with this standard. All new right-of-way encroachments shall comply with the following standards:

- A. Mailboxes: Standard USPS approved type mail boxes may be located within the public road right-of-way providing that:
 1. The preferred mounting post shall be a standard 4" x 4" wood post.
 2. A decorative mounting post may be used that is not considered a hazard to the traveling public as determined by the County, and will have similar break away characteristics of a 4" x 4" wood post when struck by a passenger vehicle.
 3. The County shall not be liable for damage to mailboxes created by snowplowing or other maintenance operations.
- B. Fences: Fences separating the public roadway from adjoining properties are subject to the following:

1. Fences shall be owned and maintained by the adjoining property owner.
2. Fences shall be located on the right-of-way line except when:
 - a. It is determined to be in the County's interest to locate the fence within the public right-of-way, or
 - b. It is determined that the adjoining property owner may effectively utilize the public right-of-way without creating a hazard to the traveling public. At no time shall the fence be located within the clear zone of the roadway as determined by the County.
 - c. The fence being proposed is constructed in a manner as to make it temporary or easily moved. The preferred fence shall be four strand standard barb wire fence. Decorative fences are not permitted to be constructed within County rights-of-way.
3. The County shall not be liable for damage to fences created by snowplowing or other maintenance operations.
4. The property owner is responsible to relocate the fence when requested by the County. The County may replace or relocate barbed wire fences.
- C. Street Trees or Shrubs: Trees and shrubs to be planted on the public right-of-way (area between property line and the road) will be determined on a case-by-case basis. Factors to be considered will include, but not be limited to, interference with or impact upon sub-surface infrastructure, overhead utilities, visibility, and subsequent maintenance. Allowed plants, trees, and shrubs will become the property of the County at the expiration of twelve months from planting; however, the adjacent property owner is required to maintain the flora.
- D. Waste Container Pads – Along county roads where insufficient space is present to safely locate waste containers outside of the travel lanes, gravel pads shall be required for each single family home or business. A standard pad size for residential waste containers shall be four (4) feet deep by eight (8) feet long, measured a minimum of one (1) foot from the travel lane, constructed to the minimum standards of the roadway shoulder. In situations where dumpsters or joint access locations are proposed, the pad size and construction shall be approved by the Director with input from Service Area 1.

2.8 Road Naming Conventions & Addressing Standards

- A. Newly built roads which follow the grid system shall be assigned the numeric value of the address gridline with which they most closely align. Newly constructed roads shall be located on either a full '100' block designation or an inter-block '50' designation.
- B. Newly built roads that do not conform with the grid system, e.g. a diagonal road or a road which winds or changes direction without intersection, shall not be assigned a grid value, but shall be named. Addresses on that named road should be numbered sequentially from one end to the other without particular regard for their approximate grid location.
- C. Addressing of subdivision lots and homes shall be completed by the Cache County Development Services Office.

1. Addressing shall be assigned to all new construction at the point of issuance of a building permit, with the address being assigned at the center point of the driveway connection to the road.
 2. For subdivision lots, addressing shall be assigned to the middle of the road-facing side of the lot. Where a lot is greater than one (1) acre or where multiple frontages may be used for access, addressing will not be assigned at the point of subdivision, but will be issued at the time of building permit issuance.
 3. Addressing shall be assigned based on an overlay grid rule of eight (8) blocks to a section, with every block containing 100 numbers. The address number is determined by measuring from the nearest grid lines, using the addressing rule of a number change for every 6.6 feet. The standard rule of addressing with even and odd numbering is as follows:
 - a. Even Numbers:
Structures on east side of the road, facing west
Structures on south side the road, facing north
 - b. Odd Numbers:
Structures on the west side of the road, facing east
Structures on the north side of the road, facing south
- D. Non-Conforming Roads and Addresses
- Where conditions exist that do not meet the standards set forth herein, or where roads or structures have been incorrectly assigned an incorrect numerical address, the Development Services Department will attempt to issue a correct address for new roads/lots, but will not rename/renumber historically inaccurate roadways unless it is practical or necessary to do so.

2.9 Miscellaneous

- A. Survey Monuments: Permanent survey monuments shall be accurately set and established at the intersections of centerlines of roads within the development and intersections with centerlines of existing roads and the beginning and ends of curves on centerlines or points of intersections or tangents. All permanent survey monuments shall remain in place, or be reset at the developer's expense when approved by the County, after the roadway pavement and related improvements are installed. All development plans shall be tied to a section corner or monument of record, as established by the Cache County Surveyor.
- B. Bridges & Culverts: Design and construction of new bridges, box culverts, or other spanning structures shall be approved in advance by the County. For bridges identified as essential structures to the County, the County may participate financially, and in the case of a bridge required to serve only a development, the developer shall pay the total cost of construction. The developer shall comply with all the conditions imposed by the County relative to the bridge location, design & construction. All bridge design shall be according to ~~the American Association of State Highway and Transportation Officials (AASHTO's)~~ design guidelines and performed by a professional engineer as per applicable state laws.
- C. Environmental Permits: Any permits or clearances required for the proposed development shall be the responsibility of the developer. Permits may include, but not be limited to, the following:

1. Stream Alteration Permit issued by the State Engineer's Office for stream alterations, or encroachments.
2. Individual or Nationwide Permit for Waters of the US issued by the US Army Corps of Engineers for impacts to wetlands and navigable waterways.
3. Utah Pollutant Discharge Elimination System issued by the State Department of Environmental Quality for construction activities disturbing more than one acre. In addition, the developer shall comply with the Utah Noxious Weed Act and the Cache County Noxious Weed Policy.

3.1 General Roadway Functional Classification.....20**3.1 General**

- A. All design and construction must comply with the requirements and standards of the applicable irrigation company and Cache County.
- B. Relocation or modification of irrigation facilities shall be approved by the affected irrigation company. The County shall require that a letter of approval, signed by an authorized agent, be provided by the irrigation company.
- C. Existing irrigation ditches or canals may be required to either be piped or fenced on both sides when adjacent to or contained within property to be developed.
- D. Rights-of-way and/or easements for irrigation company owned facilities on developer's property shall be provided by the developer. Right-of-way/easement width must meet irrigation company requirements.
- E. Minimum horizontal clearance between an open irrigation line and other utilities shall be at least sixteen and one-half (16.5) feet. Closer tolerances require piping of the irrigation system or other design alternative, and require approval from the affected irrigation company.
- F. Co-location of utilities with an irrigation company facility shall have irrigation and utility company concurrence.

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4.1 General

- A. Post-development peak runoff rates, including sheet flow, shall not exceed pre-development peak rates. County approved storm drainage and detention facilities will be required to meet this Standard.
- B. No drainage facility may be directed to or flow into County rights-of-way, easements, or property.
- C. All storm water facilities must adequately handle run-off from the site development, as well as all upstream contributing flows for specified storm events.
- D. A drainage system shall be designed to:
 - 1. Accept all natural drainage patterns and channels and create no adverse impact on downstream properties.
 - 2. Accommodate all off-site storm water flows that enter the development site under the influence of natural drainage patterns.
 - 3. Convey discharge surface waters to the flow line of an existing watercourse or an adequate existing underground or above-ground conveyance system with appropriate permits as required
 - 4. If an existing irrigation system is used as part of a storm water collection system or outfall system, obtain permission and concurrence from the irrigation system operators/owners for such use.
 - 5. Control storm water discharge rates not to exceed the pre-development flow rate.
 - 6. Accommodate the design flows created by a 10-year return intensity storm event.
 - 7. Base storm water flows on the appropriate small area or larger area run-off calculation technology.
 - 8. Comply with the County Storm Water Management Program as applicable.
 - 9. Comply with Clean Water Act requirements for allowable pollutant levels in discharge flows.
 - 10. Comply with the Cache County Water Master Plan.
- E. Storm drainage design shall consider the provision of drainage easements for off-site contributory run-off through the site, and allow future improvements of adjacent developments.
- F. A new discharge of concentrated storm water from a pipe, culvert, channel, or other drainage structure shall not be created through lands of another property without first obtaining a permanent storm drainage easement and constructing a channel to guarantee continuity of an outfall from the point of discharge to the nearest natural or man-made watercourse with appropriate permits as required.
- G. If off-site downstream construction and easements are required to construct an adequate channel outfall, no plans shall be approved until such storm drainage

easements have been obtained and recorded. Conditional approval may be granted upon review of the plans prior to the securing the easements or rights-of-way.

- H. If the installation of a storm water system requires publicly owned easements, the developer shall convey such easements by deed to Cache County.
- I. Storm water design and construction methods must adequately address potential problems which may arise during construction or by design so as not to pollute, erode, or deposit sediment or cause any other degradation to existing natural conditions. Oil and grease separation devices shall be used in conformance with requirements of the Clean Water Act. A feasible plan for device maintenance shall be provided.

4.2 Road Drainage

- A. Roads shall be designed for a minimum storm frequency of a ten (10) year return period.
- B. The design spread for a ten (10) year event shall be limited so that all traffic lanes in each travel direction shall be kept free of flooding.
- C. No concentrated flow greater than one (1) cubic foot per second shall cross a pedestrian pathway or sidewalk.
- D. Roadway facilities that cross streams or other flowing water shall be designed to handle a storm frequency of a one-hundred (100) year return period within the road right-of-way or easement to reduce flooding of adjacent properties and to maintain channel integrity on either side of the roadway.

4.3 Storm Sewers

- A. Storm sewer trunk lines and laterals shall be designed to adequately handle run-off from a ten (10) year storm.
- B. The hydraulic gradient of storm sewers for the post-development shall be lower than the grate inlet top elevation at all points.
- C. If easements are necessary for the installation and maintenance of public storm sewer systems such easements shall be a minimum of 20 feet in width with the storm sewer line centered within the easement. No buildings, utilities or structures shall be erected or constructed within such easements as to interfere with the activities necessary to properly access and maintain or replace such lines or storm sewer structures.
- D. Allowable storm sewer pipe material is as follows:
 - 1. Concrete (reinforced or non-reinforced)
 - 2. High Density Poly Ethylene (HDPE)
 - 3. Corrugated Metal Pipe (CMP)
- E. Storm water inlets shall be industry standard approved.
- F. Pipe size shall be determined by required capacity but in no instance shall the minimum mainline size be less than 15" diameter.
- G. Cover over storm drain facilities shall be sufficient to adequately protect such facilities from potential loadings either during construction or final finished surface.
- H. Minimum clearance between storm drain facilities and other buried utilities shall be at least 18 inches.
- I. Test pits will be required and shall be shown on the plans for all storm drain crossings

which involve gas lines, water mains 12 inches in diameter and larger, sanitary sewer crossings, and all fiber optic telephone service lines.

- J. Storm drain lines shall be installed with no horizontal or vertical deflection, unless authorized by the County.
- K. Storm Sewer manhole spacing shall be 350 feet maximum.
- L. Storm Sewer manholes shall be four (4) feet in diameter for in-line manholes where grade changes occur. Five (5) foot diameter manholes are required when deflection angle is greater than or equal to 45 degrees, when the manhole is a junction manhole of three or more lines, for sewers whose inside diameter is 15" or greater, or when the cover above invert elevations is 14 feet or greater. All manholes shall be constructed with steps for maintenance access.
- M. All storm sewer taps, either public or private, into existing storm sewer piping shall be limited to 4" and 6" and shall be constructed by the contractor and inspected by the County. All connections greater than 6" shall require a storm drain manhole to be constructed.

4.4 Subsurface Drainage and Drainage Swales

- A. When connected to the storm sewer allowable Sub-Drain pipe materials are as follows:
 - 1. Concrete (reinforced or non-reinforced)
 - 2. HDPE (High Density Polyethylene) for service laterals only
 - 3. Corrugated Metal Pipe (CMP)
- B. When connected to the storm sewer install magnetic locator tape 12 inches below finished grade centered along the subsurface drainage pipe alignment.
- C. If drains are used around building foundations, a typical section and layout of the peripheral drain shall be shown on the development plan and on individual grading plans. The upper end invert shall be a minimum of six inches (6") below the finished grade of the basement floor and laid at a minimum grade of two percent (2%).
- D. Subsurface drainage lateral material shall be HDPE and shall be clearly marked with identifiable tape or other approved methods in order to avoid confusion with other drainage systems. Connections to the mainline shall be accomplished via adapters provided by the manufacturer.
- E. Subsurface drainage manholes shall be 4' diameter for in-line manholes where grade changes occur. Five foot (5') diameter manholes are required when deflection angle is greater than or equal to 45 degrees, when the manhole is a junction manhole of three or more lines, for sewers whose inside diameter is 18 inches or greater, or when the cover above invert elevations is 14 feet or greater. All manholes shall be constructed with steps for maintenance access.
- F. Sumps and drainage swales designed as part of the development's detention systems shall only be allowed when approved by the County -and only when no available outlet exists and the soil conditions are such that they will adequately permit the water to infiltrate properly. In areas within a well or spring protection zone, sumps and drainage swales will be allowed only when found to be acceptable under the current Drinking Water Source Protection Plan, or the owner of the water source being protected agrees that the storm water disposal facilities can be accommodated in the next updating of the Drinking Water Source Protection Plan.

- G. The capacity of sumps and drainage swales can only include the cross sectional area in calculating the required storage volume available. Percolation tests submitted by the developer must demonstrate that sumps and drainage swales can adequately dissipate the generated storm run-off in a reasonable time period.
- H. Drainage swales may be utilized on County roadways. Drainage swales shall meet the following guidelines:
 - 1. Meet the same design criteria as retention basins
 - 2. Side slopes do not exceed 3:1 in steepness
 - 3. Swales do not exceed 18" in total depth
 - 4. Swales do not extend below the natural water table
 - 5. Swales will not support wetland vegetation under normal conditions
 - 6. Vegetation in the swale shall be maintained by the adjacent property owner.

4.5 Channels and Culverts

- A. Channels and culverts shall be designed to adequately handle run-off from a 50-year storm.
- B. Culverts and Channels shall be designed in accordance with UDOT's Roadway Drainage Manual of Instruction.~~the UDOT Roadway Drainage Manual of Instruction.~~
- C. The sides of all conveyance channels shall be extended until a minimum of six inches of free board (distance from water surface to top of bank) is provided above the 50-year event water surface elevation within the conveyance channel.
- D. Conveyance channels with side slopes steeper than 3:1 (Horizontal/Vertical) shall be stabilized by paving, riprap, gabions, or other approved measures.
- E. The minimum conduit diameter for culverts shall be 18 inches.
- F. Culverts shall be designed and installed to account for ultimate right-of-way and road widths.
- G. Culvert design calculations shall include exit velocities.
- H. Culvert exit velocity shall be consistent with the maximum velocity in the natural channel or shall be mitigated by using energy dissipation devices and / or channel stabilization in accordance with UDOT's Roadway Drainage Manual of Instruction.~~the UDOT Roadway Drainage Manual of Instruction.~~
- I. Flared end sections shall be installed at the open ends of all drainage pipes.

4.6 Detention / Retention Facilities

- A. Detention basins shall be designed to detain post development condition run-off to precondition run-off during a 10-year storm and to safely pass a 100-year storm while maintaining at least one foot (1') of freeboard.
- B. Basin outflow shall be limited to the maximum rate which maintains the adequacy of the channel and shall not exceed the pre-development rate of flow to the specific point of concentrated discharge, not the pre-developed flow from the entire drainage area. Under no circumstances shall an outlet flow exceed 0.2 cfs/acre for a 10-year storm event. If a channel does not exist at the point of discharge, then a channel shall be constructed to convey the drainage to a stable outlet.
- C. Detention and Retention basins shall be designed with an emergency overflow for events greater than the 100-year storm event that safely conveys flood waters to an acceptable facility.

- D. Hand or computer generated routing calculations are required along with inflow and outflow hydrographs.
- E. The use of pumps to drain detention facilities shall not be allowed.
- F. Minimum conduit diameter for basin outlets shall be 18 inches. Lesser orifice sizes for flow control shall be provided with a manhole or other acceptable structure fitted with the required orifice.
- G. Safety measures shall be incorporated into the design of all storm water detention facilities. These may include, but are not limited to safety ledges, fencing, warning signs, anti vortex devices, stadia rod indicating depth at the lowest point, and outlet structures designed to limit public access.
- H. All detention facilities must comply with current Clean Water Act requirements.
- I. Detention basins may be designed to provide the following:
 - 1. Side slopes of 3:1 maximum.
 - 2. All weather vehicular maintenance access around the entire basin (min. ten foot (10') widths).
 - 3. Lot shall provide normal frontage requirements.
 - 4. Flow through design which eliminates "wet basin".
 - 5. Cross slope within basin shall provide adequate drainage. Under no circumstances shall the slope be less than 1% across any portion of the basin.
 - 6. All detention lots or easements shall be properly surveyed and corners permanently marked prior to acceptance of improvements.
- J. Detention facilities shall be constructed on a parcel that will not be maintained by Cache County. Easements and provisions allowing access to the inlet and outlet structures by the County shall be required. The decision to accept a detention lot as County property shall be made by the County Council.
- K. Retention (infiltration) systems will be considered for review only if a Soils and Geo-Technical Report is provided which discusses soil permeability, potential effects on ground water, and potential effects on underlying geologic strata. A percolation test will be required to determine the capacity of retention basins. Basin capacity must be based on the infiltration rate, drainage area, and a 50-year storm event. In areas within a well or spring protection zone, sumps, and drainage swales will be allowed only when found to be acceptable under the current Drinking Water Source Protection Plan or the owner of the water source being protected agrees that the storm water disposal facilities can be accommodated in the next updating of the Drinking Water Source Protection Plan.

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5.1 General

Access to County roadways from adjoining properties is managed according to the following regulations to maintain the safety and operational characteristics of the County roadway system. ~~Each County roadway is assigned an access category and category assignments are shown in Appendix E.~~

5.2 Minimum Access Spacing

To maintain safe and effective transportation corridors, Cache County limits the access of roads (private or public), homes, and businesses to all roadways. Table 5.1 designates the spacing requirements for all County roads. Road Access refers to any public or private road, either a full or partial movement intersection. Commercial Access is access to any commercial or industrial business, excluding a home based business as defined in Title 17 of the Cache County Code. Residential/Farm Access refers to any home, farm structure, cabin, or other accessory structure. Minimum spacing includes all access points and road intersections on both sides of the roadway.

Table 5.1 - Cache County Access Management Standards

Level-of-importance <u>Roadway Categories</u>		Minimum Spacing Standard (Feet) ¹		
		Road Access	Commercial Access	Residential/Farm Access
A	Arterial	660	350	350
C	Collectors	350	200	200
<u>ML</u>	<u>Major Local</u>	300	150	10 ¹
<u>RL</u>	<u>Minor Local</u> <u>Rural</u>	300	Not Permitted	10 ¹
<u>MSR</u>	<u>Seasonal/Recreation</u> <u>Mountain Road</u>	300	Not Permitted	10 ¹
<u>AG</u>	<u>Agricultural Access</u>	<u>300</u>	<u>Not Permitted</u>	<u>10¹</u>
<u>U</u>	<u>Unimproved</u>	<u>300</u>	<u>Not Permitted</u>	<u>10¹</u>

¹ Minimum spacing from an intersection shall be 80 feet.

5.3 Criteria for Granting Access

A. The number and location/spacing of access points allowed is based on the Category of Roadway, the minimum spacing standards as set forth in Table 5.1 ~~Cache County Access Management Standards~~, and the following:

1. Unless otherwise approved by the Director, access shall be limited to one driveway for each legal lot/parcel.
 - 1.2. When application is made, access to a roadway may be granted if reasonable access cannot be obtained from the lower classification roadway.
 - 2.3. A determination of reasonable access from a local road or road should include consideration of the road function, purpose, capacity, operational and safety conditions, and opportunities to improve the road.
 - 3.4. Direct access to a higher functional roadway classification will be approved if the alternative access will create a significant operational or safety problem at the alternative location and the direct access to the roadway will not cause a significant problem.
 - 4.5. Cache County may limit access points beyond that which is allowed in Table 5.1 if the County establishes that the access will create a significant safety or operational problem or the access does not meet acceptable design standards including spacing.
- B. The minimum spacing of all intersecting public ways and other significant accesses that will be full movement intersections is 660 feet. Where it is not feasible to meet 660 feet of spacing a design exception and traffic study will be required. Spacing to nearby intersections must be sufficient to accommodate the future year left turn and through vehicle storage queues for both turning movements. The access location shall also meet other access spacing, design, and need requirements.

