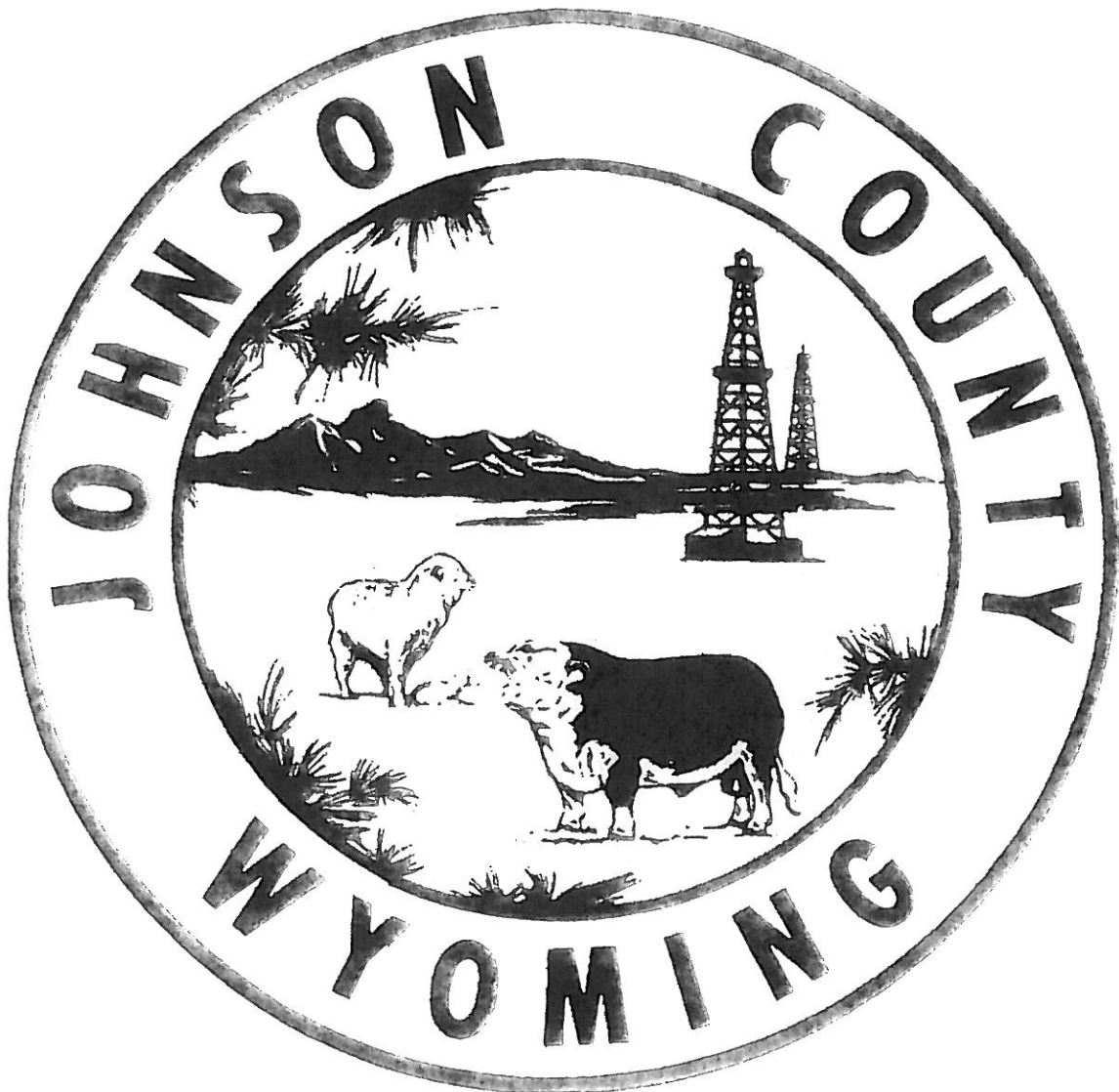


JOHNSON COUNTY, WYOMING

COUNTY ROAD & BRIDGE STANDARDS

SUBDIVISION ROAD & BRIDGE STANDARDS



Adopted August 25, 2008

RESOLUTION NO. 364

TO ADOPT NEW COUNTY AND SUBDIVISION ROAD AND BRIDGE STANDARDS
FOR JOHNSON COUNTY, WYOMING

AUGUST 25, 2008

WHEREAS, the County of Johnson is a duly organized, established, and existing county existing within the State of Wyoming, and is a body corporate and politic, and