5.4 Driveways

Table 5.2 - Cache County Driveway Standards

Dimension within ROW	Access Width	Residential	Commercial / Industrial ¹
	Minimum	10' ²	24'
	Maximum	24'	36'
	Surfacing Material Minimum Depths		
	Granular Borrow (Pit run)	8"	8"
	Untreated Base Course (Road base)	4"	N/A
	Paved (Bituminous)	3"	6"
	Road with Concrete Curb and Gutter	6" Concrete	8" Concrete

¹ Does not include home based businesses as defined by Title 17 of the County Code.

² Minimum may be increased by international fire code requirements.

- A. All driveway standards herein are for the portion of the driveway within the County right-of-way only. These standards do not impose requirements on driveways connecting to private roads or for the portions of driveways not within County right-of-way. All driveways shall meet the requirements of the most current and adopted International Fire Code.
- B. Driveway Location: Driveways for all uses except single-family homes shall not be

closer than eight (8) feet to an adjacent interior property line. Accesses for single family homes may be granted within two (2) feet of the property line. All driveways shall be set back a minimum of eighty feet (80') from any intersection.

- C. Common Driveways: Driveways along the property lines may be installed for common use of both adjacent properties only upon approval by the Director and guaranteed by a recorded access agreement.
- D. Driveway Access Design
 - 1. Driveways that access a County road shall be reviewed by the Director to determine the need, sizing, and placement of a culvert.
 - 2. Driveways that access a County road that have concrete curb and gutter shall not use a bridge to span the gutter, but rather shall complete the access using a curb cut.

5.5 Access to State Roads

Any new access, existing access that is being altered, change in land use that utilizes an existing access, or any work within the right-of-way of a State facility is required to obtain the appropriate permits from ~~the Utah Department of Transportation (UDOT)~~ – Region 1. Cache County requires that the applicant for a UDOT permit attend a pre-coordination meeting, referred to as the Cache Access Management Program (CAMP), between the Cache Metropolitan Planning Organization (CMPO), UDOT Region 1, and Cache County.

5.6 Access Requirements for Multi-Jurisdictional Development

- A. County Developments Accessing City Roadways: No development within the unincorporated County shall be permitted to utilize a roadway for direct access that is under the jurisdiction of a municipality without express written approval from the affected municipality. Unincorporated development shall be required to meet all standards and requirements as established by the municipality as part of the conditions for development. Direct access shall constitute driveway or private road access from a public roadway.
- B. Municipal Development Accessing County Roadways: No municipal development shall be permitted to access a County roadway without the express written approval from the Cache County Council. It is the policy of Cache County that no service shall be provided to municipal developments from County roadways unless extreme circumstances provide no alternative and annexation or acceptance of ownership of the roadway by the municipality is not possible.

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6.1 General

The purpose of this policy is to establish and maintain uniform procedures and practices concerning sign maintenance and traffic operations on county roadways. The county will provide such control in a safe and cost-effective manner, balancing the needs of safety for roadway users with county personnel, budget, and social/environmental concerns.

6.2 Procedures

The Road Department will make decisions concerning scheduling and the procedures to be followed for daily traffic sign maintenance needs and subsequent yearly detailed condition inspections. Scheduling and the procedures to be followed will be based upon consideration of the following factors: significance of the traffic device to driver safety; condition and effectiveness of the devices; standards compliance; and whether damage or condition of device creates an immediate safety hazard.

In every instance, the onsite county personnel must assess the conditions of the traffic control device and rely on judgment and experience to determine the appropriate action to correct or maintain the device. Factors that may delay completion of traffic sign maintenance include but are not limited to other repair needs, utility locates, fabrication of necessary material, weather conditions, limited visibility; and other staff and field condition issues.

6.3 Sign Maintenance

- A. General: All county signs shall be entered into a database for tracking. Signs shall have the following information collected/assigned: sign number for all regulatory and warning signs, photograph of the sign, direction of the sign face(s), date of installation, type of post, type of sign material, a record of maintenance, and a GPS coordinate. All regulatory and warning signs shall be identified by a sign sticker placed on the back of the sign. Any signs removed shall be indicated as such within the database.
- B. Installation: All signs shall be installed in compliance with the most recent edition of the MUTCD, Title 12 of the county code, and this policy. The county may deviate from typical sign installations, at their discretion, due to conflicts with utilities, narrow rights-of-way, sight distance issues, or other road side or environmental factors.
 1. County signs are typically installed on telpar type posts.
 2. Road name/address signs are typically collocated with stop/yield signs at intersections and placed above the regulatory sign.
 3. All sign requests shall be made on a sign request form, which shall then be reviewed in compliance with this policy.

- C. Sign Retro-reflectivity: It shall be the intent of the county to conduct a retro-reflectivity evaluation of all signs at least once a year via a visual nighttime inspection as authorized by the MUTCD. Signs that do not meet the retro-reflectivity standard shall be replaced to ensure compliance with the MUTCD and this policy.
- D. Maintenance: The County shall perform a visual inspection of all signs once a quarter. This inspection shall ensure and record the condition/effectiveness of the sign, update the sign inventory, and make any minor repairs as required. After the initial placement of signs, the county shall, as budgetary factors allow, replace signs as they reach the end of the latter of their (a) warranty period, (b) expected life expectancy for the facing material used on the sign, or (c) expected life as determined by an authorized engineering study. Damaged, stolen, or missing signs shall be replaced as needed.
 - 1. Sign maintenance personnel shall use the necessary equipment and traffic controls, as directed by proper county sign maintenance practices and the Field Manual of Temporary Traffic Control Zone Layouts when performing sign maintenance activities along county roadways.
 - 2. All signs (regulatory, warning, or informational) that are replaced for any reason shall be replaced with a retro-reflectivity compliant sign consistent with the MUTCD.
- E. Maintenance Responsibility
 - 1. The county is responsible for all signs located on county roadways, including those on county roadways within municipal limits and those designated for county maintenance by UDOT within R918-6, with the following exceptions:
 - a. Municipalities may request to place additional or specialized signs along county roadways including street markers, community directional or welcome signage, electronic pedestrian crossing signs, etc. All requests shall obtain the appropriate approval for the sign type as per this policy and Title 12 of the county code. The requesting municipality shall be responsible for the installation and maintenance of the signage unless specific agreements are otherwise made with the county.
 - b. Signs on private roads that enter onto county roadways shall be required to conform to the MUTCD, this policy, and Title 12 of the county code.
 - i. The placement of signs or need thereof on private roads shall be reviewed at the time of development.
 - ii. To ensure for the health and safety of the traveling public, the county may place and/or maintain signage at private/County roadway intersections. At the county's option, the owner(s) of the private road may be billed the full cost of the signage improvements.
 - c. Other organizations may request to locate signs along county roadways that serve to benefit the traveling public. In no instance shall commercial or advertising signs be located within the county right of way or roadway. All such signs shall be approved in conformance with this policy.
- F. Removal of Signage:
 - 1. The county shall remove all unauthorized signage from county right of ways and roadways.
 - 2. As excess road signs reduce the effectiveness of signage and impose an

unnecessary financial burden on the county, signs determined to be unnecessary for safety purposes and which are not otherwise required to comply with an applicable state or federal statute or regulation shall be removed. The removal of signs shall follow the same process and approval requirements as the placement of a sign.

- G. Temporary Signage: All temporary signage shall be approved by the county.
 - 1. Special event signage shall be approved through the special event permit process as established in Title 8.40 of the county code. All traffic control devices shall conform to the requirements of this policy and the MUTCD. Markings on the roadway shall be made with temporary marking paint.
 - 2. Construction signage shall comply with all encroachment permitting requirements as outlined in Section 2.6 of this policy.
- H. Response to Incident Report for Sign Repair Needs: Sign maintenance staff will respond after receiving notice of an incident that damages a sign and will determine the appropriate action. Repair of signs shall be made using the following priorities:
 - 1. All Regulatory Signs: As soon as practical but no later than one (1) hour from the time of notification. A temporary sign may be placed in this time period, prior to permanent repairs being made.
 - 2. Warning Signs (e.g. Stop ahead, Curve, etc.): Within two scheduled working days.
 - 3. All other signs: When time and manpower allow.

6.4 Road Side Hazards

- A. Clear Zone Requirements: The AASHTO Roadside Design Guide ~~AASHTO Roadside Design Guide~~ defines a clear zone as the total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, and a non-recoverable slope.
 - 1. Shoulder – minimum shoulder shall be provided in compliance with Table 2-2B-6
 - 2. Recoverable slope – flatter than 1V:4H
 - 3. Non-recoverable slope – between 1V:3H and 1V:4H if they are smooth and free of fixed objects
- B. Vegetation
 - 1. The county shall maintain regular vegetation control programs to prevent growth of trees, shrubs, and other vegetation by the roadside that can become a safety hazard.
 - a. Trees that are within the clear zone should be removed. Trees with branches that infringe on the clear zone should be trimmed.
 - b. Grass and brush should be mowed within the clear zone.
- C. Utilities and Canals/Ditches
 - 1. Newly located utilities (above or below ground) shall be placed outside of the clear zone to reduce the potential for conflict with vehicles. On narrow roadways, additional distance between the roadway and utility placement may be required to accommodate widening of the roadway over time.
 - 2. Canals/Ditches shall be, where practical, located (relocated when possible) outside of the clear zone.
- D. Objects in the Clear Zone

1. Placement of hazards within a county right-of-way or within the clear zone of any county roadway constitutes unauthorized work within the right-of-way. The landowner or person responsible for the hazard will be notified in writing and requested to remove or correct the hazardous condition.
2. If, after a reasonable amount of time, the landowner refuses or has not corrected or removed the hazard, the county will correct or remove the hazard at the landowner's expense. If there appears to be a significant hazard to the traveling public or maintenance equipment, the county may immediately remove the hazard at the landowner expense.

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The following instructions are for the purpose of standardizing the preparation of drawings to obtain uniformity in appearance, clarity, size, and style. These plans and designs shall meet the standards defined in the specifications and drawings herein outlined unless approved otherwise. The minimum information required on drawings for improvements are as follows:

- A. All drawings and/or prints shall be clear and legible and conform to good engineering and drafting practice, on ~~24" X 36"~~ or 11" X 17" sheets or as approved by the County Engineer.
- B. In general, the following shall be included on all drawings:
 1. North arrow (plan)
 2. Scale, written and graphic: 1" = 40' horizontal, 1" = 4' vertical (other appropriate scales as approved by the County)
 3. Elevations referenced to the NAD 83
 4. Stationing and elevations for profiles
 5. Location map
 6. Index map
 7. General and Construction notes
 8. Title block, located in lower right corner of sheet to include:
 - a. Name of County
 - b. Project title (subdivision, etc.)
 - c. Specific type and location of work
 - d. Signature block for approval signature of County and date
 - e. Name, address, phone number, etc. of engineer or firm preparing drawings with license number, stamp, and signature
 9. Details at 1" = 10' or other appropriate scale to adequately provide required information
- C. Roadway surfacing drawings, and pedestrian paths or sidewalks shall show:
 1. Plan and profile views must be shown for centerline of road.
 2. Cross sections at 50-foot intervals showing existing ground, proposed roadway template, cut/fill slope catch points, and right-of-way
 3. All existing elevations shall be shown in parentheses
 4. Include stationing, centerline elevations, and curve data
 5. Flow direction and type of drainage structures with adequate flow line elevations
 6. Typical cross section for all roadways and variations
 7. 100' minimum of existing plan and profile design when connecting to existing improvements
 8. 300' minimum of future plan and profile design when roadway is to be extended (must also include 300' of existing profile along future rights-of-way lines)
 9. Soil Boring Log along roadway centerline if required by County
- D. Storm drainage drawings shall show:
 1. Minimum scale: 1" = 40' horizontal, 1" = 4' vertical
 2. Location, size and slope of mains, and lateral connections
 3. Location, size and details of inlets, junction boxes, etc.
 4. Stationing of manhole center lines, lateral connections, and crossings
 5. Manhole size, location and flow line elevation, lid elevations
 6. Design flow rate (10 yr. storm), hydraulic grade line and velocity (all indicated in profile for each pipe section)
 7. Type of mainline pipe

8. Outfall or receiving waters identification.
- E. Roadway, Drainage, and Grading Plans
1. Plans showing site general layout and drainage patterns
 2. Roadway plan drawings shall show cut/fill catch points
 3. Cut and fill lines shall be labeled accordingly
 4. Spot elevations of final grades
 5. Finished grade contours at one foot intervals
 6. Detention facility details including: inlets, outlets, and piping facilities with final elevations
 7. Calculations to substantiate design (include in submittal but not to be included on plans)
- F. Erosion Control Plans
1. Plans showing site general layout and drainage patterns and outlets for water exiting construction site
 2. De-silting basin details including inlets, outlets, and piping facilities
 3. Calculations to substantiate design (include in submittal but not to be included on plans)
 4. Erosion control construction notes
 5. Plan shall include an emergency phone number and name of the developer's responsible person who will be available 24 hours a day if an emergency situation arises
 6. Re-vegetation plans of disturbed soils
 7. Notes indicating compliance with Storm Water Pollution Prevent Plan and noxious weed control regulations

- A. Design Traffic Volume: Roads shall be designed for a specific traffic volume that is based on the average daily traffic (ADT) volume projected to a 20 year design future. Upon approval from the Director, the design year may range from the current year to 20 years depending on the nature of the improvements.
- B. Design Speed: The design speed is a selected speed used to determine the various design features of the roadway. Geometric features should be consistent with a specific design speed selected as appropriate for site conditions and anticipating the speed of vehicles using the roadway. Low design speeds are generally applicable to roads with winding alignment in rolling or mountainous terrain. High design speeds are generally applicable to roads in level terrain. Intermediate design speeds would be appropriate where terrain, roadside development conditions, and environmental conditions would support moderate roadway speeds. Table AB-1 lists values for minimum design speeds as appropriate for traffic needs and types of terrain.

Table AB-1 Minimum Design Speeds for Cache County Roads

Type of Terrain	Design Speed (mph) for specified design volume (veh/day)					
	under 50 veh/day	50 to 250	250 to 400	400 to 1500	1500 to 2000	2000 and over
Level	30	30	40	50	50	50
Rolling	20	30	30	40	40	40
Mountainous	20	20	20	30	30	30

- C. Sight Distance: Minimum stopping sight distance and passing sight distance should be as shown in Table AB-2 and Table AB-3. These tables provide characteristics of vertical curves allowing adequate sight distances based on traveling speed.

**Table AB-2
Design Controls for Stopping Sight Distance
for Crest and Sag Vertical Curves**

Initial Speed (mph)	Design Stopping Sight Distance (feet)	Rate of Vertical Curvature, K_a (ft/%)	
		Crest	Sag
15	80	3	10
20	115	7	17
25	155	12	26
30	200	19	37
35	250	29	49
40	305	44	64
45	360	61	79
50	425	84	96
55	495	114	115
60	570	151	136

**Table AB-3
Design Controls for Crest Vertical Curves
Based on Passing Sight Distance**

Initial Speed (mph)	Design Passing Sight Distance (ft)	Rate of Vertical Curvature, K_a (ft/%)
20	710	180
25	900	289
30	1090	424
35	1280	585
40	1470	772
45	1625	943
50	1835	1203
55	1985	1407
60	2135	1628

D. Roadway Grades: Maximum roadway grades are shown in Table AB-4:

Table AB-4 Maximum Grades for Cache County Roads

Type of Terrain	Maximum Grade (%) for specified design speed (mph)							
	15	20	25	30	40	50	55	60
Level	9	8	7	7	7	6	6	5
Rolling	10	10	10	10	10	8	7	6
Mountainous	10	10	10	10	10	10	9	8

E. Alignment: Horizontal and vertical alignment should be obtained by engineering study and consideration of the general guidelines listed in AASHTO's Policy on Geometric Design of Streets and Highways between control points should be designed to be as favorable as possible consistent with environmental impact, topography, terrain, design speed, design traffic volume, and the amount of reasonable obtainable right-of-way. Sudden changes between curves of widely different radii or between long tangents and sharp curves should be avoided. Where crest vertical curves and horizontal curves occur together, there should be greater than minimum sight distance to ensure that the potential hazards are visible to approaching drivers. Table AB-5 lists minimum radius of horizontal curves with respect to design speed for Cache County roads. Curve data is required for all roadway centerlines.

Table AB-5 Minimum Horizontal Curve Radius for Cache County Roads

Design Speed (mph)	10	15	20	25	30	35	40	45	50	55	60
Curve Radius (ft)	16	42	86	154	250	371	533	711	926	1190	1500

If possible, the horizontal alignment shall be tangent through intersections, but where horizontal curves cannot be avoided, the following shall be observed:

1. Use a curve of sufficient radius to provide adequate sight distance and eliminate the need for super elevation. Under no condition shall the curve radius be less than that required for the road classification.
2. Curves should not begin or end within an intersection.
3. Eliminate angle points in excess of two degrees (2°) on intersecting roadways by use of a large radius curve.
4. Angle points up to five degrees (5°) are permissible at the intersection of two residential roads.
5. Curve radii and super elevation shall consider the design speed for the given road.

F. Landings - A landing is defined as the area between the through road roadway and the point at which the side road grade begins to exceed 3%. The required minimum lengths of the landings are as follows:

1. Arterial 200 feet
2. Collector 100 feet
3. Local/Rural 50 feet

4. Cul-de-sac 25 feet

G. Roadway Intersections:

1. Number of Roadways: Conventional at grade intersections shall not be designed to accommodate more than two (2) roadways or four (4) corners. If additional intersecting roadways are necessary, a roundabout intersection design may be appropriate.
2. Intersection Angle: Roadways shall intersect at a ninety degree (90°) angle, or as near to a right angle as practicable, but shall not to exceed a ten degree (10°) deviation.
3. Corner Radii: Roadway intersections shall be rounded with the minimum radii measured at the edge of asphalt:
 - a. 25 feet for local/rural roads
 - b. 30 feet for arterials and collectors
4. Roundabouts: Roundabouts shall be designed following Federal Highway Administration's publication No. FHWA-RD-00-067 "Roundabouts: An Informational Guide" and the ~~Guide & Manual on Uniform Traffic Control Devices (MUTCD)~~. Concept shall be approved in advance by the Director.

H. Cross Slope: Pavement cross slope shall be adequate to provide proper drainage.

1. Asphalt surfaced roadways shall have cross slopes ranging from 1.5 to 2 percent.
2. Gravel surfaced roads shall have a 3 percent cross slope.
3. Cross slopes may vary based on the specific project conditions, but shall be approved by the County.

I. Super Elevation: The maximum super elevation rate for Cache County roadways is 8%.

J. Width of Traveled Way and Shoulder

1. Graded shoulder width is measured from the edge of the traveled way to the point of intersection of shoulder slope and fore slope as shown on the typical roadway section drawing.
2. The minimum ~~roadway~~ traveled way width is the sum of the ~~traffic-travel~~ lanes, median, auxiliary lanes, and graded shoulder widths given in Table AB-6. -A minimum of two travel lanes is required. Single lane roads may be permitted on seasonal/recreation roadways with approval of the Fires District and will be required to providehave other improvements (ie.g., pullouts) as deemed necessary to provide adequate service provision in compliance with the latest edition of the International Fire Code. Where roadside barriers (guardrail) are proposed, it is desirable to provide a minimum offset of 4 feet from the traveled way to the barrier when practical.

K. Median: Need and justification for a two-way left turn median shall be determined by the Director. The median shall be placed in the travel way and equally placed on the roadway centerline. The travel way width is increased by the amount of median width. See Figure A-7.

L. Auxiliary Turning Lanes: Auxiliary left and/or right turning lanes shall be included in the roadway typical section when required. See Figure A-7.

M. Horizontal Clearance to Obstructions: A clear zone ~~of 7 feet or more~~ from the edge of traveled way that is appropriately graded is required for roadway design. ~~speeds less than 40 mph.~~ Clear zone widths ~~for roadways with design speeds for 40 mph and greater~~ shall must comply with the AASHTO Roadside Design Guide, latest edition. See Figure A-7.

1. An exception may be made where guardrail protection is provided.
2. The clear zone area ~~shall~~ must be clear of all unyielding objects such as trees, sign

supports, utility poles, light poles, and any other fixed objects that might severely damage an out-of-control vehicle.

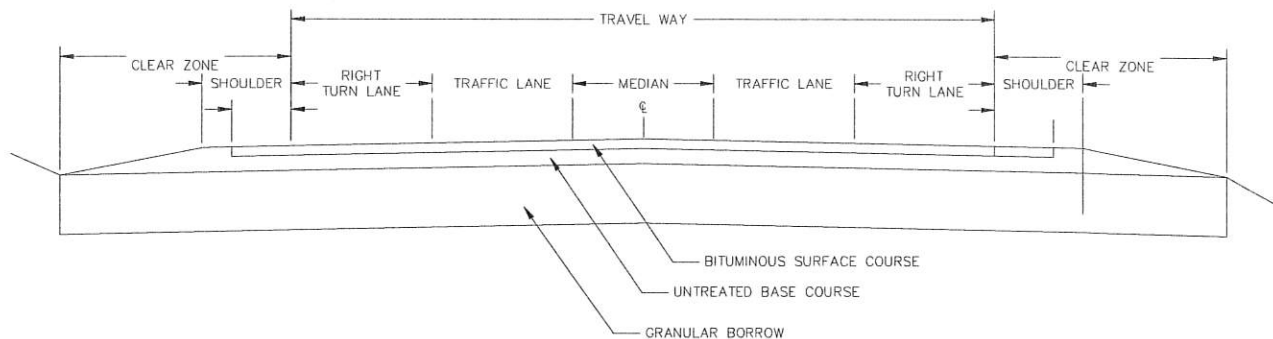
3. Drainage and irrigation ditches shall not be within the clear zone area.

Table AB-6 Typical Cross Section Minimum Standards

Roadway Classification	Right-of-way (ft)	Travel Lane Width (ft)	Total Shoulder Width (ft)	Paved Shoulder Width (ft)	Gravel Shoulder Width (ft)	Design Limits Based on ADT	Road Surface
Minor Arterial	100	12	10	8	2	-	(A)
Major Collector	80	12	8	4	4	-	(A)
Minor Collector	66	11	6	4	2	2000	(B)
Major Local	66	10	6	2	4	1500	(B)
Minor Local	66	10	4	0	4	400	(B)
Major Private	66	10	2	0	0	200	(B)
Minor Private	33	10	0	0	0	50	(B)
Seasonal/Recreation	33	10	0	0	0	-	(B)
Agricultural Access	33	10	0	0	0	-	(C)

		Minimum Width of Traffic Lanes (ft) for Specified Design Volume (ADT)				
	Roadway Classification	Mountain	Rural	Local	Collector	Arterial
	Design Speed (mph)	Under 50	Under 200	200 to 1500	1500 to 5000	Over 5000
	15/20	12	10	-	-	-
	25	12	10	10	-	-
	30	12	10	10	11	-
	40	-	10	10	11	12
	45/50	-	10	11	11	12
	55+	-	11	11	12	12
Minimum	R/W Width	66	66	66	80	100
	Median Width	-	-	12	12	14
	Right Turn Lane	-	-	12	12	12
	Shoulder Width	0	2	2	6	8

Figure AB-17 Typical Cross Section



N. Gravel Road Structural Construction

1. All work shall be verified by an independent soils testing materials technician acceptable to the County. The materials technician shall provide certification of each phase of the completed work to the County.
2. Topsoil and organic material shall be excavated from the roadway alignment area to a depth and width to accommodate the placement of sub base materials.
3. Underlying soils shall be proof rolled with a vibratory compactor roller. Adequate rolling and compaction of soft areas shall be verified by observation by the materials technician.
4. Geotextile reinforcement shall be placed in saturated or soft soil areas as deemed necessary by the County.
5. Compacted granular borrow shall be placed to the specified depth and width in accordance with Table AB-8. The soils technician shall verify proper gradation, placement, and compaction of the material.
6. Compacted untreated base course shall be placed to the specified depth and width in accordance with Table AB-8. The soils technician shall verify proper gradation, placement, and compaction of the material.

Table AB-8 Typical Cross Section Structural Values

Typical Section	Bituminous Surface Course (BSC)	Untreated Base Course (UTBC)	Granular Borrow (GB)
A	40	6	14
B	2.53 ¹	6	14
C	04	6	14

¹Double Chip & Seal coat may be utilized based on traffic volume and engineering requirements.

O. ~~Chip & Seal Surfacing Standards~~

- ~~1. All work shall be verified by an independent soils testing materials technician acceptable to the County. The materials technician shall provide certification that the following requirements were met at each phase of the completed work to the County.~~
- ~~2. Complete all work between May 15 and August 31.~~

3. Place seal coat when road temperature is at least 70° F, air temperature is at least 50° F, and forecasted temperature is not expected to be below 40° F within three (3) days after placement.
4. Use a self-propelled aggregate chip spreader specifically designed and manufactured for chip seal operations with gates to drop the correct amount of aggregate, plus or minus one (1) pound per square yard.
5. Use articulating type pneumatic roller weighing between six (6) and ten (10) tons with a maximum width of six (6) feet.
6. Water shall be applied to dampen the surface of the compacted untreated base course surface prior to placement of chip seal paving material. No standing water shall be present on the roadway surface.
7. CRS-2 emulsified asphalt material shall be diluted to two (2) parts of concentrate to one (1) part of water by the manufacturer and applied at a minimum temperature of 145° F and at a rate to attain 50% chip embedment prior to rolling and 70% embedment following rolling. An application rate of 0.42 gal per square yard is expected. Adjust application rates as necessary. The materials technician shall verify proper application of the asphalt material.
8. Place Type I crushed stone aggregate immediately applied to the asphalt-coated roadway surface at the rate of 25 pounds per square yard. The materials technician shall verify proper gradation and application of the gravel material.
9. Roll to seat the gravel material into the asphalt-coated roadway surface. The materials technician shall verify proper rolling and seating of the gravel material.
10. The rolled roadway surface shall be lightly swept to remove excess gravel material. Care shall be taken not to dislodge seated material. Any areas stripped of gravel material shall be repaired with cold mix asphalt material.
11. Water shall be applied to dampen the surface of the rolled roadway surface prior to placement of additional chip seal paving material.
12. As above, CRS-2 emulsified asphalt material shall be applied at the approximate rate of 0.35 gal per square yard of the roadway surface. The materials technician shall verify proper application of the asphalt material.
13. Type II crushed stone aggregate shall be immediately applied to the asphalt-coated roadway surface at the rate of twenty five (25) pounds per square yard. The materials technician shall verify proper gradation and application of the gravel material.
14. Roll to seat the gravel material into the asphalt-coated roadway surface. The materials technician shall verify proper rolling and seating of the gravel material.
The rolled roadway surface shall be lightly swept to remove excess gravel material. Care shall be taken not to dislodge seated material.

Table A-9 Gradation Limits

Sieve Size	Percent Passing	
	Type I	Type II
1 in	100	100
1/2 in	0-10	100
3/8 in	0-10	70-90
No. 4	0-10	0-10
No. 8	0-5	0-5
No. 200	0-1	0-1

- A. Drainage calculations by a licensed professional shall be provided to show that all storm water facilities can adequately handle run-off from the site development as well as all upstream contributing flows. Hydraulic capacity of pipe and culvert systems must be verified with engineering calculations in accordance with the UDOT Roadway Drainage Manual of Instruction. ~~Utah Department of Transportation (UDOT) Roadway Drainage Manual of Instruction.~~
- B. Calculations shall include a copy of the of the site grading and drainage plan, at the plan scale with the boundaries, acreages and C-factors of the interior drainage areas shown.
- C. Calculations shall also include a map at an appropriate scale delineating the boundaries, flow paths, acreages and C-factors of the drainage areas upstream of the development, which contribute storm water to the development.
- D. Construction drawings shall show the location, size, flow line elevations, profiles and details of drainage facilities and structures, including, but not limited to swales, ditches, culverts under public roads and private drives, drop inlets, storm sewers, and detention/retention ponds. Typical cross sections of all swales and ditches shall be shown.
- E. Profiles of roads shall show profiles of storm sewers and cross sections of culverts together with points of intersection. Profiles shall show clearance of such drainage facilities with water mains and sanitary sewers.

- A. For purposes of computing run-off, all existing and proposed gravel surfaced roadways, driveways, and parking areas shall be treated as being asphalt paved.
- B. The Rational Method may be used to determine peak flows for sites smaller than 300 acres and having a time of concentration less than 30' minimum if the site surface characteristics make it applicable.
- C. When the rational method is used, times of concentration for pre-development and post development shall be shown with their corresponding rain intensity.
- D. Values from Table **D-1A-10** of rainfall intensity-duration-frequency shall be used with the rational method.

**Table D-1A-10 Rainfall Intensity Duration Frequency
Precipitation Intensity Estimates (in/hr)**

From NOAA Atlas 14 Logan Utah State University, Utah (42-5186) 41.7456 N 111.8033 W 4786 feet											
ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr
2	1.62	1.24	1.02	0.69	0.43	0.28	0.22	0.15	0.10	0.06	0.04
5	2.26	1.72	1.42	0.96	0.59	0.37	0.28	0.19	0.12	0.08	0.05
10	2.78	2.12	1.76	1.18	0.73	0.45	0.33	0.22	0.14	0.09	0.05
25	3.64	2.77	2.29	1.54	0.95	0.57	0.42	0.27	0.17	0.11	0.06
50	4.37	3.32	2.75	1.85	1.15	0.68	0.49	0.31	0.19	0.12	0.07
100	5.23	3.98	3.29	2.22	1.37	0.80	0.57	0.36	0.22	0.13	0.08
200	6.18	4.70	3.89	2.62	1.62	0.94	0.66	0.40	0.24	0.15	0.09
500	7.74	5.89	4.86	3.28	2.03	1.15	0.79	0.47	0.28	0.17	0.10
1000	9.07	6.90	5.70	3.84	2.38	1.34	0.91	0.53	0.31	0.18	0.11

- E. When the site surface characteristics warrant the use of a method other than the Rational Method, use the SCS method, Modified Rational Method or an approved procedure in accordance with [Chapter 7 Hydrology of the UDOT Roadway Drainage Manual of Instruction](#).
- F. Table **D-2A-11** shows precipitation frequency values that shall be used in conjunction with an approved hydrological procedure.

Table D-2A-11 Precipitation Frequency Estimates (inches)

From NOAA Atlas 14 Logan Utah State University, Utah (42-5186) 41.7456 N 111.8033 W 4786 feet											
ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr
2	0.14	0.21	0.26	0.34	0.43	0.56	0.66	0.90	1.21	1.55	1.86
5	0.19	0.29	0.35	0.48	0.59	0.74	0.84	1.13	1.48	1.90	2.26
10	0.23	0.35	0.44	0.59	0.73	0.90	1.00	1.33	1.73	2.18	2.59
25	0.30	0.46	0.57	0.77	0.95	1.14	1.25	1.62	2.07	2.58	3.05
50	0.36	0.55	0.69	0.93	1.15	1.36	1.47	1.86	2.34	2.89	3.42
100	0.44	0.66	0.82	1.11	1.37	1.60	1.71	2.13	2.64	3.23	3.81
200	0.52	0.78	0.97	1.31	1.62	1.88	1.98	2.41	2.95	3.58	4.22
500	0.65	0.98	1.22	1.64	2.03	2.31	2.38	2.83	3.39	4.05	4.78
1000	0.76	1.15	1.43	1.92	2.38	2.69	2.73	3.19	3.74	4.42	5.22

- G. An inflow and outflow hydrograph will be required on all retention/detention basins.

H. Table A-12 shows the SCS 24 hr (Type II) rainfall distribution and the Farmer Fletcher rainfall distribution that shall be used to generate runoff hydrographs for detention/retention basins.

**Table A-12 SCS 24-hr and Farmer Fletcher Rainfall Distribution
Farmer Fletcher 1-hr Storm Distribution**

Time (hrs)	Cumulative Depth (%)	Time (hrs)	Cumulative Depth (%)	Time (Min)	Cumulative Depth (%)
1	1.08	13	77.24	6	36.5
1.5	1.64	13.5	79.89	9	51
2	2.23	14	81.97	12	61.5
2.5	2.84	14.5	83.8	15	70
3	3.47	15	85.38	18	76.5
3.5	4.14	15.5	86.76	21	80.6
4	4.83	16	88.01	24	83.9
4.5	5.55	16.5	89.14	27	86.2
5	6.32	17	90.19	30	88
5.5	7.12	17.5	91.15	33	89.5
6	7.97	18	92.06	36	90.8
6.5	8.87	18.5	92.91	39	92
7	9.84	19	93.71	42	93.2
7.5	10.89	19.5	94.46	45	94.4
8	12.03	20	95.19	48	95.6
8.5	13.28	20.5	95.88	51	96.8
9	14.67	21	96.53	54	98
9.5	16.25	21.5	97.17	57	99
10	18.08	22	97.77	60	100
10.5	20.42	22.5	98.36	-	-
11	23.51	23	98.92	-	-
11.5	28.33	23.5	99.47	-	-
-	-	24	100	-	-

CACHE COUNTY, UTAH
MANUAL OF ROADWAY DESIGN
& CONSTRUCTION STANDARDS



JANUARY 2021

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1.1 Introduction

This Manual of Roadway Design & Construction Standards (“Manual”) provides standards for construction and maintenance of new and existing roads and appurtenant structures and utilities within County-owned rights-of-way.

The improvements to which this Manual applies include all utilities (e.g., sanitary sewer and culinary water facilities that lie in or cross County rights-of-way, storm sewer facilities, and drainage facilities), grading, surfacing, erosion control, traffic signing, traffic control, and roadway improvements (collectively, “Improvements”).

Improvements must be installed so as to facilitate future extension beyond the proposed development to which they directly apply and must be compatible with the contour of the ground for proper drainage and for servicing future development.

Developers are responsible for all up-front costs associated with the design and construction of Improvements made necessary by their proposed developments and for all up-front costs associated with the acquisition of necessary rights-of-way. Developers must make Improvements in accordance with the County’s adopted design standards. Developers are encouraged to work with owners of adjacent properties that will benefit from the Improvements.

1.2 Definitions

Wherever used in this Manual, the each of the following terms has the meaning indicated, which meaning is applicable to both the singular and plural form of the word defined.

- A. AASHTO – The American Association of State Highway and Transportation Officials.
- B. APWA – The American Public Works Association.
- C. Average Daily Traffic (ADT) – A measure of the amount of annual average traffic on a roadway per day. A single family home is designated as impacting a roadway with 10 average trips per day. Business uses will vary in their impact.
- D. County – Cache County, Utah.
- E. Developing Parcel – A parcel or lot being developed through the process of a subdivision, conditional use permit, building permit for a single family home, or commercial business.
- F. Driveway – A privately owned and maintained access road connecting not more than

- two legal lots or parcels to a public or private roadway.
- G. Substandard Roadway – Any roadway that does not meet the standards established by this Manual based on the existing classification of the roadway or, when development is proposed, on the classification that would apply to the roadway upon completion of the proposed development.
- H. UDOT – Utah Department of Transportation.

1.3 Electronic Deliverable Requirements

Prior to final acceptance of improvements, surveys in electronic format shall be submitted and accepted by Cache County.

The electronic drawings shall be in either Computer Aided Drafting (CAD) or Geographic Information Systems (GIS) file format. File formats shall be approved by the County Engineer.

All CAD and GIS files shall be registered to the North American Datum 83 (NAD 83) Utah State Plane North Zone coordinate system (grid) with ties to two public monuments. Information on monuments is available through the Cache County Surveyor.

1.4 Licensed Professional Seal Requirements

Complete and detailed construction plans and drawings of all improvements shall be submitted to the Cache County Public Works Department for review and approval prior to issuance of a permit(s). The plans containing the appropriate approval signatures and the current adopted specifications shall be the only valid documents from which the contractor shall construct the permitted improvements. The contractor shall have a copy of the approved plans and permit available at the construction site and shall make them available to the County's representative upon request.

Any final infrastructure improvement plan or report shall bear the seal of a professional licensed to prepare such plans in Utah. Additionally, the signature of the individual named on the seal and the date shall appear across the face of each original seal.

1.5 Inspection

All construction work involving the installation or repair of public improvements shall be subject to inspection by the County. It shall be the responsibility of the person responsible for construction to ensure that inspections take place where and when required as indicated in the specifications, on the permit, and as determined by the County. Certain types of construction will require continuous inspection while others will only require periodic inspections. The type and amount of inspection performed shall be determined by the County.

Continuous inspection may be required on the following types of work:

- A. Placement of road surfacing
- B. Placing of concrete
- C. Laying of drainage pipe
- D. Testing and backfilling as per approved specifications

E. Roadway grading and gravel base placement and compaction

For construction requiring continuous or periodic inspection, no work shall start until an inspection request has been made to the County by the person responsible for the construction and the required submittals received and approved by the County. Notice of the initiation of work and requests for inspection shall be made at least two (2) working days prior to the commencing of the work. Construction completed without a required inspection will be required to be removed and reinstalled at the Contractor's expense.

Work performed by the Contractor which requires periodic or continuous inspection beyond the normal working hours of Cache County, on weekends, or on County holidays shall require payment of current County overtime rates by the contractor.

1.6 Guarantee of Work

For all private and public roadway improvements required as part of a project approval, the contractor shall provide a performance bond or other approved financial surety in the amount of 110% of the value of the proposed work naming Cache County as owner for a term covering the project construction up to final acceptance by the County. If out of specification work is not corrected by the contractor, then the value of the work necessary to correct it will be applied against the performance bond. Following final project acceptance by the County, the performance bond shall continue to extend for a one (1) year period of time or as otherwise allowed by Utah Code §17-27a-604.5 (1953 as amended). Roadway improvement financial sureties may be incorporated into development agreements that also cover additional development needs (utilities, etc.).

The contractor will be required to correct any work of the initial construction that fails as determined by the County Engineer, within the time frame of the bond. If the contractor does not respond in a timely manner County forces (or a designated contractor) will complete the work with costs being applied against the performance bond.

The developer/contractor will be responsible to see that the excavation, backfilling, and compaction are properly and adequately completed and that all necessary permitting is obtained. Settlement of trenches within a period of one (1) year after final acceptance of the project shall be considered incontrovertible evidence of inadequate compaction, and the developer/contractor shall be responsible for correcting the condition in accordance with the provisions of these standards and specifications.

1.7 Other Standards Adopted

In addition to the standards set forth in this Manual, the County adopts the following as standards for all issues related to the design, construction, and maintenance of Improvements not specifically covered by this Manual:

- A. APWA: Manual of Standard Specifications (current edition)
- B. APWA: Manual of Standard Plans (current edition)
- C. AASHTO: A Policy on Geometric Design of Streets and Highways (current edition)
- D. AASHTO: Standard Specifications for Transportation Materials and Methods of Sampling and Testing (current edition)

- E. UDOT: Roadway Drainage Manual of Instruction (current edition)
- F. AASHTO: Roadside Design Guide (current edition)
- G. Manual of Uniform Traffic Control Devices (MUTCD) (current edition)
- H. AASHTO: Guidelines for Geometric Design of Low Volume Roads (current edition)

As to any particular issue, if a conflict exists between any of the foregoing standards, the higher standard as determined by the Director of Public Works or the Director's designee applies.

1.8 Authority and Design Exceptions

- A. The Director of Public Works (the "Director") has the authority to enforce the provisions of this Manual. Requests for design exceptions to the standards and specifications of this Manual will be considered on a case-by-case basis by the Director or the Director's designee. A request for a design exception must include a written statement explaining why the applicable standard or specification cannot reasonably be met and why an alternative design or construction method meets the intent of the applicable standard or specification. When considering a request for a design exception, the Director or the Director's designee may request documentation or other information relevant to the request.
- B. In considering any request for a design exception, the Director may consult with the following individuals based on the needs of the project or infrastructure in question:
 - 1. Cache County Executive
 - 2. Cache County Road Superintendent
 - 3. Cache County Engineer
 - 4. Cache County Fire Chief
 - 5. Cache County Director of Development Services
 - 6. Cache County Attorney or Cache County Attorney's designee
- C. The Director or Director's designee must evaluate a request for a design exception to the standards and specifications set forth in this Manual and approve, deny, or modify the requested exception. Approval of a request in one project will not constitute a precedent for other projects. The Director or Director's designee may grant an exception to the standards and specifications only when at least one of the following conditions is met:
 - 1. The standard or specification does not apply in the particular application;
 - 2. Topography, right-of-way, or other geographic conditions impose an undue economic hardship on the applicant and an alternative is available which can accomplish the same safety and design objectives;
 - 3. A minor change to a standard or specification is required to address a specific design or construction problem related to the particular project which if not allowed will result in an undue economic hardship to the applicant.
- D. An appeal of the Director's or Director's designee's decision on a request for a design exception to the standards and specifications set forth in this Manual may be made to the County Council. On appeal, the applicant has the burden of proving that an error was committed or that the requested exception meets the criteria of Subsection B and the requested alternative equals or exceeds the applicable standard or specification as to function, performance, and safety.