WHEREAS, the Board of County Commissioners of Johnson County is the duly elected, qualified, and acting governing board of the County of Johnson, delegated by law to exercise the powers of the County as a body politic and corporate, and

WHEREAS, the Board of County Commissioners of Johnson County wishes to establish a uniform road development policy, provide a clear statement of the procedures to be followed for road and bridge design and construction, and provide safe travel corridors and efficient traffic flow for all unincorporated areas of Johnson County, and

WHEREAS, W.S. 24-1-104 states all county roads shall be under the supervision, management and control of the board of the county commissioners of the county wherein such roads are located, and no county road shall hereafter be established, altered or vacated in any county in this state, except by authority of the board of the county commissioners of the county wherein such road is located, except as is otherwise provided by law, and

WHEREAS, 18-5-306 requires that all proposed streets, alleys and roadways within subdivisions conform to the minimum standards adopted by the board and applied uniformly throughout the county, and

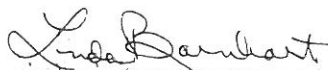
WHEREAS, new county and subdivision road and bridge standards for the unincorporated areas of Johnson County have been developed; and

WHEREAS, public notice has been provided and a public hearing on the new road and bridge standards as required by the Wyoming Administrative Procedure Act has been properly held and public comments were heard and considered,

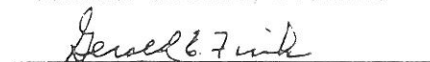
NOW THEREFORE IT BE RESOLVED, that the County of Johnson, by and through its Board of County Commissioners, does hereby adopt these County Road and Bridge Standards and Subdivision Road and Bridge Standards, dated May 20, 2008.

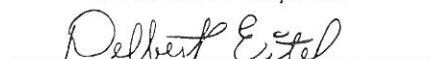
APPROVED AND ADOPTED this 25th day of August, 2008.

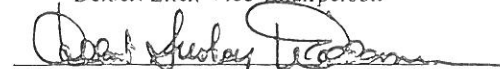
ATTEST:


Linda Barnhart, County Clerk

BOARD OF COUNTY COMMISSIONERS
JOHNSON COUNTY, WYOMING


Gerald Fink, Chairperson


Delbert Eitel, Vice-Chairperson


Albert "Smokey" Wildeman, Commissioner

JOHNSON COUNTY ROAD AND SUBDIVISION ROAD STANDARDS

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ARTICLE 1 – INTRODUCTION

DIVISION 1-100 PURPOSE AND INTENT

The Johnson County Road and Subdivision Road Standards, hereinafter referred to as "Road Standards" or "Standards", are intended to establish a uniform road development policy throughout Johnson County, and provide a clear statement of the procedures for road and bridge design and construction.

Another purpose and intent of these Standards is to provide safe travel corridors and efficient traffic flow.

Procedures are outlined in these Standards to provide for the design and construction of roads and bridges, including subdivision roads and bridges, within Johnson County. The reader is advised the County may accept conveyances for County right-of-way and roads; however, such action may not constitute an acceptance of maintenance responsibilities. Acceptance of maintenance responsibilities is at the sole discretion of the Board of County Commissioners (BOCC).