1.9 Traffic Impact Studies

The Director may require that a Traffic Impact Study (TIS) be completed for any project where it is deemed necessary.

A. The purposes of the TIS are as follows:

1. Document whether or not the access request or roadway can meet the standards and requirements of this Standard and other applicable County ordinances and policies.
2. Analyze appropriate location, spacing, and design of access connection(s) necessary to mitigate traffic impacts.
3. Analyze operational impacts on the roadway in accordance with this Standard and any other applicable County ordinances and policies.
4. Recommend the need for any improvements to the adjacent and nearby roadway system to maintain a satisfactory level of service and safety and to protect the function of the road system while providing appropriate and necessary access to the proposed development.
5. Assure that the internal traffic circulation of the proposed development is designed to provide safe and efficient access to and from the adjacent and nearby roadway system consistent with this standard.

B. Traffic Impact Study Requirements

The traffic study shall, at a minimum, incorporate traffic engineering principles and standards as presented in national practices. Additional requirements and investigation may be imposed upon the applicant as necessary.

The County shall determine the need and requirements for a traffic impact study. The requirements of the TIS may be expanded, reduced, or altered by the County based on the proposed project being analyzed.

1. Study Area - Defined by the County.

The study area, depending on the size and intensity of the development and surrounding development, may be identified by parcel boundary, area of immediate influence, or reasonable travel time boundary.

2. Design Year - Opening day of project.

3. Analysis Period - Identify site and adjacent road traffic for weekday A.M. and P.M. peak hours.

4. Data Collection

Identify site and adjacent road roadway and intersection geometries.

Identify adjacent road(s) traffic volume and characteristics.

5. Conflict / Capacity Analysis

Diagram flow of traffic at access point(s) for site and adjacent development.

Perform capacity analysis as determined by the County.

6. Right-of-Way Access

Identify right-of-way, geometric boundaries, and physical conflicts.

Investigate existence of private, city, federal, state, or no access/limited access control lines.

7. Design and Mitigation

Determine and document safe and efficient operational design needs based on site and study area data. Identify operational concerns and mitigation

measures to ensure safe and efficient operation pursuant to appropriate County Roadway Functional Classifications (See Section 2.1).

C. Study Report and Format

Traffic impact studies shall be prepared by a firm or individual approved by the County as capable of performing a traffic analysis and when necessary, include engineered drawings based on County standards drawings and specifications. The traffic impact study should follow the recommended format below.

1. Introduction and Summary
2. Proposed Project
3. Study Area Conditions
4. Analysis of Existing Conditions
5. Projected Traffic
6. Traffic Analysis
7. Conclusions
8. Recommendations
9. Appendices
 - Traffic Counts
 - Traffic Capacity Analysis
 - Accident Summary
 - Request for change of access (if applicable)
10. Figures and tables
 - a. Site location – showing area roadways
 - b. Site Plan
 - i. Identify geometric / physical concerns relating to area, site, and specific access points. Include adjacent road and access points.
 - c. Existing roadway and traffic control features (number of lanes, lane widths, alignment, location of traffic signals, signs). Include off-system features as related to site plan and access point(s).
 - d. Existing daily volumes (directional if possible) and peak hour turning volumes. Discuss traffic characteristics (vehicle mix, % make-up, and any special vehicle requirements).
 - e. Collision diagram summary.
 - f. Site generated trip summary. Discuss trip/vehicle make-up and any special vehicle requirements. Discuss trip reduction strategies, if applicable.
 - g. Directional distribution of site generated traffic.
 - h. Assignment of non-site related traffic (existing, background, and future). Document both existing and committed development, and when appropriate other background planned development traffic. Assignment of total future non-site traffic for design year.
 - i. Assignment of Site Traffic
 - j. Traffic Capacity Analysis
 - i. Projected levels of service without the project – coincide with development phase years.
 - ii. Projected levels of service with the project (by development phase years)

iii. Recommended mitigation / improvement

Scaled schematic drawings illustrating alignment, number of lanes, lane widths, signing, and pavement markings. If traffic signal modifications are proposed, signal phasing, signal head locations, and lane marking shall be shown.

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2.0 Introduction

The whole of Cache County, including its cities and unincorporated communities, was developed with the road grid as the basic building block of settlement. The grid provides multiple options for travel direction which reduces traffic congestion; provides for a clear, consistent, and understandable method for the arrangement of housing and business; and provides for interconnectivity within the transportation network.

Continued emphasis should be placed on maintaining the gridded network of public roads. New development shall be required to follow the grid pattern in all new roads being constructed wherever practical. Connections to existing and future planned roads shall also be required as development progresses. New roads proposed by county, city, state, and federal governments shall closely follow the established road grid where possible. All roads shall be located on the grid, and rights-of-way should vary based on roadway functional classification.

2.1 Roadway Functional Classification

The concept of functional classification of roadways is fundamental to establishing criteria to be used in the geometric design of highways and streets. The functional classification of a roadway identifies the relative importance of the mobility and access functions for that roadway.

The Director of the Public Works Department is authorized to determine the classification of each County-owned roadway and each privately owned roadway in the unincorporated area of the County. A roadway classification determination by the Director may be appealed to the County Council.

Table 2.1 identifies the roadway classifications used by Cache County along with their abbreviations. These classifications are based on guidance from AASHTO.

Table 2.1
Roadway Functional Classifications

Category Assignment	County Designation
A	Minor Arterial
MC	Major Collector
C	Minor Collector
ML	Major Local
L	Minor Local
MP	Major Private
P	Minor Private
SR	Seasonal/Recreation
AG	Agricultural Access
U	Unimproved

The following is a brief description of each classification.

Minor Arterial (A) – Minor arterial roads link cities, larger towns, and other large traffic generators and are capable of facilitating travel over long distances. These routes have relatively high travel speeds and minimal interferences to the through movement of traffic.

Major Collector (MC) – Major collector roads serve larger towns and other traffic generators of equivalent inter-county importance, such as schools, shipping points, and county parks, which are not directly served by minor arterial roads.

Minor Collector (C) – Minor collector roads provide service to smaller communities and link important traffic generators with the rural hinterland. These routes should be spaced at intervals consistent with population density in order to accumulate traffic from local roads and bring traffic from all developed areas within a reasonable distance of collector roads.

Local Roads – Local roads are roads whose primary function is to provide access to residences, farms, businesses, or other properties that abut the road, rather than to serve through traffic. Although some through traffic may occasionally use a local road, through traffic service is not the primary purpose of local roads. For purposes of design and construction standards, local roads are subdivided into Major Local (ML) and Minor Local (L) roads.

Major Local (ML) – Major local roads serve a dual function of providing access to properties that abut the road as well as providing through or connection service between higher road classification facilities. Major local roads may have significant local continuity and may operate at relatively high speeds. Because of the possibility of

through traffic, a meaningful segment of traffic on major local roads may include drivers who are unfamiliar with the roads. Traffic on major local roads is largely composed of passenger vehicles or other smaller vehicle types. Where a significant proportion of traffic is trucks or other heavy vehicles, additional design considerations will be required.

Minor Local (L) – Minor local roads serve almost exclusively to provide access to properties adjacent to the road. Minor local roads generally serve residential or other non-commercial land uses. Many minor local roads are cul-de-sacs or loop roads with no through continuity. The length of minor local roads is typically short. Because the sole function of local roads is to provide local access, such roads are used predominantly by drivers who are familiar with them.

Private Roads – Private roads are not intended for use by the public. These roads are privately owned, provide access to two or more legal lots or parcels, and are not maintained by the County. Geometric and structural design standards for private roads are the same as those used for public roads. For purposes of design and construction standards, private roads are subdivided into Major Private (PM) roads and Minor Private (P) roads.

Major Private (PM) – Major private roads are private roads with an expected ADT of 50-200. Where it is determined that ADT will exceed 200, the Director of Public Works may require that the road be dedicated to the County and improved to public road standards.

Minor Private (P) – Minor private roads are private roads with an expected ADT of 0-50.

Seasonal/Recreation – Seasonal/Recreation roads are found primarily in rural areas and serve lands that are subject to specialized uses, including parks, tourist attractions, cabins, forest access, and recreational facilities, such as campsites, boat-launch ramps, and trailheads. These routes are typically open to the general public and are more likely than other functional classes of roads to be used by drivers who are unfamiliar with them. In many cases these roads are used only seasonally, they accommodate a wide range of speeds, and they may be relatively long.

Agricultural Access Roads (AG) – Agricultural access roads are used exclusively to provide access to fields and farming operations. Vehicle types that use such roads include combines, tractors, and other large and slow-moving vehicles with unique operating characteristics. Drivers are repeat users who are familiar with the road and its characteristics.

Unimproved (U) – Unimproved roads are roadways that are within a County right-of-way but which are not improved for some or all passenger vehicles. Access to unimproved roads may be limited to OHV's, horses, and/or hiking or bicycling, and access to these routes may be restricted.

2.2 County Roads in and Adjacent to Municipalities

A. Municipal County Roads

1. County roadways within municipalities will be designated with a roadway classification as designated within Table 2.1 but also identified with a –MC.
2. County roadways within municipalities must meet the minimum standards of Cache County but may, through agreement with the affected municipality, be required to meet the road standards and requirements of that municipality.
3. In order for a County road to be used to service a development within a municipality, County approval must be obtained before the municipality issues for the development a building permit, encroachment permit, or permit or license for a change in land use.

B. Municipal Annexation Areas

1. County roads that are adjacent to municipalities, within the declared annexation area of a municipality, and designated by the County Council as a municipal annexation road (–MA) may have their *Planned Road Conditions Classification* designated by a municipality by the agreement and consent of the County.
2. When planned development activities relate to a municipal annexation road, the County will provide the relevant municipality an opportunity to review the planned development and provide comments and requests to the County regarding the classification of the road and the design standards to be applied to the road. The County will review any comments or requests made by the affected municipality.

2.3 Roadway Sections

Roadway standard structural cross sections must comply with the standards in Table B-8 in the Appendix. The applicable structural section may be amended based on a review of the roadway by the Director. Consideration will be given to traffic volumes and general knowledge of site conditions. As an alternative, the proposed roadway structural section thickness design may be based on subsurface soil conditions and design year traffic volumes. Structural section thickness shall be determined by a licensed geotechnical engineer approved by the County. A soils investigation must be submitted that includes but is not necessarily limited to:

- A. Soil borings along roadway centerline and other areas as needed.
- B. Analysis on the overall bearing capacity of the soil.
- C. Recommendation for structural road cross section.
- D. Recommendation as to the requirements for land drains to adequately collect groundwater that may adversely affect development.
- E. Cut and fill slope requirements.
- F. Compaction requirements.

2.4 Improvements to County Roadways

- A. Any and all improvements made to County roads or within County rights-of-way or roadway easements must meet the minimum standards adopted within this Manual.
 1. Basic Improvement Requirements
 - a. Improvements made to roadways through the County's Capital Improvement Plan or by any other interested parties shall comply with the requirements

established within this standard based on the functional classification for the roadway.

- b. A primary access point for all development shall be identified based on current conditions and projected travel demand for the proposed development. A development may be required to provide multiple access points if it is deemed necessary for health, safety and welfare reasons.
 - c. No development shall be approved on inadequate roadways, public or private.
 - i. Roads along the identified access to proposed development shall be required to meet the minimum roadway standards as outlined herein.
 - ii. Development that is serviced by multiple substandard roads shall be reviewed on the ability of the entire road network providing service to said development. Substandard roadways that are not directly adjacent to a proposed development, but that still provide service to the development, shall be required to meet the minimum standards outlined in this section for development to be approved.
 - d. Developer controlled property shall provide all necessary rights-of-way dedication along the frontage of any roadway.
 - e. Roadways shall be constructed across the entire frontage of the proposed development.
2. County Implemented Roadway Improvements
- a. All County roadway improvements shall be designated on the County's Capital Improvements Plan. Repair and emergency maintenance of roadways shall be completed at the discretion of the Director. The County shall not maintain, improve, or cause any public funding to be expended on private roads within the County.
3. Improvements Required for Development:
- a. Any substandard roads that provide the identified access to a development shall be fully improved to the minimum roadway standard.
 - b. Roadway travel lanes, in conformance with Table B-6, shall be required on all roads of the identified access that provide service to a proposed development.
 - c. Full shoulder and clear zone improvements shall be made for the immediate frontage of any developing parcel as determined by the County.
 - d. At the discretion of the County and based on traffic volume and site/safety considerations, shoulder improvements and clear zone issues may be required to be addressed and completed on both sides of any affected roadway.
 - e. With the approval of the Director the developer may offer alternative roadway improvements to the road network servicing a development. The Director may accept alternative roadway improvements if they are deemed to create a safer operational system, improve the access situation for the development and the general public, and meet the general intent of this Manual.
4. Requests for Permits on Existing Roadways
- a. The granting of the following requests must be conditioned on the requirement that the requesting party meet the standards set forth and adopted in this Manual:
 - i. Subdivisions and subdivision amendments that create 1 or more new building lots, including one-lot subdivisions

- ii. Conditional use permits
- iii. Zoning clearances for commercial structures
- iv. Zoning clearances for residential structures on:
 - I. Legal Lots where no specific approval has been issued for said parcel
 - II. Legal Lots with a legal Accessory/Agricultural Structures
- b. Residential building permit requests on the following types of lots are considered to be excepted from the standards adopted in this Manual; however, the Director shall review the proposed development and apply minimum safety standards to the roadway access: (i) lots created by a previously approved subdivision or for which a conditional use permit was previously granted; (ii) lots that have been modified by a subdivision amendment where no new lot was created; and (iii) legal lots with a pre-existing, legal residential structure. A building permit may still be denied for such lots if the access roadway cannot meet minimum health and safety requirements.
- c. The minimum standard for non-commercial accessory/agricultural structures or utility facilities/structures is a 12 foot all weather surface roadway or as otherwise approved through a design exception and by the Fire District.

2.5 Roadway Layout

- A. The arrangement, character, extent, width, grade, and location of all roadways shall be in conformity with the official Cache County Comprehensive Plan, regulations, this document, and any further plans adopted by the County and any applicable State and Federal laws. If geographical/geological conditions prevent this from being observed, any deviations must first be approved through the design exception process.
- B. Where appropriate to the design and terrain, proposed roads shall be continuous and in alignment with existing planned or platted roads with which they are to connect and based on the grid system common to Cache County. Proposed new roadways shall be located appropriately to be placed and numbered on the historic block system grid, avoiding mid-block numbering where possible.
- C. Provision for the continuation of existing roadways to adjoining areas (or their proper protection where adjoining land is not subdivided, insofar as such may be deemed necessary for public use by Director) shall be made in the arrangement of roadways in new developments. Where cul-de-sacs are proposed, the road and/or a road right-of-way shall be extended to the edge of the property to provide road connectivity and access alternatives for current, proposed, and future development.
- D. The creation of looped through roads within the established roadway grid system will be encouraged wherever Director finds that such type of development will not interfere with normal traffic circulation in the area.
- E. In order to promote road connectivity and mobility options, dead end roadways shall not be allowed except for cul-de-sac roads not exceeding 500 feet in length, and situations where the Director determines that topographic constraints will not allow through roads. Roads that are temporarily terminated in a cul-de-sac but are planned as through roads may be allowed under section 2.5(F). Reconfiguration of the

- proposed road layout may be required by the Director to provide through roads. Dead end roads, when approved, shall meet the following requirements:
1. Length: Terminal roads shall not be longer than 500 feet from the centerline of the adjoining road to the center of the cul-de-sac.
 2. Cul-de-sac: A dead end road shall terminate in a circular turnaround or cul-de-sac consisting of a 48-foot radius paved surface and a right-of-way radius which allows for the shoulder improvements of the corresponding road section.
 3. Corner Radii: The corners at the entrances to the cul-de-sac shall have a radius of not fewer than 15' at the edge of the asphalt.
 4. Drainage Facilities: If surface water drains into the dead end road due to the grade of the road, then necessary catch basins, drainage systems and easements shall be provided.
 5. Utility & Pedestrian Easement: The County may require the reservation of up to a thirty-three foot (33') wide easement to provide for continuation of pedestrian traffic and utilities to nearby roads.
- F. Temporary Dead End Roads: Temporary turnarounds shall be required on all roads which will be extended in the future and which exceed 300 feet or one lot in depth from the centerline intersections of the closest intersecting road.
1. Temporary turnarounds shall consist of a forty-eight (48) foot radius all weather graded or paved surface.
 2. Additional rights-of-way or easements necessary to construct and maintain the temporary turnaround are also required.
 3. At such time that the temporary turnaround is removed due to adjacent improvements, a typical road section shall be constructed.
 4. Temporary dead end roads shall have right-of-way sufficient to allow a planned continuation of the roadway and shall be required to extend a fully improved roadway section to the terminal end of the project site.
- G. Service Roads: Roadways that are constructed to provide alternative access to high level roadway facilities or adjacent to difficult to cross areas (rivers, railroads, or other natural features) with the primary intent being to provide an adequate and safe method of providing access to properties that may otherwise have limited access options.
1. Where a development borders on or contains a railroad right-of-way or limited access highway right-of-way, existing or planned, Cache County may require a road approximately parallel to and on each side of such right-of-way, at a distance suitable for the appropriate use of the intervening land.
 2. When a development abuts or contains an existing or proposed collector, or arterial roadway, Cache County may require provisions for adequate protection of residential properties or to separate through and local traffic. These provisions may include:
 - a. Limited access roads
 - b. Reverse frontage with screen planting contained in a non-access reservation along the rear property line
 - c. Deep lots with rear service alleys
 - d. Other treatment as may be necessary

- H. Intersection Sight Distance: Intersection sight distance shall conform to the guidance in the latest edition of the AASHTO publication of A Policy on the Geometric Design of Streets and Roads.

2.6 Right-of-Way Encroachment Permits

- A. A right-of-way encroachment permit issued by the Development Services Department is required for any person desiring to perform work in a County right-of-way or on County owned property. The base requirement for each permit is established in Table 2.2 Encroachment Permit Requirements. The decision by the County to issue a permit shall be based on, among other factors determined by the County, the following:
1. The capacity of the public right-of-way to accommodate the facilities or structures proposed to be installed in the public right-of-way.
 2. The capacity of the public right-of-way to accommodate multiple utilities, such as electrical, telephone, gas, sewer, water, or other conduits or pipes.
 3. The potential for damage or disruption, if any, of public or private facilities, improvements, or landscaping previously existing in the public right-of-way.
 4. The public interest in minimizing the cost, and disruption of construction from numerous excavations in the public right-of-way.
 5. Compliance with the County Roadway Standard.
 6. Signing, flagging, detouring, traffic control, roadway surface impact and restoration, cleanup following construction, clear zone requirements, construction duration, contractor performance bonding, utility installation by use of tunneling, implementation of best management practices during construction, assumption of liability by licensee, and other site specific factors.
 7. Any other restrictions or requirements as established by current Cache County ordinance(s) or any other considerations.
- B. The permit holder shall assume liability and maintenance of utilities placed in the public right-of-way, including relocation or removal as may be determined by the County.
- C. The permit holder shall forfeit the encroachment permit upon failure to comply with the conditions and stipulations of the encroachment permit. The County may require that the contractor's bond or other financial surety be utilized to finish the project, correct deficiencies created by the contractor, or to return the infrastructure to its pre-construction status.
- D. Any person maintaining facilities within County rights-of-way may proceed with emergency work on said facilities if the circumstances demand the work be done immediately; provided that a permit cannot be reasonably and practicably obtained prior to commencing the work. Any emergency work shall conform to these Standards, and the person(s) doing the work shall immediately contact the County Road Superintendent or the County.
- E. Inspection of Construction: The County shall cause the inspection of roadway, access, utility, or other development to be inspected as deemed necessary. Any costs associated with the inspection process shall be paid by the developer of the improvements. The County has the right to require the correction of construction deficiencies that fail to meet this standard or generally accepted construction

standards. The County may refuse to accept any infrastructure improvements that fail to meet this standard and can cause the correction or reconstruction of said infrastructure.

F. Licensed and Bonded Contractor Required:

1. The contractor performing the proposed work shall be licensed and bonded to perform the type of work proposed. A performance bond for a one-year term in the amount equivalent to the value of the proposed work shall be posted naming the County as owner.
2. If corrective action pertaining to permitted work is necessary, the County shall request the contractor to perform such work at no cost to the County. If a favorable response is not received in a reasonable time frame the County will call upon the bond to complete the work.
3. The County may inspect and approve project components as deemed necessary.
4. The County may waive this requirement if it is deemed to not be necessary.

Table 2.2 - Encroachment Permit Requirements

Work Type	Permit Required	Traffic Control	Inspection	L/B Contractor Required
Minor Work	Yes	TBD	TBD	TBD
Major Work	Yes	Yes	Yes	Yes

Minor Work	Agricultural Access, Driveway Access, placement of mailboxes/fences etc., other work that does not impact the traveled way.
Major Work	Any work that disrupts the roadway surface or structure including but not limited to road rebuild/widening/resurfacing/excavation, shoulder or drainage work, installation of utilities, or other items as determined by the permit authority.
TBD	The County shall provide a determination as to the need for various portions of the permit based on the work being performed.

2.7 Right-of-Way Encroachments

Third party obstructions that currently exist within the County's right-of-way that do not comply with this standard shall be allowed to remain unless it is determined by the County that said obstruction creates an unreasonable safety hazard to the traveling public or infringes substantially on the ability of the County to safely utilize its right-of-way. The County does not assume liability for obstructions that are built or placed within the County's right-of-way or easement that are not in compliance with this standard. All new right-of-way encroachments shall comply with the following standards:

- A. Mailboxes: Standard USPS approved type mail boxes may be located within the public road right-of-way providing that:
1. The preferred mounting post shall be a standard 4" x 4" wood post.
 2. A decorative mounting post may be used that is not considered a hazard to the traveling public as determined by the County, and will have similar break away

- characteristics of a 4" x 4" wood post when struck by a passenger vehicle.
3. The County shall not be liable for damage to mailboxes created by snowplowing or other maintenance operations.
- B. Fences: Fences separating the public roadway from adjoining properties are subject to the following:
1. Fences shall be owned and maintained by the adjoining property owner.
 2. Fences shall be located on the right-of-way line except when:
 - a. It is determined to be in the County's interest to locate the fence within the public right-of-way, or
 - b. It is determined that the adjoining property owner may effectively utilize the public right-of-way without creating a hazard to the traveling public. At no time shall the fence be located within the clear zone of the roadway as determined by the County.
 - c. The fence being proposed is constructed in a manner as to make it temporary or easily moved. The preferred fence shall be four strand standard barb wire fence. Decorative fences are not permitted to be constructed within County rights-of-way.
 3. The County shall not be liable for damage to fences created by snowplowing or other maintenance operations.
 4. The property owner is responsible to relocate the fence when requested by the County. The County may replace or relocate barbed wire fences.
- C. Street Trees or Shrubs: Trees and shrubs to be planted on the public right-of-way (area between property line and the road) will be determined on a case-by-case basis. Factors to be considered will include, but not be limited to, interference with or impact upon sub-surface infrastructure, overhead utilities, visibility, and subsequent maintenance. Allowed plants, trees, and shrubs will become the property of the County at the expiration of twelve months from planting; however, the adjacent property owner is required to maintain the flora.
- D. Waste Container Pads – Along county roads where insufficient space is present to safely locate waste containers outside of the travel lanes, gravel pads shall be required for each single family home or business. A standard pad size for residential waste containers shall be four (4) feet deep by eight (8) feet long, measured a minimum of one (1) foot from the travel lane, constructed to the minimum standards of the roadway shoulder. In situations where dumpsters or joint access locations are proposed, the pad size and construction shall be approved by the Director with input from Service Area 1.

2.8 Road Naming Conventions & Addressing Standards

- A. Newly built roads which follow the grid system shall be assigned the numeric value of the address gridline with which they most closely align. Newly constructed roads shall be located on either a full '100' block designation or an inter-block '50' designation.
- B. Newly built roads that do not conform with the grid system, e.g. a diagonal road or a road which winds or changes direction without intersection, shall not be assigned a grid value, but shall be named. Addresses on that named road should be numbered

sequentially from one end to the other without particular regard for their approximate grid location.

- C. Addressing of subdivision lots and homes shall be completed by the Cache County Development Services Office.
1. Addressing shall be assigned to all new construction at the point of issuance of a building permit, with the address being assigned at the center point of the driveway connection to the road.
 2. For subdivision lots, addressing shall be assigned to the middle of the road-facing side of the lot. Where a lot is greater than one (1) acre or where multiple frontages may be used for access, addressing will not be assigned at the point of subdivision, but will be issued at the time of building permit issuance.
 3. Addressing shall be assigned based on an overlay grid rule of eight (8) blocks to a section, with every block containing 100 numbers. The address number is determined by measuring from the nearest grid lines, using the addressing rule of a number change for every 6.6 feet. The standard rule of addressing with even and odd numbering is as follows:
 - a. Even Numbers:
Structures on east side of the road, facing west
Structures on south side the road, facing north
 - b. Odd Numbers:
Structures on the west side of the road, facing east
Structures on the north side of the road, facing south
- D. Non-Conforming Roads and Addresses
Where conditions exist that do not meet the standards set forth herein, or where roads or structures have been incorrectly assigned an incorrect numerical address, the Development Services Department will attempt to issue a correct address for new roads/lots, but will not rename/renumber historically inaccurate roadways unless it is practical or necessary to do so.

2.9 Miscellaneous

- A. Survey Monuments: Permanent survey monuments shall be accurately set and established at the intersections of centerlines of roads within the development and intersections with centerlines of existing roads and the beginning and ends of curves on centerlines or points of intersections or tangents. All permanent survey monuments shall remain in place, or be reset at the developer's expense when approved by the County, after the roadway pavement and related improvements are installed. All development plans shall be tied to a section corner or monument of record, as established by the Cache County Surveyor.
- B. Bridges & Culverts: Design and construction of new bridges, box culverts, or other spanning structures shall be approved in advance by the County. For bridges identified as essential structures to the County, the County may participate financially, and in the case of a bridge required to serve only a development, the developer shall pay the total cost of construction. The developer shall comply with all the conditions imposed by the County relative to the bridge location, design & construction. All bridge design shall be according to AASHTO's design guidelines and performed by a professional engineer as per applicable state laws.

- C. Environmental Permits: Any permits or clearances required for the proposed development shall be the responsibility of the developer. Permits may include, but not be limited to, the following:
1. Stream Alteration Permit issued by the State Engineer's Office for stream alterations, or encroachments.
 2. Individual or Nationwide Permit for Waters of the US issued by the US Army Corps of Engineers for impacts to wetlands and navigable waterways.
 3. Utah Pollutant Discharge Elimination System issued by the State Department of Environmental Quality for construction activities disturbing more than one acre. In addition, the developer shall comply with the Utah Noxious Weed Act and the Cache County Noxious Weed Policy.

3.1 General19

3.1 General

- A. All design and construction must comply with the requirements and standards of the applicable irrigation company and Cache County.
- B. Relocation or modification of irrigation facilities shall be approved by the affected irrigation company. The County shall require that a letter of approval, signed by an authorized agent, be provided by the irrigation company.
- C. Existing irrigation ditches or canals may be required to either be piped or fenced on both sides when adjacent to or contained within property to be developed.
- D. Rights-of-way and/or easements for irrigation company owned facilities on developer’s property shall be provided by the developer. Right-of–way/easement width must meet irrigation company requirements.
- E. Minimum horizontal clearance between an open irrigation line and other utilities shall be at least sixteen and one-half (16.5) feet. Closer tolerances require piping of the irrigation system or other design alternative, and require approval from the affected irrigation company.
- F. Co-location of utilities with an irrigation company facility shall have irrigation and utility company concurrence.

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4.1 General

- A. Post-development peak runoff rates, including sheet flow, shall not exceed pre-development peak rates. County approved storm drainage and detention facilities will be required to meet this Standard.
- B. No drainage facility may be directed to or flow into County rights-of-way, easements, or property.
- C. All storm water facilities must adequately handle run-off from the site development, as well as all upstream contributing flows for specified storm events.
- D. A drainage system shall be designed to:
 - 1. Accept all natural drainage patterns and channels and create no adverse impact on downstream properties.
 - 2. Accommodate all off-site storm water flows that enter the development site under the influence of natural drainage patterns.
 - 3. Convey discharge surface waters to the flow line of an existing watercourse or an adequate existing underground or above-ground conveyance system with appropriate permits as required
 - 4. If an existing irrigation system is used as part of a storm water collection system or outfall system, obtain permission and concurrence from the irrigation system operators/owners for such use.
 - 5. Control storm water discharge rates not to exceed the pre-development flow rate.
 - 6. Accommodate the design flows created by a 10-year return intensity storm event.
 - 7. Base storm water flows on the appropriate small area or larger area run-off calculation technology.
 - 8. Comply with the County Storm Water Management Program as applicable.
 - 9. Comply with Clean Water Act requirements for allowable pollutant levels in discharge flows.
 - 10. Comply with the Cache County Water Master Plan.
- E. Storm drainage design shall consider the provision of drainage easements for off-site contributory run-off through the site, and allow future improvements of adjacent developments.
- F. A new discharge of concentrated storm water from a pipe, culvert, channel, or other drainage structure shall not be created through lands of another property without first obtaining a permanent storm drainage easement and constructing a channel to guarantee continuity of an outfall from the point of discharge to the nearest natural or man-made watercourse with appropriate permits as required.

- G. If off-site downstream construction and easements are required to construct an adequate channel outfall, no plans shall be approved until such storm drainage easements have been obtained and recorded. Conditional approval may be granted upon review of the plans prior to the securing the easements or rights-of-way.
- H. If the installation of a storm water system requires publicly owned easements, the developer shall convey such easements by deed to Cache County.
- I. Storm water design and construction methods must adequately address potential problems which may arise during construction or by design so as not to pollute, erode, or deposit sediment or cause any other degradation to existing natural conditions. Oil and grease separation devices shall be used in conformance with requirements of the Clean Water Act. A feasible plan for device maintenance shall be provided.

4.2 Road Drainage

- A. Roads shall be designed for a minimum storm frequency of a ten (10) year return period.
- B. The design spread for a ten (10) year event shall be limited so that all traffic lanes in each travel direction shall be kept free of flooding.
- C. No concentrated flow greater than one (1) cubic foot per second shall cross a pedestrian pathway or sidewalk.
- D. Roadway facilities that cross streams or other flowing water shall be designed to handle a storm frequency of a one-hundred (100) year return period within the road right-of-way or easement to reduce flooding of adjacent properties and to maintain channel integrity on either side of the roadway.

4.3 Storm Sewers

- A. Storm sewer trunk lines and laterals shall be designed to adequately handle run-off from a ten (10) year storm.
- B. The hydraulic gradient of storm sewers for the post-development shall be lower than the grate inlet top elevation at all points.
- C. If easements are necessary for the installation and maintenance of public storm sewer systems such easements shall be a minimum of 20 feet in width with the storm sewer line centered within the easement. No buildings, utilities or structures shall be erected or constructed within such easements as to interfere with the activities necessary to properly access and maintain or replace such lines or storm sewer structures.
- D. Allowable storm sewer pipe material is as follows:
 - 1. Concrete (reinforced or non-reinforced)
 - 2. High Density Poly Ethylene (HDPE)
 - 3. Corrugated Metal Pipe (CMP)
- E. Storm water inlets shall be industry standard approved.
- F. Pipe size shall be determined by required capacity but in no instance shall the minimum mainline size be less than 15" diameter.
- G. Cover over storm drain facilities shall be sufficient to adequately protect such facilities from potential loadings either during construction or final finished surface.

- H. Minimum clearance between storm drain facilities and other buried utilities shall be at least 18 inches.
- I. Test pits will be required and shall be shown on the plans for all storm drain crossings which involve gas lines, water mains 12 inches in diameter and larger, sanitary sewer crossings, and all fiber optic telephone service lines.
- J. Storm drain lines shall be installed with no horizontal or vertical deflection, unless authorized by the County.
- K. Storm Sewer manhole spacing shall be 350 feet maximum.
- L. Storm Sewer manholes shall be four (4) feet in diameter for in-line manholes where grade changes occur. Five (5) foot diameter manholes are required when deflection angle is greater than or equal to 45 degrees, when the manhole is a junction manhole of three or more lines, for sewers whose inside diameter is 15" or greater, or when the cover above invert elevations is 14 feet or greater. All manholes shall be constructed with steps for maintenance access.
- M. All storm sewer taps, either public or private, into existing storm sewer piping shall be limited to 4" and 6" and shall be constructed by the contractor and inspected by the County. All connections greater than 6" shall require a storm drain manhole to be constructed.

4.4 Subsurface Drainage and Drainage Swales

- A. When connected to the storm sewer allowable Sub-Drain pipe materials are as follows:
 - 1. Concrete (reinforced or non-reinforced)
 - 2. HDPE (High Density Polyethylene) for service laterals only
 - 3. Corrugated Metal Pipe (CMP)
- B. When connected to the storm sewer install magnetic locator tape 12 inches below finished grade centered along the subsurface drainage pipe alignment.
- C. If drains are used around building foundations, a typical section and layout of the peripheral drain shall be shown on the development plan and on individual grading plans. The upper end invert shall be a minimum of six inches (6") below the finished grade of the basement floor and laid at a minimum grade of two percent (2%).
- D. Subsurface drainage lateral material shall be HDPE and shall be clearly marked with identifiable tape or other approved methods in order to avoid confusion with other drainage systems. Connections to the mainline shall be accomplished via adapters provided by the manufacturer.
- E. Subsurface drainage manholes shall be 4' diameter for in-line manholes where grade changes occur. Five foot (5') diameter manholes are required when deflection angle is greater than or equal to 45 degrees, when the manhole is a junction manhole of three or more lines, for sewers whose inside diameter is 18 inches or greater, or when the cover above invert elevations is 14 feet or greater. All manholes shall be constructed with steps for maintenance access.
- F. Sumps and drainage swales designed as part of the development's detention systems shall only be allowed when approved by the County and only when no available outlet exists and the soil conditions are such that they will adequately permit the water to infiltrate properly. In areas within a well or spring protection zone, sumps and drainage swales will be allowed only when found to be acceptable under the

- current Drinking Water Source Protection Plan, or the owner of the water source being protected agrees that the storm water disposal facilities can be accommodated in the next updating of the Drinking Water Source Protection Plan.
- G. The capacity of sumps and drainage swales can only include the cross sectional area in calculating the required storage volume available. Percolation tests submitted by the developer must demonstrate that sumps and drainage swales can adequately dissipate the generated storm run-off in a reasonable time period.
 - H. Drainage swales may be utilized on County roadways. Drainage swales shall meet the following guidelines:
 - 1. Meet the same design criteria as retention basins
 - 2. Side slopes do not exceed 3:1 in steepness
 - 3. Swales do not exceed 18" in total depth
 - 4. Swales do not extend below the natural water table
 - 5. Swales will not support wetland vegetation under normal conditions
 - 6. Vegetation in the swale shall be maintained by the adjacent property owner.

4.5 Channels and Culverts

- A. Channels and culverts shall be designed to adequately handle run-off from a 50-year storm.
- B. Culverts and Channels shall be designed in accordance with UDOT's Roadway Drainage Manual of Instruction.
- C. The sides of all conveyance channels shall be extended until a minimum of six inches of free board (distance from water surface to top of bank) is provided above the 50-year event water surface elevation within the conveyance channel.
- D. Conveyance channels with side slopes steeper than 3:1 (Horizontal/Vertical) shall be stabilized by paving, riprap, gabions, or other approved measures.
- E. The minimum conduit diameter for culverts shall be 18 inches.
- F. Culverts shall be designed and installed to account for ultimate right-of-way and road widths.
- G. Culvert design calculations shall include exit velocities.
- H. Culvert exit velocity shall be consistent with the maximum velocity in the natural channel or shall be mitigated by using energy dissipation devices and / or channel stabilization in accordance with UDOT's Roadway Drainage Manual of Instruction.
- I. Flared end sections shall be installed at the open ends of all drainage pipes.

4.6 Detention / Retention Facilities

- A. Detention basins shall be designed to detain post development condition run-off to precondition run-off during a 10-year storm and to safely pass a 100-year storm while maintaining at least one foot (1') of freeboard.
- B. Basin outflow shall be limited to the maximum rate which maintains the adequacy of the channel and shall not exceed the pre-development rate of flow to the specific point of concentrated discharge, not the pre-developed flow from the entire drainage area. Under no circumstances shall an outlet flow exceed 0.2 cfs/acre for a 10-year storm event. If a channel does not exist at the point of discharge, then a channel shall be constructed to convey the drainage to a stable outlet.

- C. Detention and Retention basins shall be designed with an emergency overflow for events greater than the 100-year storm event that safely conveys flood waters to an acceptable facility.
- D. Hand or computer generated routing calculations are required along with inflow and outflow hydrographs.
- E. The use of pumps to drain detention facilities shall not be allowed.
- F. Minimum conduit diameter for basin outlets shall be 18 inches. Lesser orifice sizes for flow control shall be provided with a manhole or other acceptable structure fitted with the required orifice.
- G. Safety measures shall be incorporated into the design of all storm water detention facilities. These may include, but are not limited to safety ledges, fencing, warning signs, anti vortex devices, stadia rod indicating depth at the lowest point, and outlet structures designed to limit public access.
- H. All detention facilities must comply with current Clean Water Act requirements.
- I. Detention basins may be designed to provide the following:
 - 1. Side slopes of 3:1 maximum.
 - 2. All weather vehicular maintenance access around the entire basin (min. ten foot (10') widths).
 - 3. Lot shall provide normal frontage requirements.
 - 4. Flow through design which eliminates "wet basin".
 - 5. Cross slope within basin shall provide adequate drainage. Under no circumstances shall the slope be less than 1% across any portion of the basin.
 - 6. All detention lots or easements shall be properly surveyed and corners permanently marked prior to acceptance of improvements.
- J. Detention facilities shall be constructed on a parcel that will not be maintained by Cache County. Easements and provisions allowing access to the inlet and outlet structures by the County shall be required. The decision to accept a detention lot as County property shall be made by the County Council.
- K. Retention (infiltration) systems will be considered for review only if a Soils and Geo-Technical Report is provided which discusses soil permeability, potential effects on ground water, and potential effects on underlying geologic strata. A percolation test will be required to determine the capacity of retention basins. Basin capacity must be based on the infiltration rate, drainage area, and a 50-year storm event. In areas within a well or spring protection zone, sumps, and drainage swales will be allowed only when found to be acceptable under the current Drinking Water Source Protection Plan or the owner of the water source being protected agrees that the storm water disposal facilities can be accommodated in the next updating of the Drinking Water Source Protection Plan.

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5.1 General

Access to County roadways from adjoining properties is managed according to the following regulations to maintain the safety and operational characteristics of the County roadway system.

5.2 Minimum Access Spacing

To maintain safe and effective transportation corridors, Cache County limits the access of roads (private or public), homes, and businesses to all roadways. Table 5.1 designates the spacing requirements for all County roads. Road Access refers to any public or private road, either a full or partial movement intersection. Commercial Access is access to any commercial or industrial business, excluding a home based business as defined in Title 17 of the Cache County Code. Residential/Farm Access refers to any home, farm structure, cabin, or other accessory structure. Minimum spacing includes all access points and road intersections on both sides of the roadway.

Table 5.1 - Cache County Access Management Standards

Roadway Categories		Minimum Spacing Standard (Feet)		
		Road Access	Commercial Access	Residential/Farm Access
A	Arterial	660	350	350
C	Collectors	350	200	200
ML	Major Local	300	150	10 ¹
L	Minor Local	300	Not Permitted	10 ¹
SR	Seasonal/Recreation	300	Not Permitted	10 ¹
AG	Agricultural Access	300	Not Permitted	10 ¹
U	Unimproved	300	Not Permitted	10 ¹

¹ Minimum spacing from an intersection shall be 80 feet.