The following documents are used in these Standards:

- AASHTO A Policy on Geometric Design of Highways and Streets (AASHTO Green Book)
- COUNTY ROAD FUND MANUAL, March, 2000 (CRFM)
- Trip Generation Manual, 7th Edition, Institute of Transportation Engineers
- Wyoming Public Works Standard Specifications (WPWSS)
- WYDOT Access Manual
- WYDOT Standard Specifications

DIVISION 1-200 AUTHORITY

The State of Wyoming, by W.S. 24-1-104, "Management and Control of County Roads", authorizes the Board of County Commissioners to administer the County road system including, but not limited to, maintenance, layout, establishment, alterations, vacations, property acquisition and traffic regulation. W.S. 18-5-301 et seq authorizes the County to adopt requirements for all roads and subdivision roads within the county.

W.S. 24-3-101 et. seq. outlines the authority and procedures to be followed in the establishment, vacation or alteration of County highways. These Standards are not intended to replace or to conflict with this or any other federal or state law or regulation.

W.S. 18-5-306 et. seq. outlines the authority and procedures to be followed in the construction of subdivision streets, alleys and roadways. These Standards are not intended to replace or to conflict with this or any other federal or state law or regulation.

The Johnson County Road and Bridge Department, herein after referred to as "Department", has been directed by the Board of County Commissioners to enforce road construction standards, review plans and conduct inspections on county-maintained roads.

The Johnson County Planning and Zoning Commission, herein after referred to as "Planning and Zoning Commission", has been directed by the Board of County Commissioners to enforce the Subdivision Regulations which requires compliance with these Standards.

DIVISION 1-300 ROAD CLASSIFICATION

County roads are classified according to functional classification and average daily traffic (ADT). Roads will be classified as defined in the COUNTY ROAD FUND MANUAL, March, 2000 or the

latest edition (CRFM). The Department will make the final determination to which classification applies to any given road.

To estimate the road ADT, the ITE Trip Generation 7th Edition or the latest edition, shall be used. If actual road counts are available, they may be used as current data. All subdivision roads shall be designed for the total number of lots at complete build-out. Additional capacities may be required for any road that has a high potential to serve future adjacent development.

In calculating ADT for single-family residential development, developers shall use only Table 210 (Single Family Detached Housing/average weekday traffic) in the ITE Trip Generation Manual 7th Edition or the latest edition. No adjustment factors shall be allowed for this rate.

DIVISION 1-400 GENERAL

Roads, including subdivision roads, contained in the County-wide circulation system are classified based on their functional use and traffic volumes.

DIVISION 1-500 APPLICATION OF STANDARDS

All new road and bridge construction, and any upgrading of existing roads or bridges, commencing after the effective date of these Standards, shall adhere to these Standards.

SECTION 1-505 PENDING/GRANDFATHERING

ROW Permits issued for projects prior to the effective date of these Standards shall follow the requirements of the previous standards applicable at the time the ROW Permit was issued, unless the developer wishes to follow these Standards. All other projects designed and constructed after the effective date of these Standards shall meet, follow and comply with these Standards.

Subdivision applications received prior to the effective date of these Standards shall comply with the standards in effect at the time such subdivision application was submitted, unless the developer agrees in writing to comply with these Standards.

Objects, accesses and other facilities in place within any County or county-maintained right-of-way may be grandfathered. If the owner initiates any act of improvement, requests any type of County permit or the County is made aware of a hazard and directs the responsible party to address the hazard, upgrades shall meet current Standards.

SECTION 1-510 CONFLICT WITH OTHER RESOLUTIONS

These Standards are not intended to replace or conflict with any other federal or state law or regulation.

SECTION 1-515 SEVERABILITY

If any section, clause or provision of these Standards should be found unconstitutional or otherwise invalid by a court of competent jurisdiction, the remainder of these Standards shall not be affected.

SECTION 1-520 EFFECTIVE DATE

These Standards shall take effect on the date they are adopted by the BOCC by Resolution and are filed in the Office of the County Clerk and Recorder unless the Board's resolution specifies a later effective date.

DIVISION 1-600 DEFINITIONS

Definitions applicable to these Standards are contained in Appendix A, or are based on standard engineering definitions contained in the various documents incorporated into these Standards by reference.