5.3 Criteria for Granting Access

- A. The number and location/spacing of access points allowed is based on the Category of Roadway, the minimum spacing standards set forth in Table 5.1, and the following:
 1. Unless otherwise approved by the Director, access shall be limited to one driveway for each legal lot/parcel.

2. When application is made, access to a roadway may be granted if reasonable access cannot be obtained from the lower classification roadway.
 3. A determination of reasonable access from a local road or road should include consideration of the road function, purpose, capacity, operational and safety conditions, and opportunities to improve the road.
 4. Direct access to a higher functional roadway classification will be approved if the alternative access will create a significant operational or safety problem at the alternative location and the direct access to the roadway will not cause a significant problem.
 5. Cache County may limit access points beyond that which is allowed in Table 5.1 if the County establishes that the access will create a significant safety or operational problem or the access does not meet acceptable design standards including spacing.
- B. The minimum spacing of all intersecting public ways and other significant accesses that will be full movement intersections is 660 feet. Where it is not feasible to meet 660 feet of spacing a design exception and traffic study will be required. Spacing to nearby intersections must be sufficient to accommodate the future year left turn and through vehicle storage queues for both turning movements. The access location shall also meet other access spacing, design, and need requirements.

5.4 Driveways

Table 5.2 - Cache County Driveway Standards

Dimension within ROW	Access Width	Residential	Commercial / Industrial¹
	Minimum	10' ²	24'
	Maximum	24'	36'
	Surfacing Material Minimum Depths		
	Granular Borrow (Pit run)	8"	8"
	Untreated Base Course (Road base)	4"	N/A
	Paved (Bituminous)	3"	6"
	Road with Concrete Curb and Gutter	6" Concrete	8" Concrete

¹ Does not include home based businesses as defined by Title 17 of the County Code.

² Minimum may be increased by international fire code requirements.

- A. All driveway standards herein are for the portion of the driveway within the County right-of-way only. These standards do not impose requirements on driveways connecting to private roads or for the portions of driveways not within County right-of-way. All driveways shall meet the requirements of the most current and adopted International Fire Code.
- B. Driveway Location: Driveways for all uses except single-family homes shall not be closer than eight (8) feet to an adjacent interior property line. Accesses for single family homes may be granted within two (2) feet of the property line. All driveways

shall be set back a minimum of eighty feet (80') from any intersection.

- C. Common Driveways: Driveways along the property lines may be installed for common use of both adjacent properties only upon approval by the Director and guaranteed by a recorded access agreement.
- D. Driveway Access Design
 - 1. Driveways that access a County road shall be reviewed by the Director to determine the need, sizing, and placement of a culvert.
 - 2. Driveways that access a County road that have concrete curb and gutter shall not use a bridge to span the gutter, but rather shall complete the access using a curb cut.

5.5 Access to State Roads

Any new access, existing access that is being altered, change in land use that utilizes an existing access, or any work within the right-of-way of a State facility is required to obtain the appropriate permits from the UDOT – Region 1. Cache County requires that the applicant for a UDOT permit attend a pre-coordination meeting, referred to as the Cache Access Management Program (CAMP), between the Cache Metropolitan Planning Organization (CMPO), UDOT Region 1, and Cache County.

5.6 Access Requirements for Multi-Jurisdictional Development

- A. County Developments Accessing City Roadways: No development within the unincorporated County shall be permitted to utilize a roadway for direct access that is under the jurisdiction of a municipality without express written approval from the affected municipality. Unincorporated development shall be required to meet all standards and requirements as established by the municipality as part of the conditions for development. Direct access shall constitute driveway or private road access from a public roadway.
- B. Municipal Development Accessing County Roadways: No municipal development shall be permitted to access a County roadway without the express written approval from the Cache County Council. It is the policy of Cache County that no service shall be provided to municipal developments from County roadways unless extreme circumstances provide no alternative and annexation or acceptance of ownership of the roadway by the municipality is not possible.

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6.1 General

The purpose of this policy is to establish and maintain uniform procedures and practices concerning sign maintenance and traffic operations on county roadways. The county will provide such control in a safe and cost-effective manner, balancing the needs of safety for roadway users with county personnel, budget, and social/environmental concerns.

6.2 Procedures

The Road Department will make decisions concerning scheduling and the procedures to be followed for daily traffic sign maintenance needs and subsequent yearly detailed condition inspections. Scheduling and the procedures to be followed will be based upon consideration of the following factors: significance of the traffic device to driver safety; condition and effectiveness of the devices; standards compliance; and whether damage or condition of device creates an immediate safety hazard.

In every instance, the onsite county personnel must assess the conditions of the traffic control device and rely on judgment and experience to determine the appropriate action to correct or maintain the device. Factors that may delay completion of traffic sign maintenance include but are not limited to other repair needs, utility locates, fabrication of necessary material, weather conditions, limited visibility; and other staff and field condition issues.

6.3 Sign Maintenance

- A. General: All county signs shall be entered into a database for tracking. Signs shall have the following information collected/assigned: sign number for all regulatory and warning signs, photograph of the sign, direction of the sign face(s), date of installation, type of post, type of sign material, a record of maintenance, and a GPS coordinate. All regulatory and warning signs shall be identified by a sign sticker placed on the back of the sign. Any signs removed shall be indicated as such within the database.
- B. Installation: All signs shall be installed in compliance with the most recent edition of the MUTCD, Title 12 of the county code, and this policy. The county may deviate from typical sign installations, at their discretion, due to conflicts with utilities, narrow rights-of-way, sight distance issues, or other road side or environmental factors.
 - 1. County signs are typically installed on telspar type posts.
 - 2. Road name/address signs are typically collocated with stop/yield signs at intersections and placed above the regulatory sign.
 - 3. All sign requests shall be made on a sign request form, which shall then be reviewed in compliance with this policy.

- C. Sign Retro-reflectivity: It shall be the intent of the county to conduct a retro-reflectivity evaluation of all signs at least once a year via a visual nighttime inspection as authorized by the MUTCD. Signs that do not meet the retro-reflectivity standard shall be replaced to ensure compliance with the MUTCD and this policy.
- D. Maintenance: The County shall perform a visual inspection of all signs once a quarter. This inspection shall ensure and record the condition/effectiveness of the sign, update the sign inventory, and make any minor repairs as required. After the initial placement of signs, the county shall, as budgetary factors allow, replace signs as they reach the end of the latter of their (a) warranty period, (b) expected life expectancy for the facing material used on the sign, or (c) expected life as determined by an authorized engineering study. Damaged, stolen, or missing signs shall be replaced as needed.
 - 1. Sign maintenance personnel shall use the necessary equipment and traffic controls, as directed by proper county sign maintenance practices and the Field Manual of Temporary Traffic Control Zone Layouts when performing sign maintenance activities along county roadways.
 - 2. All signs (regulatory, warning, or informational) that are replaced for any reason shall be replaced with a retro-reflectivity compliant sign consistent with the MUTCD.
- E. Maintenance Responsibility
 - 1. The county is responsible for all signs located on county roadways, including those on county roadways within municipal limits and those designated for county maintenance by UDOT within R918-6, with the following exceptions:
 - a. Municipalities may request to place additional or specialized signs along county roadways including street markers, community directional or welcome signage, electronic pedestrian crossing signs, etc. All requests shall obtain the appropriate approval for the sign type as per this policy and Title 12 of the county code. The requesting municipality shall be responsible for the installation and maintenance of the signage unless specific agreements are otherwise made with the county.
 - b. Signs on private roads that enter onto county roadways shall be required to conform to the MUTCD, this policy, and Title 12 of the county code.
 - i. The placement of signs or need thereof on private roads shall be reviewed at the time of development.
 - ii. To ensure for the health and safety of the traveling public, the county may place and/or maintain signage at private/County roadway intersections. At the county's option, the owner(s) of the private road may be billed the full cost of the signage improvements.
 - c. Other organizations may request to locate signs along county roadways that serve to benefit the traveling public. In no instance shall commercial or advertising signs be located within the county right of way or roadway. All such signs shall be approved in conformance with this policy.
- F. Removal of Signage:
 - 1. The county shall remove all unauthorized signage from county right of ways and roadways.

2. As excess road signs reduce the effectiveness of signage and impose an unnecessary financial burden on the county, signs determined to be unnecessary for safety purposes and which are not otherwise required to comply with an applicable state or federal statute or regulation shall be removed. The removal of signs shall follow the same process and approval requirements as the placement of a sign.
- G. Temporary Signage: All temporary signage shall be approved by the county.
1. Special event signage shall be approved through the special event permit process as established in Title 8.40 of the county code. All traffic control devices shall conform to the requirements of this policy and the MUTCD. Markings on the roadway shall be made with temporary marking paint.
 2. Construction signage shall comply with all encroachment permitting requirements as outlined in Section 2.6 of this policy.
- H. Response to Incident Report for Sign Repair Needs: Sign maintenance staff will respond after receiving notice of an incident that damages a sign and will determine the appropriate action. Repair of signs shall be made using the following priorities:
1. All Regulatory Signs: As soon as practical but no later than one (1) hour from the time of notification. A temporary sign may be placed in this time period, prior to permanent repairs being made.
 2. Warning Signs (e.g. Stop ahead, Curve, etc.): Within two scheduled working days.
 3. All other signs: When time and manpower allow.

6.4 Road Side Hazards

- A. Clear Zone Requirements: The AASHTO Roadside Design Guide defines a clear zone as the total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, and a non-recoverable slope.
1. Shoulder – minimum shoulder shall be provided in compliance with Table B-6
 2. Recoverable slope – flatter than 1V:4H
 3. Non-recoverable slope – between 1V:3H and 1V:4H if they are smooth and free of fixed objects
- B. Vegetation
1. The county shall maintain regular vegetation control programs to prevent growth of trees, shrubs, and other vegetation by the roadside that can become a safety hazard.
 - a. Trees that are within the clear zone should be removed. Trees with branches that infringe on the clear zone should be trimmed.
 - b. Grass and brush should be mowed within the clear zone.
- C. Utilities and Canals/Ditches
1. Newly located utilities (above or below ground) shall be placed outside of the clear zone to reduce the potential for conflict with vehicles. On narrow roadways, additional distance between the roadway and utility placement may be required to accommodate widening of the roadway over time.
 2. Canals/Ditches shall be, where practical, located (relocated when possible) outside of the clear zone

D. Objects in the Clear Zone

1. Placement of hazards within a county right-of-way or within the clear zone of any county roadway constitutes unauthorized work within the right-of-way. The landowner or person responsible for the hazard will be notified in writing and requested to remove or correct the hazardous condition.
2. If, after a reasonable amount of time, the landowner refuses or has not corrected or removed the hazard, the county will correct or remove the hazard at the landowner's expense. If there appears to be a significant hazard to the traveling public or maintenance equipment, the county may immediately remove the hazard at the landowner expense.

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The following instructions are for the purpose of standardizing the preparation of drawings to obtain uniformity in appearance, clarity, size, and style. These plans and designs shall meet the standards defined in the specifications and drawings herein outlined unless approved otherwise. The minimum information required on drawings for improvements are as follows:

- A. All drawings and/or prints shall be clear and legible and conform to good engineering and drafting practice, on 11" X 17" sheets or as approved by the County Engineer.
- B. In general, the following shall be included on all drawings:
 - 1. North arrow (plan)
 - 2. Scale, written and graphic: 1" = 40' horizontal, 1" = 4' vertical (other appropriate scales as approved by the County)
 - 3. Elevations referenced to the NAD 83
 - 4. Stationing and elevations for profiles
 - 5. Location map
 - 6. Index map
 - 7. General and Construction notes
 - 8. Title block, located in lower right corner of sheet to include:
 - a. Name of County
 - b. Project title (subdivision, etc.)
 - c. Specific type and location of work
 - d. Signature block for approval signature of County and date
 - e. Name, address, phone number, etc. of engineer or firm preparing drawings with license number, stamp, and signature
 - 9. Details at 1" = 10' or other appropriate scale to adequately provide required information
- C. Roadway surfacing drawings, and pedestrian paths or sidewalks shall show:
 - 1. Plan and profile views must be shown for centerline of road.
 - 2. Cross sections at 50-foot intervals showing existing ground, proposed roadway template, cut/fill slope catch points, and right-of-way
 - 3. All existing elevations shall be shown in parentheses
 - 4. Include stationing, centerline elevations, and curve data
 - 5. Flow direction and type of drainage structures with adequate flow line elevations
 - 6. Typical cross section for all roadways and variations
 - 7. 100' minimum of existing plan and profile design when connecting to existing improvements
 - 8. 300' minimum of future plan and profile design when roadway is to be extended (must also include 300' of existing profile along future rights-of-way lines)
 - 9. Soil Boring Log along roadway centerline if required by County
- D. Storm drainage drawings shall show:
 - 1. Minimum scale: 1" = 40' horizontal, 1" = 4' vertical
 - 2. Location, size and slope of mains, and lateral connections
 - 3. Location, size and details of inlets, junction boxes, etc.
 - 4. Stationing of manhole center lines, lateral connections, and crossings
 - 5. Manhole size, location and flow line elevation, lid elevations
 - 6. Design flow rate (10 yr. storm), hydraulic grade line and velocity (all indicated in profile for each pipe section)
 - 7. Type of mainline pipe

8. Outfall or receiving waters identification.
- E. Roadway, Drainage, and Grading Plans
 1. Plans showing site general layout and drainage patterns
 2. Roadway plan drawings shall show cut/fill catch points
 3. Cut and fill lines shall be labeled accordingly
 4. Spot elevations of final grades
 5. Finished grade contours at one foot intervals
 6. Detention facility details including: inlets, outlets, and piping facilities with final elevations
 7. Calculations to substantiate design (include in submittal but not to be included on plans)
- F. Erosion Control Plans
 1. Plans showing site general layout and drainage patterns and outlets for water exiting construction site
 2. De-silting basin details including inlets, outlets, and piping facilities
 3. Calculations to substantiate design (include in submittal but not to be included on plans)
 4. Erosion control construction notes
 5. Plan shall include an emergency phone number and name of the developer's responsible person who will be available 24 hours a day if an emergency situation arises
 6. Re-vegetation plans of disturbed soils
 7. Notes indicating compliance with Storm Water Pollution Prevent Plan and noxious weed control regulations

- A. Design Traffic Volume: Roads shall be designed for a specific traffic volume that is based on the average daily traffic (ADT) volume projected to a 20-year design future. Upon approval from the Director, the design year may range from the current year to 20 years depending on the nature of the improvements.
- B. Design Speed: The design speed is a selected speed used to determine the various design features of the roadway. Geometric features should be consistent with a specific design speed selected as appropriate for site conditions and anticipating the speed of vehicles using the roadway. Low design speeds are generally applicable to roads with winding alignment in rolling or mountainous terrain. High design speeds are generally applicable to roads in level terrain. Intermediate design speeds would be appropriate where terrain, roadside development conditions, and environmental conditions would support moderate roadway speeds. Table B-1 lists values for minimum design speeds as appropriate for traffic needs and types of terrain.

Table B-1 Minimum Design Speeds for Cache County Roads

Type of Terrain	Design Speed (mph) for specified design volume (veh/day)					
	under 50 veh/day	50 to 250	250 to 400	400 to 1500	1500 to 2000	2000 and over
Level	30	30	40	50	50	50
Rolling	20	30	30	40	40	40
Mountainous	20	20	20	30	30	30

- C. Sight Distance: Minimum stopping sight distance and passing sight distance should be as shown in Table B-2 and Table B-3. These tables provide characteristics of vertical curves allowing adequate sight distances based on traveling speed.

**Table B-2
Design Controls for Stopping Sight Distance
for Crest and Sag Vertical Curves**

Initial Speed (mph)	Design Stopping Sight Distance (feet)	Rate of Vertical Curvature, K_a (ft%)	
		Crest	Sag
15	80	3	10
20	115	7	17
25	155	12	26
30	200	19	37
35	250	29	49
40	305	44	64
45	360	61	79
50	425	84	96
55	495	114	115
60	570	151	136

**Table B-3
Design Controls for Crest Vertical Curves
Based on Passing Sight Distance**

Initial Speed (mph)	Design Passing Sight Distance (ft)	Rate of Vertical Curvature, K_a (ft%)
20	710	180
25	900	289
30	1090	424
35	1280	585
40	1470	772
45	1625	943
50	1835	1203
55	1985	1407
60	2135	1628

D. Roadway Grades: Maximum roadway grades are shown in Table B-4:

Table B-4 Maximum Grades for Cache County Roads

Type of Terrain	Maximum Grade (%) for specified design speed (mph)							
	15	20	25	30	40	50	55	60
Level	9	8	7	7	7	6	6	5
Rolling	10	10	10	10	10	8	7	6
Mountainous	10	10	10	10	10	10	9	8

E. Alignment: Horizontal and vertical alignment should be obtained by engineering study and consideration of the general guidelines listed in AASHTO's Policy on Geometric Design of Streets and Highways. Table B-5 lists minimum radius of horizontal curves with respect to design speed for Cache County roads. Curve data is required for all roadway centerlines.

Table B-5 Minimum Horizontal Curve Radius for Cache County Roads

Design Speed (mph)	10	15	20	25	30	35	40	45	50	55	60
Curve Radius (ft)	16	42	86	154	250	371	533	711	926	1190	1500

If possible, the horizontal alignment shall be tangent through intersections, but where horizontal curves cannot be avoided, the following shall be observed:

1. Use a curve of sufficient radius to provide adequate sight distance and eliminate the need for super elevation. Under no condition shall the curve radius be less than that required for the road classification.
2. Curves should not begin or end within an intersection.
3. Eliminate angle points in excess of two degrees (2°) on intersecting roadways by use of a large radius curve.
4. Angle points up to five degrees (5°) are permissible at the intersection of two residential roads.
5. Curve radii and super elevation shall consider the design speed for the given road.

F. Landings - A landing is defined as the area between the through road roadway and the point at which the side road grade begins to exceed 3%. The required minimum lengths of the landings are as follows:

1. Arterial 200 feet
2. Collector 100 feet
3. Local 50 feet
4. Cul-de-sac 25 feet

G. Roadway Intersections:

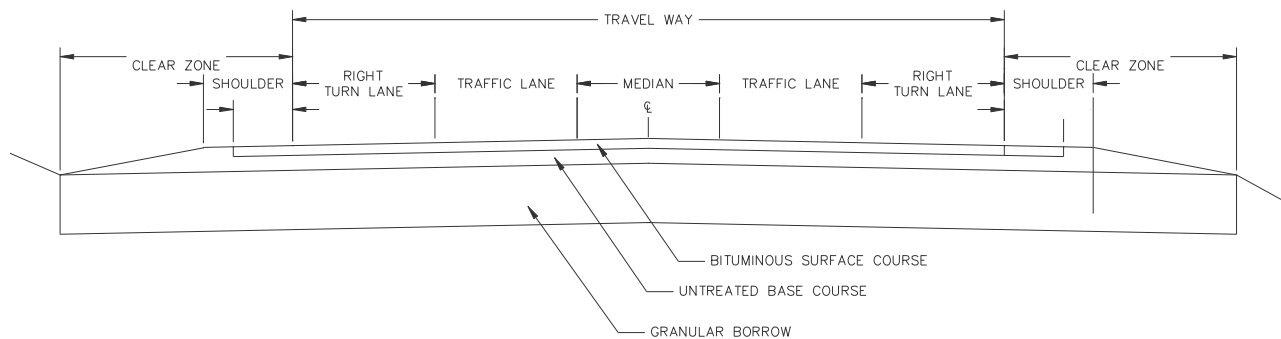
1. Number of Roadways: Conventional at grade intersections shall not be designed to accommodate more than two (2) roadways or four (4) corners. If additional intersecting roadways are necessary, a roundabout intersection design may be appropriate.