ARTICLE 2 – RIGHT-OF-WAY (ROW) PERMITS

Prior to the commencement of construction or improvement of any type within a County right-of-way, the project proponent must obtain approval of construction plans and have obtained an approved County ROW Permit from the Department in accordance with these Standards. Johnson County and other governmental agency projects are exempt from obtaining ROW Permits for their own work, but are not exempt from complying with these Standards. ROW Permits are required for any of the following activities:

1. All road construction or reconstruction.
2. Approach onto a County road, whether public or private.
3. Mailbox turnout.
4. Fencing within County right-of-way.
5. Utility work, within or crossing County right-of-way.
6. Road Closures.

ROW Permit fee's shall be those as required by resolution of the Board of County Commissioners.

DIVISION 2-100 PURPOSE AND INTENT

A ROW Permit shall be obtained whenever a developer, contractor, property owner, utility company or other individual proposes to perform any work within any County right-of-way. ROW Permits are required to assure the method of installation meets these Standards. The permits are also intended to assure adequate reconstruction and/or repair of any damage caused to County roads or road right-of-way.

Construction procedures for right-of-way work: The responsible party shall plan right-of-way work so it does not create safety hazards or maintenance problems, render portions of any right-of-way unusable for future road improvement or obstruct major floodways.

Compliance with safety standards: The responsible party's operations shall conform to the applicable requirements established by the Federal Occupational Safety and Health Act (OSHA), and any other applicable laws or standards.

Staging of installations: Staging of utility installations may be required by the Department to produce the least disruption possible for the traveling public. A permit for any subsequent stage(s) may not be issued until the prior stage has satisfactorily progressed or has been completed.

A complete set of construction plans and documents shall be submitted and approved prior to issuance of a ROW Permit for any phase of a project. The plans shall include at a minimum the following:

1. Title sheet with site location map
2. Grading plan, if applicable
3. Road Plan and Profile, and applicable details, including signage and striping plans
4. Irrigation and drainage plans
5. Details and plans for any proposed improvements
6. Traffic Control Plan for construction on any public road in conformance with the Manual on Uniform Traffic Control Devices (MUTCD)

All subdivisions are required to comply with the Johnson County Subdivision Regulations, in addition, a ROW Permit shall be required for all work within designated County right-of-ways.

DIVISION 2-200 TRAFFIC SAFETY

Construction Traffic Control Devices: All signs, striping, markers, delineators, signals, and other traffic control devices shall conform to the requirements of the Manual on Uniform Traffic Control Devices, latest edition, hereinafter referred to as the MUTCD, published by the U.S. Department of Transportation, Federal Highway Administration.

Any substandard signs and/or hazards within the County right of way shall be removed by the Department and disposed of in an appropriate manner.

All permanent signing and striping plans shall be submitted to the Department for approval.

DIVISION 2-300 CLOSING OF ROADS

Roads closures to accommodate roadwork are not permitted unless justified on the basis of overall benefit to the general public. Requests for road closures shall be made to the Department, and no road closures shall be undertaken unless approved as part of the ROW Permit issued by the Department.

SECTION 2-305 NOTICE AND OPERATION OF ROAD CLOSURE

Authorization is required prior to any road closure. All requests for road closure shall be submitted to the Department at least forty-eight (48) hours prior to the anticipated need for the closure, unless an emergency exists. At a minimum, the following information shall be submitted with the request for closure:

1. A traffic control plan following the requirements of the MUTCD, to include a detour plan or plan to maintain access for local residents;
2. Reason and expected timeframe for the closure; and
3. Lists of names and phone numbers of responsible persons.

Except in an emergency, responsible parties may close roads only after obtaining approval from the Department. The County Road and Bridge Supervisor's office must be notified prior to closing of any County Road and again when the road is re-opened. The Department's office will notify emergency services.

Emergency situations require the Department or Sheriff's Office Dispatch be notified as soon as possible.

The responsible party shall furnish, erect, and maintain, at their own expense, necessary barriers and barricades, suitable and sufficient flashers and construction signs, as required by the Department. Responsible parties shall also provide a sufficient number of certified flagmen and take necessary precautions for the protection of the work and safety of the public around their construction operations.