2. Intersection Angle: Roadways shall intersect at a ninety degree (90°) angle, or as near to a right angle as practicable, but shall not to exceed a ten degree (10°) deviation.
 3. Corner Radii: Roadway intersections shall be rounded with the minimum radii measured at the edge of asphalt:
 - i. 25 feet for local roads
 - ii. 30 feet for arterials and collectors
 4. Roundabouts: Roundabouts shall be designed following Federal Highway Administration's publication No. FHWA-RD-00-067 "Roundabouts: An Informational Guide" and the MUTCD. Concept shall be approved in advance by the Director.
- H. Cross Slope: Pavement cross slope shall be adequate to provide proper drainage.
1. Asphalt surfaced roadways shall have cross slopes ranging from 1.5 to 2 percent.
 2. Gravel surfaced roads shall have a 3 percent cross slope.
 3. Cross slopes may vary based on the specific project conditions, but shall be approved by the County.
- I. Super Elevation: The maximum super elevation rate for Cache County roadways is 8%.
- J. Width of Traveled Way and Shoulder
1. Graded shoulder width is measured from the edge of the traveled way to the point of intersection of shoulder slope and fore slope as shown on the typical roadway section drawing.
 2. The minimum traveled way width is the sum of the travel lanes, median, auxiliary lanes, and graded shoulder widths given in Table B-6. A minimum of two travel lanes is required. Single lane roads may be permitted on seasonal/recreation roadways with approval of the Fire District and will be required to have other improvements (e.g., pullouts) as deemed necessary to provide adequate service provision in compliance with the latest edition of the International Fire Code. Where roadside barriers (guardrail) are proposed, it is desirable to provide a minimum offset of 4 feet from the traveled way to the barrier when practical.
- K. Median: Need and justification for a two-way left turn median shall be determined by the Director. The median shall be placed in the travel way and equally placed on the roadway centerline. The travel way width is increased by the amount of median width.
- L. Auxiliary Turning Lanes: Auxiliary left and/or right turning lanes shall be included in the roadway typical section when required.
- M. Horizontal Clearance to Obstructions: A clear zone from the edge of traveled way that is appropriately graded is required for roadway design. Clear zone widths must comply with the AASHTO Roadside Design Guide, latest edition.
1. An exception may be made where guardrail protection is provided.
 2. The clear zone area must be clear of all unyielding objects such as trees, sign supports, utility poles, light poles, and any other fixed objects that might severely damage an out-of-control vehicle.
 3. Drainage and irrigation ditches shall not be within the clear zone area.

Table B-6 Typical Cross Section Minimum Standards

Roadway Classification	Right-of-way (ft)	Travel Lane Width (ft)	Total Shoulder Width (ft)	Paved Shoulder Width (ft)	Gravel Shoulder Width (ft)	Design Limits Based on ADT	Road Surface
Minor Arterial	100	12	10	8	2	-	(A)
Major Collector	80	12	8	4	4	-	(A)
Minor Collector	66	11	6	4	2	2000	(B)
Major Local	66	10	6	2	4	1500	(B)
Minor Local	66	10	4	0	4	400	(B)
Major Private	66	10	2	0	0	200	(B)
Minor Private	33	10	0	0	0	50	(B)
Seasonal/Recreation	33	10	0	0	0	-	(B)
Agricultural Access	33	10	0	0	0	-	(C)

Figure B-1 Typical Cross Section



K. Gravel Road Structural Construction

1. All work shall be verified by an independent soils testing materials technician acceptable to the County. The materials technician shall provide certification of each phase of the completed work to the County.
2. Topsoil and organic material shall be excavated from the roadway alignment area to a depth and width to accommodate the placement of sub base materials.
3. Underlying soils shall be proof rolled with a vibratory compactor roller. Adequate rolling and compaction of soft areas shall be verified by observation by the materials technician.
4. Geotextile reinforcement shall be placed in saturated or soft soil areas as deemed necessary by the County.

5. Compacted granular borrow shall be placed to the specified depth and width in accordance with Table B-8. The soils technician shall verify proper gradation, placement, and compaction of the material.
6. Compacted untreated base course shall be placed to the specified depth and width in accordance with Table B-8. The soils technician shall verify proper gradation, placement, and compaction of the material.

Table B-8 Typical Cross Section Structural Values

Typical Section	Bituminous Surface Course (BSC)	Untreated Base Course (UTBC)	Granular Borrow (GB)
A	4	6	14
B	3	6	14
C	0	6	14

- A. Drainage calculations by a licensed professional shall be provided to show that all storm water facilities can adequately handle run-off from the site development as well as all upstream contributing flows. Hydraulic capacity of pipe and culvert systems must be verified with engineering calculations in accordance with the UDOT Roadway Drainage Manual of Instruction.
- B. Calculations shall include a copy of the of the site grading and drainage plan, at the plan scale with the boundaries, acreages and C-factors of the interior drainage areas shown.
- C. Calculations shall also include a map at an appropriate scale delineating the boundaries, flow paths, acreages and C-factors of the drainage areas upstream of the development, which contribute storm water to the development.
- D. Construction drawings shall show the location, size, flow line elevations, profiles and details of drainage facilities and structures, including, but not limited to swales, ditches, culverts under public roads and private drives, drop inlets, storm sewers, and detention/retention ponds. Typical cross sections of all swales and ditches shall be shown.
- E. Profiles of roads shall show profiles of storm sewers and cross sections of culverts together with points of intersection. Profiles shall show clearance of such drainage facilities with water mains and sanitary sewers.

- A. For purposes of computing run-off, all existing and proposed gravel surfaced roadways, driveways, and parking areas shall be treated as being asphalt paved.
- B. The Rational Method may be used to determine peak flows for sites smaller than 300 acres and having a time of concentration less than 30' minimum if the site surface characteristics make it applicable.
- C. When the rational method is used, times of concentration for pre-development and post development shall be shown with their corresponding rain intensity.
- D. Values from Table D-1 of rainfall intensity-duration-frequency shall be used with the rational method.

**Table D-1 Rainfall Intensity Duration Frequency
Precipitation Intensity Estimates (in/hr)**

From NOAA Atlas 14 Logan Utah State University, Utah (42-5186) 41.7456 N 111.8033 W 4786 feet											
ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr
2	1.62	1.24	1.02	0.69	0.43	0.28	0.22	0.15	0.10	0.06	0.04
5	2.26	1.72	1.42	0.96	0.59	0.37	0.28	0.19	0.12	0.08	0.05
10	2.78	2.12	1.76	1.18	0.73	0.45	0.33	0.22	0.14	0.09	0.05
25	3.64	2.77	2.29	1.54	0.95	0.57	0.42	0.27	0.17	0.11	0.06
50	4.37	3.32	2.75	1.85	1.15	0.68	0.49	0.31	0.19	0.12	0.07
100	5.23	3.98	3.29	2.22	1.37	0.80	0.57	0.36	0.22	0.13	0.08
200	6.18	4.70	3.89	2.62	1.62	0.94	0.66	0.40	0.24	0.15	0.09
500	7.74	5.89	4.86	3.28	2.03	1.15	0.79	0.47	0.28	0.17	0.10
1000	9.07	6.90	5.70	3.84	2.38	1.34	0.91	0.53	0.31	0.18	0.11

- E. When the site surface characteristics warrant the use of a method other than the Rational Method, use the SCS method, Modified Rational Method or an approved procedure in accordance with the UDOT Roadway Drainage Manual of Instruction.
- F. Table D-2 shows precipitation frequency values that shall be used in conjunction with an approved hydrological procedure.

Table D-2 Precipitation Frequency Estimates (inches)

From NOAA Atlas 14 Logan Utah State University, Utah (42-5186) 41.7456 N 111.8033 W 4786 feet											
ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr
2	0.14	0.21	0.26	0.34	0.43	0.56	0.66	0.90	1.21	1.55	1.86
5	0.19	0.29	0.35	0.48	0.59	0.74	0.84	1.13	1.48	1.90	2.26
10	0.23	0.35	0.44	0.59	0.73	0.90	1.00	1.33	1.73	2.18	2.59
25	0.30	0.46	0.57	0.77	0.95	1.14	1.25	1.62	2.07	2.58	3.05
50	0.36	0.55	0.69	0.93	1.15	1.36	1.47	1.86	2.34	2.89	3.42
100	0.44	0.66	0.82	1.11	1.37	1.60	1.71	2.13	2.64	3.23	3.81
200	0.52	0.78	0.97	1.31	1.62	1.88	1.98	2.41	2.95	3.58	4.22
500	0.65	0.98	1.22	1.64	2.03	2.31	2.38	2.83	3.39	4.05	4.78
1000	0.76	1.15	1.43	1.92	2.38	2.69	2.73	3.19	3.74	4.42	5.22

- G. An inflow and outflow hydrograph will be required on all retention/detention basins.



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Packet update - Small-Scale Slaughter

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Hi all,

This information is for your packet regarding the Small-Scale Slaughter Facility. Noel McSpadden with the Utah Department of Agriculture and Food emailed me this morning and said the following regarding the inspection of Farm Custom Slaughter operation:

"When it comes to inspecting Farm Custom Slaughter operations, the first thing is they need to be licensed with us. In order to receive a license they have to meet certain regulation. Once those regulations are met, then our Custom Exempt Inspectors will verify that they are in compliance with those regulations. Typically these inspections occur at a minimum of six times a year and will be followed up with additional inspections when they are found to be out of compliance. We do have the authority to retain product and reject equipment if necessary."

Thanks for your help and time in reviewing this!

Chris

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Farm Custom Slaughtering

At the last meeting the Commission agreed to add this use and determined that this use type is best applied as an agricultural use, and a draft use related definition was considered.

Additional information was also requested by the Commission regarding:

- Handling waste from the slaughtering.
- Limiting the size of a facility.
- The need for a clear definition of what “small-scale” means.
- Examples of similar uses and how they are treated in other jurisdictions.

Staff has addressed these items as follows, and has included additional information as links and attached information, and has updated the draft definition.

Handling waste from slaughtering

The State sets a credible standard for Farm Custom Slaughter operations for the proper disposal of offal and associated waste, and the storage of meat (R58-11-4). The proposed county definition requires that a Small-Scale Slaughter Facility be licensed by the state as Farm Custom Slaughter. The State’s standards appear to be sufficient and likely exceed what the County may have required in this area.

A Farm Custom Slaughter operation:

- Requires a Farm Custom Slaughtering License from the State (UCA 4-32-107; R58-11-3)
- Requires that licenses be renewed each year – cost is \$100 to re-apply (R58-11-3)
- Requires the applicant to demonstrate their ability to slaughter (R58-11-3)
- Sets requirements (R58-11-4, 5, 6) for:
 - Equipment
 - Sanitation
 - Proper handling and storage of all portions of the animal
 - The slaughter area
 - Slaughtering procedures
 - Livestock identification and record keeping
 - Enforcement procedures (R58-11-9)
- Does not require official inspection by the State (UCA 4-32-105 (14))
 - Staff has also found instances that appear to indicate that some level of inspection does occur. Staff has reached out to the Utah Department of Agriculture and Food to determine what level of inspection takes place and what the timing for that inspection may be. Staff has not yet heard back on that question.

Limiting the impact of a facility

Possible approaches to limiting the impact of the operation include:

- No more than 1 person is allowed to slaughter. Additional employees may be allowed to assist in other day-to-day tasks, but not to participate in the slaughter of the animals.

In speaking with Forrest Olsen, it is estimated that on his own, the maximum number of animals he may be able to slaughter is 20-40 per week, the equivalent of 1040-2080 per year. As a comparison, the JBS Hyrum plant slaughters more than 3000 animals per day.

- Limiting the physical size of the facility. I estimate a maximum to be between 10000-20000 square feet.
- Limiting the number of animal units processed by day, week, or year. This will need to reflect animal units as opposed to animals to properly account for the impact.
- Or a combination of any of the above.

What “small-scale” means

It appears the best approach to defining the scale is to connect directly to how the impact of the facility is limited.

Examples of how similar uses are treated in other jurisdictions

The Utah Department of Agriculture and Food identifies 34 Farm Custom Slaughter licenses have been obtained state-wide. Staff has reviewed the code requirements for those counties most proximate to Cache County, specifically, Box Elder, Weber, and Summit counties. That information has also been attached

Other Helpful information

State map showing “Utah Meat Establishments”

<https://www.arcgis.com/home/webmap/viewer.html?webmap=93c15fa878ff4bd68229b2e208aa945e&extent=-112.8006,40.4309,-110.7695,41.263>

From R58-11-2. Definitions <https://ag.utah.gov/documents/r058-011.pdf>

“Farm Custom Slaughter” means the slaughtering, skinning and preparing of livestock and poultry by humane means for the purpose of human consumption which is done at a place other than a licensed slaughtering house by a person who is not the owner of the animal.

R58. Agriculture and Food, Animal Industry.

R58-11. Slaughter of Livestock and Poultry.

R58-11-1. Authority.

Promulgated under authority of Section 4-32-8.

R58-11-2. Definitions.

- (1) "Adulterated" means as defined in Section 4-32-3(1).
- (2) "Bill of Sale for Hides" means a hide release or some other formal means of transferring the title of hides.
- (3) "Business" means an individual or organization receiving remuneration for services.
- (4) "Commissioner" means the Commissioner of Agriculture or his representative.
- (5) "Custom Slaughter-Release Permit" means a permit that will serve as a brand inspection certificate and will allow animal owners to have their animals farm custom slaughtered.
- (6) "Department" means the Utah Department of Agriculture and Food.
- (7) "Detain or Embargo" means the holding of a food or food product for legal verification of adulteration, misbranding or proof of ownership.
- (8) "Emergency Slaughter" means for the purpose of this chapter that Emergency Slaughter is no longer allowed for non-ambulatory injured cattle. Non-ambulatory disabled cattle that cannot rise from a recumbent position or cannot walk, including, but not limited to, those with broken appendages, severed tendons or ligaments, nerve paralysis, fractured vertebral column or metabolic conditions, are not allowed to be slaughtered for food.
- (9) "Farm Custom Slaughtering" means the slaughtering, skinning and preparing of livestock and poultry by humane means for the purpose of human consumption which is done at a place other than a licensed slaughtering house by a person who is not the owner of the animal.
- (10) "Food" means a product intended for human consumption.
- (11) "Immediate Family" means persons living together in a single dwelling unit and/or their sons and daughters.
- (12) "License" means a license issued by the Utah Department of Agriculture and Food to allow farm custom slaughtering.
- (13) "Licensee" means a person who possesses a valid farm custom slaughtering license.
- (14) "Misbranded" means as defined in Section 4-32-3(27).
- (15) "Owner" means a person holding legal title to the animal.

R58-11-3. Registration and License Issuance.

- (1) Farm Custom Slaughtering License.
 - (a) Any person or person desiring to do farm custom slaughtering shall apply to the Department. Such application for a license will be made on a department form for a Farm Custom Slaughter License. The form shall show the name, address and telephone number of the owner, the name, address and telephone number of the operator if it is different than the owner, a brief description of the vehicle and the license number. Licenses will be valid for the calendar year (January 1 to December 31). Each licensee will be required to re-apply for a license every calendar year. Change of ownership or change of vehicle license will require a new application to be filed with the Department.
 - (b) Registration will not be recognized as complete until the applicant has demonstrated his ability to slaughter and has completed and signed the registration form.

- (c) A fee must be paid prior to license issuance.

R58-11-4. Equipment and Sanitation Requirements.

- (1) Unit of vehicle and equipment used for farm custom slaughtering:
 - (a) The unit or vehicle used for farm custom slaughtering shall be so constructed as to permit maintenance in a clean, sanitary manner.
 - (b) A tripod or rail capable of lifting a carcass to a height which enables the carcass to clear the ground for bleeding and evisceration must be incorporated into the unit or vehicle. Hooks, gambles, or racks used to hoist and eviscerate animals shall be of easily cleanable metal construction.
 - (c) Knives, scabbards, saws, etc. shall be of rust resistant metal or other impervious easily cleanable material.
 - (i) A clean dust proof container shall be used to transport and store all instruments and utensils used in slaughtering animals.
 - (d) A water tank shall be an integral part of the unit or vehicle. It shall be of approved construction with a minimum capacity of 40 gallons. Water systems must be maintained in a sanitary manner and only potable water shall be used.
 - (e) A tank (for sanitizing) large enough to allow complete emersion of tools used for slaughtering must be filled during slaughter operations with potable water and maintained at a temperature of at least 180 degrees Fahrenheit. In lieu of 180 degrees Fahrenheit water, chemical sterilization may be used with an approved chemical agent after equipment has been thoroughly cleaned. Chloramine, hypochloride, and quaternary ammonium compounds or other approved chemical compounds may be used for this purpose and a concentration must be maintained at sufficient levels to disinfect utensils. Hot water, cleaning agents, and disinfectant shall be available at all times if chemicals are used in lieu of 180 degrees Fahrenheit water.
 - (f) Cleaning agents and paper towels shall be available so hands and equipment may be cleaned as needed.
 - (g) Aprons, frocks and other outer clothing worn by persons who handle meat must be clean and of material that is easily cleanable.
 - (h) All inedible products and offal will be denatured with either an approved denaturing agent or by use of pounce material as a natural denaturing agent.
 - (i) When a licensee transports uninspected meat to an establishment for processing, he shall:
 - (i) do so in a manner whereby product will not be adulterated or misbranded, and/or mislabeled; and
 - (ii) transport the meat in such a way that it is properly protected; and
 - (iii) deliver carcasses in such a way that they shall be placed under refrigeration within one hour of time of slaughter (40 degrees F).
 - (j) Sanitation.
 - (i) Unit or Vehicle.
 - (A) The unit or vehicle must be thoroughly cleaned after each daily use.
 - (B) All food-contact and non-food contact surfaces of utensils and equipment must be cleaned and sanitized as necessary to prevent the creation of insanitary conditions and the adulteration of carcasses and parts.
 - (C) Carcasses must be protected from adulteration during processing, handling, storage, loading, unloading and during transportation to processing establishments.

(ii) Equipment.

(A) All knives, scabbards, saws and all other food contact surfaces shall be cleaned and sanitized prior to slaughter and as needed to prevent adulteration.

(B) Equipment must be cleaned and sanitized after each slaughter and immediately before each slaughter.

(iii) Inedibles.

(A) Inedibles shall be placed in designated containers and be properly denatured, and the inedible containers must be clearly marked (Inedible Not For Human Consumption in letters not less than 4 inches in height).

(B) Containers for inedibles shall be kept clean and properly separated from edible carcasses to prevent adulteration.

(iv) Personal Cleanliness.

(A) Adequate care shall be taken to prevent contamination of the carcasses from fecal material, ingesta, milk, perspiration, hair, cosmetics, medications and similar substances.

(B) Outer clothing worn by permittee shall, while handling exposed carcasses, be clean.

(C) No licensee with a communicable disease or who is a disease carrier or is infected with boils, infected wounds, sores or an acute respiratory infection shall participate in livestock slaughtering.

(D) Hand wash facilities shall be used as needed to maintain good personal hygiene.

R58-11-5. Slaughtering Procedures of Livestock.

(1) Slaughter Area

(a) Slaughtering shall not take place under adverse conditions (such as blowing dirt, dust or in mud).

(b) If a slaughter area is used for repeated kills, the area should be maintained to prevent blood from collecting, running off on to adjacent property, or contaminating water sources.

(c) Hides, viscera, blood, pounce material, and all tissues must be removed and disposed at a rendering facility, landfill, composting or by burial as allowed by law.

(2) Humane Slaughter - Animals shall be rendered insensible to pain by a single blow, or gun shot or electrical shock or other means that is instantaneous and effective before being shackled, hoisted, thrown, cast or cut.

(3) Hoisting and Bleeding - Animals shall be hoisted and bled as soon after stunning as possible to utilize post-stunning heart action and to obtain complete bleeding. Carcasses shall be moved away from the bleeding area for skinning and butchering.

(4) Skinning - Carcass and head skin must be handled without neck tissue contamination. This may be done by leaving the ears on the hide and tying the head skin. Feet must be removed before carcass is otherwise cut. Except for skinning and starting skinning procedures, skin should be cut from inside outward to prevent carcass contamination with cut hair. Hair side of hide should be carefully rolled or reflected away from carcass during skinning.

When carcass is moved from skinning bed, caution should be taken to prevent exposed parts from coming in contact with adulterating surfaces.

(5) Evisceration - Before evisceration, rectum shall be tied to include bladder neck and to prevent urine and fecal leakage. Care should also be taken while opening abdominal cavities to prevent carcass and/or viscera contamination.

(6) Carcass washing - Hair, dirt and other accidental contamination should be trimmed

prior to washing. Washing should proceed from the carcass top downward to move away any possible contaminants from clean areas.