DIVISION 2-400 ROAD CUTS

Road cuts (trenches constructed transverse or parallel to centerline) are not allowed by Johnson County on roadways. All roadways shall be bored unless a bore would create an unsafe or hazardous condition.

Open cuts will only be allowed with the Department approval prior to any work on the road.

If an open cut is allowed, the responsible party, at his own expense, shall meet the following minimum criteria:

1. Submit a Traffic Control Plan in conformance with the MUTCD for approval;
2. Install and maintain all traffic control devices prior to the start of construction;
3. Work continuously to complete the work as expeditiously as possible;
4. Trench backfill on gravel roads shall be made with Wyoming Public Works Standard Specifications (WPWSS) Grading "W" or Grading "H" crushed base compacted to ninety-five percent (95%) Standard Proctor at (+/-) two percent (2%) of optimum moisture in accordance with ASTM D-698.
5. Trench backfill on paved roads shall be made with an approved lean concrete slurry.
6. Surfacing of trench area shall be same type as original;
7. **Compaction by flooding the trench will not be allowed;** and
8. Any other requirements deemed necessary by the Department.

Except for emergencies, if the work and installation are not completed as stated and in accordance with these Standards as determined by the Department, the County shall give written notice of the defects to the responsible party. If satisfactory corrective work is not done within the required time limit, the work shall be considered in default and the County shall have the work completed and bill the responsible party. In an emergency, the contractor shall make modifications immediately to protect the health, safety and welfare of the public.

DIVISION 2-500 SUBMITTAL REQUIREMENTS FOR ROW PERMITS

Applications for ROW Permits shall be submitted to the Department for review and action. Applications for ROW Permits that are associated with a proposed subdivision shall be submitted to the Department for review at the time the preliminary plat is submitted to the Planning and Zoning Commission. Approval of a ROW Permit shall be granted only if, at the discretion of the Department, the proposed work meets these Standards.

Approval of a ROW Permit may be accompanied by any conditions deemed reasonable by the Department to ensure protection of health, safety and welfare of the public, the protection of public facilities and compliance with these Standards.

Applications for ROW Permits shall be submitted to the Department at least thirty working (30) days prior to planned commencement of construction for any installations. **Construction shall not commence without an approved ROW Permit.**

Consideration shall be given to how the proposed installation affects County road maintenance and improvement programs.

Approval shall be granted only if the proposed installation meets the requirements set forth in these Standards, the required fees paid and surety posted, if required.

The ROW Permit will not be approved or issued for commencement of construction without the signature of the Department.

At a minimum, the following information must be submitted with any application for a ROW Permit, unless specific items are waived by the Department as unnecessary:

1. Fee as required by resolution of the Board of County Commissioners.
2. Completed permit form.
3. Permit submittal requirements:
 - a. For minor installations – sketch plan showing the following:
 - i. Location of all excavations using dashed lines
 - ii. Location of road and road right-of-way
 - iii. Location of any driveways
 - iv. Existing structures, if any, and
 - v. Proposed structures, including any garages.

- b. For major installations – construction plans and specifications.
- c. For development projects – complete plans and specifications.
- 4. Construction Schedule. As part of the approval of any permit, the Department shall review and approve a construction schedule. The approved schedule shall not be changed after the permit is issued without the written consent of the Department.
- 5. Traffic Control Plan, in conformance with the MUTCD.
- 6. Other items deemed necessary by the Department.

DIVISION 2-600 SUPERVISION OF RIGHT-OF-WAY WORK

The responsible party shall at all times conduct work within County right-of-way so as to avoid obstructions and hazards to the traveling public, and in conformance with the approved Traffic Control Plan.

Materials necessary for construction shall not be stored in the County right-of-way at any time.

The roadway and roadside area where work has been performed shall be thoroughly cleared of all debris and extraneous material, and shall be restored to a condition equal to or better than the original when construction is concluded.