R58-11-6. Identification and Records.

(1) Livestock Identification - Pursuant to requirements of Section 4-24-13, it shall be unlawful for any license holder to slaughter livestock which do not have a Brand Inspection Certificate or Farm Custom Slaughter Tag filled out at time of slaughter.

(a) Animal owners must have a Brand Inspection Certificate for livestock intended to be farm custom slaughtered, issued by a Department Brand Inspector prior to slaughter, paying the legal brand inspection fee and beef promotion fee. This will be accomplished by the animal owner contacting a Department Brand Inspector and obtaining a Brand Inspection Certificate (Custom Slaughter-Release Permit).

(b) Animal owners must also obtain farm custom slaughter identification tags from a Department Brand Inspector for a fee of \$1 each. These tags will be required on beef, pork, and sheep.

(2) Records.

(a) The Custom Slaughter-Release Permit or Farm Custom Slaughter Tag will record the following information:

(i) An affidavit with a statement that shall read "I hereby certify ownership of this animal to be slaughtered by (name). I fully understand that having my animal farm custom slaughtered means my animal will not receive meat inspection and is for my use, the use of my immediate family, non-paying guests, or full-time employees. The carcass will be stamped "NOT FOR SALE" and will not be sold." This statement must be signed by the owner or designee.

(ii) In addition to this affidavit, the following information will be recorded:

(A) date;

(B) owner's name, address and telephone number;

(C) animal description including brands and marks;

(D) Farm Custom Slaughter tag number.

(b) The Farm Custom Slaughter tag must record the following information:

(i) date;

(ii) owner's name, address and telephone number;

(iii) location of slaughter;

(iv) name of licensee;

(v) licensee permit number; and

(vi) carcass destination.

(c) Prior to slaughter the licensee shall:

(i) Prepare the Farm Custom Slaughter tag with complete and accurate information;

(A) One tag shall stay in the license holder's file for at least one year.

(B) One tag plus a copy of the Farm Custom Slaughter-Release Permit shall be sent into the Department by the 10th of each month for the preceding month's slaughter by the licensee.

(C) After slaughter, all carcasses must be stamped "NOT FOR SALE" on each quarter with letters at least 3/8" in height; further, a Farm Custom Slaughter "NOT FOR SALE" tag must be affixed to each quarter of beef and each half of pork and sheep.

(D) Hide Purchase - Licensee receiving hides for slaughtering services must obtain a copy of the Custom Slaughter-Release Permit to record transfer of ownership as required by Section 4-24-18.

R58-11-7. Poultry Slaughter.

- (1) Personal Use Exemption.
 - (a) A person who raises poultry may slaughter and or process the poultry if:
 - (i) slaughtering or processing poultry is not prohibited by local ordinance;
 - (ii) the poultry product derived from the slaughtered poultry is consumed exclusively by the person or the person's immediate family, regular employees of the person, or nonpaying guests;
 - (iii) the slaughtering and processing of the poultry is performed only by the owner or an employee;
 - (iv) the poultry is healthy when slaughtered;
 - (v) the exempt poultry is not sold or donated for use as human food; and
 - (vi) the immediate containers bear the statement, "NOT FOR SALE".
- (2) Farm Custom Slaughter/Processing
 - (a) A person may slaughter and or process poultry belonging to another person if:
 - (i) the person holds a valid farm custom slaughter license issued by the department;
 - (ii) slaughtering or processing poultry is not prohibited by local ordinance;
 - (iii) the licensee does not engage in the business of buying or selling poultry products capable for use as human food;
 - (iv) the poultry is healthy when slaughtered;
 - (v) the slaughtering and or processing is conducted in accordance with sanitary standards, practices, and procedures that produce poultry products that are sound, clean, and fit for human food;
 - (vi) the unit or vehicle used for farm custom slaughtering shall be so constructed as to permit maintenance in a clean and sanitary manner;
 - (A) the immediate containers bear the following information:
 - (B) the owner's name and address;
 - (C) the licensee's name and address, and;
 - (D) the statement, "NOT FOR SALE".
- (3) Producer/Grower 1,000 Bird Limit Exemption
 - (a) A poultry grower may slaughter no more that 1,000 birds of his or her own raising in a calendar year for distribution as human food if:
 - (i) the person holds a valid poultry exemption license issued by the department;
 - (ii) slaughtering or processing poultry is not prohibited by local ordinance;
 - (iii) the poultry grower does not engage in buying or selling poultry products other than those produced from poultry raised on his or her own farm (includes rented or leased property);
 - (iv) the slaughtering and or processing is conducted in a approved establishment and in accordance with sanitation performance standards, and procedures that produce poultry products that are sound, clean, and fit for human food;
 - (v) the producer keeps slaughter records and records covering the sales of poultry products to customers for the current calendar year,
 - (vi) is for distribution directly to household consumers, retail establishments, restaurants, hotels, and boarding houses for use in their dining rooms or in the preparation of meals sold directly to consumers within the jurisdiction where it is prepared; and
 - (vii) the immediate containers bear the following information:
 - (A) name of product;

- (B) ingredients statement (if applicable);
- (C) net weights statement;
- (D) name and address of processor;
- (E) Safe food handling statement;
- (F) date of package and/or Lot number, and;
- (G) the statement "Exempt R58-11-7(C)".

(4) Producer/Grower 20,000 Bird Limit Exemption

(a) A poultry grower may slaughter no more than 20,000 birds of his or her own raising in a calendar year for distribution as human food if;

- (i) the person holds a valid poultry exemption license issued by the department;
- (ii) slaughtering or processing poultry is not prohibited by local ordinance;
- (iii) the poultry grower does not engage in buying or selling poultry products other than those produced from poultry raised on his or her own farm (includes rented or leased property);
- (iv) the slaughtering and or processing is conducted in a fixed establishment and in accordance with sanitary standards, practices, and procedures that produce poultry products that are sound, clean, and fit for human food;
- (v) the producer keeps slaughter records and records covering the sales of poultry products to customers for the current calendar year,
- (vi) is for distribution to household consumers, retail establishments, restaurants, hotels, and boarding houses for use in their dining rooms or in the preparation of meals sold directly to consumers within the jurisdiction where it is prepared; and

(vii) the immediate containers bear the following information:

- (A) name of product;
 - (B) ingredients statement (if applicable);
 - (C) net weights statement;
 - (D) name and address of processor;
 - (E) Safe food handling statement;
 - (F) date of package and/or Lot number, and;
 - (G) the statement "Exempt R58-11-7(4)".
- (5) Producer/Grower or Other Person Exemption

(a) The term "Producer/Grower or Other Person" in this section means a single entity, which may be:

(i) A poultry grower who slaughters and processes poultry that he or she raised for sale directly to household consumers, restaurants, hotels, and boarding houses to be used in those homes and dining rooms for the preparation of meals served or sold directly to customers.

(ii) A person who purchases live poultry from a grower and then slaughters these poultry and processes such poultry for sale directly to household consumers, restaurants, hotels, and boarding houses to be served in those homes or dining rooms for the preparation of meals sold directly to customers.

(b) A business may slaughter and process poultry under this exemption if;

- (i) the person holds a valid poultry exemption license issued by the department;
- (ii) slaughtering or processing poultry is not prohibited by local ordinance;
- (iii) the producer/grower or other person slaughters for processing and sale directly to household consumers, restaurants, hotels, and boarding houses for use in dining rooms or in the preparation of meals sold directly to customers;
- (iv) the producer/grower or other person slaughters no more than 20,000 birds in a

calendar year that the producer/grower or other person raised or purchased;

(v) the producer/grower or other person does not engage in the business of buying or selling poultry or poultry products prepared under an other exemptions in the same calendar year he or she claims the Producer/Grower or Other Person Exemption;

(vi) the processing is limited to preparation of poultry products from poultry slaughtered by the Producer/Grower or Other Person for distribution directly to: 1) household consumers, 2) restaurants, 3) hotels, and 4) boarding houses for use in their dining rooms or in the preparation of meals sold directly to consumers within the jurisdiction where it is prepared;

(vii) the slaughtering and or processing is conducted in a fixed establishment and in accordance with sanitary standards, practices, and procedures that produce poultry products that are sound, clean, and fit for human food;

(viii) the producer keeps slaughter records and records covering the sales of poultry products to customers for the current calendar year, and;

(ix) the immediate containers bear the following information:

(A) name of product;

(B) ingredients statement (if applicable);

(C) net weights statement;

(D) name and address of processor;

(E) safe food handling statement;

(F) date of package and/or Lot number, and;

(G) the statement "Exempt R58-11-7(5)".

(c) A business preparing poultry product under the Producer/Grower or Other Person Exemption may not slaughter or process poultry owned by another person.

(d) A business preparing poultry products under the Producer/Grower or Other Person Exemption may not sell poultry products to a retail store or other producer/grower.

(6) Small Enterprise Exemption

(a) A business that qualifies for the Small Enterprise Exemption may be:

(i) A producer/grower who raises, slaughters, and dresses poultry for use as human food whose processing of dressed exempt poultry is limited to cutting up;

(A) A business that purchases live poultry that it slaughters and whose processing of the slaughtered poultry is limited to the cutting up; or

(B) A business that purchases dressed poultry, which it distributes as carcasses and whose processing is limited to the cutting up of inspected or exempted poultry products, for distribution for use as human food.

(ii) A business may slaughter, dress, and cut up poultry for distribution as human food if;

(A) the person holds a valid poultry exemption license issued by the department;

(B) slaughtering or processing poultry is not prohibited by local ordinance;

(C) the processing of federal or state inspected or exempt poultry product is limited to the cutting up of carcasses or the business slaughters and dresses or cuts up no more than 20,000 birds in a calendar year;

(D) the slaughtering and or processing is conducted in a fixed establishment and in accordance with sanitary standards, practices, and procedures that produce poultry products that are sound, clean, and fit for human food;

(E) the facility used to slaughter or process poultry is not used to slaughter or process another person's poultry;

(F) the immediate containers bear the following information:

- (I) name of product;
- (II) ingredients statement (if applicable);
- (III) net weights statement;
- (IV) name and address of processor;
- (V) safe food handling statement;
- (VI) date of package and/or Lot number, and;
- (VII) the statement "Exempt R58-11-7(6)"
- (iii) A business may not cut up and distribute poultry products produced under the Small Enterprise Exemption to a business operating under the following exemptions:
 - (A) Producer/Grower or PGOP Exemption,
 - (B) Retail Dealer, or
 - (C) Retail Store.

R58-11-8. Producer/Growers Sharing a Fixed Facility.

(1) Each producer/grower must comply with all the laws and regulations governing such establishments as set forth in Utah Meat and Poultry and Poultry Products Inspection and Licensing Act, this rule, the United State Department of Agriculture (USDA) Poultry Exemptions and federal regulations that apply.

(2) The poultry producer/ grower shall hold a valid Custom Exempt Meat Establishment License (2202) issued by the department

(a) the individual who hold the 2202 license shall be present when slaughter and rocesing operation are being performed.

(3) The department shall be notified five business days prior to slaughtering and processing. The individual shall provide the department with the following information pertaining to the slaughtering and processing of birds:

- (a) the date;
- (b) the time; and
- (c) the location.

(4) The producer/grower shall:

- (a) conduct a pre-operational inspection on all food-contact surfaces;
- (b) document the findings of the pre-operational inspection and corrective actions as described in 9 CFR 416.12(a) and 416.15 prior to the commencement of operations;
- (c) maintain records for at least one year and have them available for inspection upon request by department officials;
- (d) fully label product in accordance with this rule before leaving the facility;
- (e) maintain the product temperature at 40 degrees F or less during transport;
- (f) keep a written recall plan as described in 9 CFR 418 and have it available upon request by department officials;
- (5) Producer/growers shall not process on the same day as any other producer/grower.

R58-11-9. Enforcement Procedures.

(1) Livestock and Poultry Slaughtering License:

(a) It shall be unlawful for any person to slaughter or assist in slaughtering livestock and poultry as a business outside of a licensed slaughterhouse unless he holds a valid Farm Custom Slaughtering License issued to him by the Department.

(b) Only persons who comply with the Utah Meat and Poultry Products Inspection and

Licensing Act and Rules pursuant thereto, and the Utah Livestock Brand and Anti-Theft Act shall be entitled to receive and retain a license.

(c) License may be renewed annually and shall expire on the 31st of December of each year.

(2) Suspension of license - license may be suspended whenever:

(a) The Department has reason to believe that an eminent public health hazard exists;

(b) Insanitary conditions are such that carcasses would be rendered adulterated and or contaminated.

(c) The license holder has interfered with the Department in the performance of its duties;

(d) The licensee violates the Utah Meat and Poultry Products Inspection and Licensing Act or the Utah Livestock Brand and Anti-Theft Act or rules pursuant to these acts.

(3) The department may, in accordance with the 9 CFR Part 500 suspend or terminate any exemption with respect to any person whenever the department finds that such action will aid in effectuating the purposes of the Act. Failure to comply with the conditions of the exemption including but not limited to failure to process poultry and poultry products under clean and sanitary conditions may result in termination of an exemption, in addition to other Penalties consistent with 9 CFR 318.13

(4) Warning letter - In instances where a violation may have occurred a warning letter may be sent to the licensee which specifies the violations and affords the holder a reasonable opportunity to correct them.

(5) Hearings - Whenever a licensee has been given notice by the Department that suspected violations may have occurred or when a license is suspended he may have an opportunity for a hearing to state his views before the Department.

(6) Reinstatement of Suspended Permit - Any person whose license has been suspended may make application for the purpose of reinstatement of the license. The Department may then re-evaluate the applicant and conditions; if the applicant has demonstrated to the Department that he will comply with the rules, the license may be reinstated.

(7) Detainment or Embargo - Any meat found in a food establishment which does not have the proper identification or any uninspected meat slaughtered by a licensee which does not meet the requirements of these rules may be detained or embargoed.

(8) Condemnation - Meat which is determined to be unfit for human consumption may be denatured or destroyed.

KEY: food inspections, slaughter, livestock, poultry

Date of Enactment or Last Substantive Amendment: November 23, 2015

Notice of Continuation: January 13, 2015

Authorizing, and Implemented or Interpreted Law: 4-32-8



Utah Department of Agriculture and Food

License/Permit Info ▼ My Licenses/Permits ▼ Renew Single License/Permit Company-Wide Licenses/Permits ▼ New License/Permit Application

UDAF Employee Options ▼ Help ▼ Home Logout

License/Permit Type: 1304 - As A Farm Custom Slaughterer	Total License/Permit Count: 34	Return to Main	Search
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Sort License/Permit List By: Last Name or Business Name ▼

Last Name or Business Name	First Name	License/Permit No	Registry No	City State/Country	County	Status	Approved For	Click for Details
4-POINT MEAT PROCESSING		12462		MONTICELLO, UT	San Juan	Active		Details
ABEL CARMONA	ABEL	20090		GARLAND, UT	Box Elder	Active		Details
AYLWORTH	ADAM A	20072		ST GEORGE, UT	Washington	Active		Details
BLOODS CUSTOM MEAT PROCESSING		20034		ANGLE, UT	Garfield	Active		Details
BOYER MEAT		15241		COALVILLE, UT	Summit	Active		Details
BROWN	SHANE	20078		HOOPER, UT	Weber	Active		Details
CARSON MEATS		15508		AMERICAN FORK, UT	Utah	Active		Details
CUSTOM MEAT SHOP		18720		CEDAR CITY, UT	Iron	Active		Details
D9 CUSTOM CUTS LLC		20041		PARAGONAH, UT	Iron	Active		Details
DAVIS	AARON	20095		GRANTSVILLE, UT	Tooele	Expired		Details
DIEGO BANUELOS	DIEGO	20092		GARLAND, UT	Box Elder	Active		Details
GARATE	GENE	20074		VIRGIN, UT	Washington	Expired		Details
GIBBY	AARON	20076		WEST HAVEN, UT	Weber	Active		Details
GLENDALE COUNTRY STORE		20064		GLENDALE, UT	Kane	Active		Details
KAPP	GARY M	10120		WEST POINT, UT	Davis	Active		Details
MAVERIK #245		20091		CEDAR CITY, UT	Iron	Expired		Details
MAXFIELD MEATS INC		20045		GLENWOOD, UT	Sevier	Active		Details
MIKE HUNSAKER MEATS		20030		TOOELE, UT	Tooele	Active		Details
MORCK	IAN	20077		RIVERDALE, UT	Weber	Active		Details
NAYS CUSTOM MEATS		20027		PANGUITCH, UT	Garfield	Active		Details
NOLAN CARTER	NOLAN	20093		HOLBROOK, ID		Active		Details
PEARSON MEATS INC		20028		TOQUERVILLE, UT	Washington	Active		Details
REYNOLDS CUSTOM SLAUGHTERING		20073		VERNAL, UT	Uintah	Active		Details
RUSSON	COLTON	20075		TREMONTON, UT	Box Elder	Active		Details
SANPETE BUTCHERY LL	JEFF COLLINSWORTH	20096		FAIRVIEW, UT	Sanpete	Active		Details
SOUTH SANPETE PACK		20060		CENTERFIELD, UT	Sanpete	Active		Details
STEEDS CUSTOM SLAUGHTERING		20033		CORINNE, UT	Box Elder	Active		Details
TALBOT	LAYNE	20054		MOUNT PLEASANT, UT	Sanpete	Active		Details
TRIPLE S MEATS		20089		GARLAND, UT	Box Elder	Active		Details
TRIPPS MOBILE BUTCHERING		20067		ARIMO, ID		Active		Details
UNGERMAN CUSTOM MEATS		13677		HUNTINGTON, UT	Emery	Active		Details
VERNON	KADEN	20080		HENEFER, UT	Summit	Active		Details
WEST	DUSTIN	20057		OGDEN, UT	Weber	Expired		Details
WHITES CUSTOM MEATS		20049		RICHFIELD, UT	Sevier	Active		Details

License/Permit Type: 1304 - As A Farm Custom Slaughterer	Total License/Permit Count: 34	Return to Main	Search
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Example Requirements for Farm Custom Slaughter Operations

31-Dec-20

County	Zone	Min. # of acres	Min. feet of frontage	Use name	Use type	Other Requirements	Existing Operations
Box Elder	MU40	40	1320	Agricultural Industry	C	-	
	MU80	80	1320				
	MU160	160	1320				
	A20	20	500				Steeds Custom Slaughtering (A20)
	RR10	10	330				
	RR5	5	250				
	RR2	2	175				
Summit	AG 5	1	100	Butcher with Slaughtering, Retail	C	-	Boyer Meat (AG 5)
	AG 10	1	100		C		
	AG 20	1	100		C		
	AG 40	1	100		C		
	AG 80	1	100		C		
	C	n/a	n/a		A		
	LI	n/a	n/a		A		
	I	n/a	n/a		A		
Weber	AV-3	5	300	Custom Exempt Meat Cutting	C	1. Fronting a collector or arterial road. 2. Located completely in a closed building and no outside storage. 3. Accessory to a dwelling. 4. Part of livestock operation or wild game.	-
							Location not found: Shane Brown - not on state map Ian Morck - not on state map Aaron Gibby - not on state map

Updated draft language

6150 Small-Scale Slaughter Facility

The slaughtering, skinning, and preparing of livestock and poultry by humane means for the purpose of human consumption which is done at a place other than a licensed slaughtering house by a person who is not the owner of the animal. This definition does not apply to the slaughter of animals owned by the property owner, however, other federal, state, or local regulations may direct such operations. The following requirements also apply:

1. This use must qualify and be licensed as Farm Custom Slaughtering as defined by the state, and must meet any of the related state requirements that apply prior to operation; and
2. This use must be located on land that qualifies as land under agricultural use that is actively devoted to agriculture as defined by the Farmland Assessment Act, Utah Code Annotated 59-2-5; and
3. Must be located on a legal parcel, 5 acres or larger in size; or on contiguous legal parcels that are a total of 5 acres or larger in size and owned by the same owner; and
4. All processing activities and processing structures must be setback a minimum 50 feet from all property lines; and
5. Small-scale means that no more than 1 person is allowed to slaughter. This must be the same person that has demonstrated their ability to slaughter and has completed and signed the State's registration form for a Farm Custom Slaughtering License. Additional employees may be allowed to assist in other day-to-day tasks.

Additional requirements?