DIVISION 2-700 INSPECTION AND TESTING OF WORK

Adequate inspections to ensure compliance with these Standards shall be required. It is the duty of the responsible party to provide testing of all work performed. Full time construction inspection by the responsible party will also be required on all projects, unless written approval from the Department states otherwise. All testing will be in accordance with Wyoming Public Works Standard Specifications. Copies of all daily reports, compaction tests, moisture-density tests, asphalt tests, waterline tests, or any other test reports shall be provided to the Department weekly during construction. A final project walk through shall be required. The final walk through shall be arranged by the project engineer and shall have a representative of the Department present. The Department shall be contacted a minimum of three (3) days in advance of the required walk through.

Any work or material which does not conform to these Standards, any pavement failures or broken asphalt, damaged signs or fencing and remaining debris either in the roadway or adjacent property, or improper drainage shall be brought to the attention of the responsible party. Any work in which untested or unaccepted materials are used shall be ordered removed and replaced at the responsible party's expense. Any required corrective work shall be made at the responsible party's expense and shall be done to the satisfaction of the Department.

DIVISION 2-800 RESPONSIBILITY FOR REWORK

The responsible party shall be fully responsible for the maintenance and correction of any faulty construction, including unstable road cuts and chuck holes developed during the construction period and for a period of one (1) year following the final inspection of the work. All deficiencies shall be resolved to the satisfaction of the Department at the responsible party's expense. Failure to do so may be cause to deny acceptance and denial of future permits.

DIVISION 2-900 CONSTRUCTION SPECIFICATIONS AND SCHEDULE FOR WORK WITHIN COUNTY RIGHT-OF-WAY

All work undertaken within the County right-of-way shall conform to the requirements contained in these Standards, and the approved plans and specifications. In issuing a ROW Permit, the Department shall also review and, if acceptable, approve a Construction Schedule and Traffic Control Plan. The approved construction plans, specifications and schedule shall not be changed without the written consent of the Department, except in emergency situations.

DIVISION 2-1000 RIGHT-OF-WAY WORK PERMIT SUSPENSION OR REVOCATION

The Department may suspend or revoke any permit issued under the provisions of these Standards whenever the permit is issued in error or on the basis of incorrect information supplied by the applicant, or when the applicant is not in compliance with the permit conditions. The Department may also suspend or revoke any permit when a hazard is created which would pose a threat to the health, safety and welfare of the public.

DIVISION 2-1100 EMERGENCIES

Except in an emergency, responsible parties may close roads only after obtaining approval from the Department. The Department must be notified prior to closing of any County road and again when the road is re-opened. The Department will notify emergency services.

Emergency situations require the Department or Sheriff's Office Dispatch be notified as soon as possible.

If a true emergency exists where time is not available to follow the procedures for obtaining a ROW Permit or for making modifications to the approved plans, specifications and schedule, the responsible party may proceed with the work. Within twenty-four (24) hours, the responsible party shall submit an application for a ROW Permit.

DIVISION 2-1200 EXPIRATION OF PERMITS

ROW Permits issued by the Department under the provisions of these Standards shall expire if the work authorized by such a permit is not substantially begun within six (6) months from the date of the permit, or if the construction of work authorized by the permit is suspended or abandoned for a period of six (6) months at any time after the work is begun. Before such work can be resumed, a new ROW Permit shall be first obtained or reissued, provided no changes have been made or required by the Department in the original approved plans and specifications.

Any responsible party holding an un-expired ROW Permit may apply for an extension of time.

Permits expire when the end of the approved construction schedule is reached, and must be renewed in advance.

DIVISION 2-1300 PROTECTION OF PUBLIC SAFETY AND CONVENIENCE

The responsible party shall at all times conduct work to ensure the least possible obstruction and hazard to the traveling public. The responsible party shall provide for the safety and convenience of the residents and public along roads where work is being done, and for the protection of persons and property at all times. Adequate warning signs, barricades, lighting, flags and other devices as specified in the MUTCD, and as approved by the Department, shall be provided, maintained and paid for by the responsible party.

If, in the opinion of the Department, an unsafe condition exists, or the responsible party is not conforming with the approved traffic control plan, the Department may suspend ALL operations until the situation is corrected. If the responsible party does not remedy the situation immediately, the Department may have the problem corrected and bill the responsible party for any expenses incurred.

DIVISION 2-1400 GUARANTEE PERIOD FOR RIGHT-OF-WAY WORK

The responsible party shall be accountable for a period of one (1) year after completion of work for any maintenance or repair necessary to keep the roadway in an acceptable condition. The warranty period starts when a letter of acceptance for the work is sent from the Department's office.

ARTICLE 3 – COUNTY ROAD AND BRIDGE DESIGN CRITERIA

DIVISION 3-100 PURPOSE AND INTENT

This ARTICLE 3 sets forth minimum standards for road and bridge design in Johnson County, and is intended for use by design engineers, developers and the public. These Standards establish minimum criteria for design and construction of roadways in the County to be used by the traveling public that assure their health, safety and welfare.

County roads shall be designed according to the functional classification and ADT. Roads shall be designed by the methods defined in the COUNTY ROAD FUND MANUAL, March, 2000 (CRFM). The Department will make the final determination as to which design standards apply to any given road.

To estimate the road ADT, the ITE Trip Generation 7th Edition shall be used. If actual road counts are available, they may be used as current data. Additional capacities may be required for any road that has a high potential to serve future adjacent development.

The applicable specifications of agencies or organizations listed in Appendix B are made a portion of these Standards by reference, and shall be the latest edition or revision thereof. All materials shall be new unless otherwise approved by the Department.

All county roads shall be designed by a registered Engineer in the state of Wyoming qualified in road design.

SECTION 3-105 GENERAL DESIGN ELEMENTS

1. Design speed: The selection of design speed is influenced principally by the character of terrain, traffic volumes and appropriate range of design speeds for each road classification. Design speed shall be selected by the design engineer and approved by the Department, prior to beginning the road design.
2. Surfacing requirements: All County Roads serving areas with projected densities of two (2) units per acre or greater, or expected to carry a traffic volume of 400 ADT or greater, may be required to be paved at the discretion of the Board of County Commissioners.
3. Right-of-Way: The minimum right-of-way widths required for all County Roads shall be 60 feet. Additional right-of-way may be required for drainage improvements, cuts or fills, intersections, curb returns, snow storage and other road appurtenances.

SECTION 3-110 ROADWAY DESIGN

Alignment: The major considerations in alignment design are safety, grade, profile, road width, design speed, sight distance, topography, drainage, and the maneuverability, braking and performance of heavy-duty vehicles. Alignment should provide for safe and continuous operations at a uniform design speed. Consideration should be given to locating roads so as to obtain a southern exposure wherever possible to avoid drifting of snow. Road layout should bear a logical relationship to existing or platted roads in adjacent properties and to the principles of good engineering practice.

- a. Horizontal Alignment shall be per CRFM as determined by ADT and the functional classification.
- b. Vertical Alignment: shall be per CRFM as determined by ADT and the functional classification.

SECTION 3-115 GEOMETRIC CROSS SECTION

Superelevation: The maximum superelevation will be limited to six percent (6%). The axis of rotation of roadway is the centerline.

Superelevation Transition: Superelevation transition is the progression of the roadway from the normal crown section to a fully superelevated section. To meet the requirements of safety, the length required to effect the transition shall be as described in the AASHTO's "A Policy on Geometric Design of Highways and Streets", Chapter 3, Transition Design Controls.

Width: Functional classification shall determine roadway width, as herein specified.

SECTION 3-120 DRAINAGE

The primary objective of drainage design is protection of County roads and adjoining property while minimizing possible flood damage to surrounding properties and structures. It should be emphasized that good drainage is one of the most important factors in road design. It preserves the appearance as well as the level of service of the road while minimizing maintenance costs.

Johnson County recognizes the importance of irrigation facilities; however, these facilities may create hazards or be detrimental to the purpose and function of the County road system. **It is therefore the policy of Johnson County to locate irrigation facilities outside of the County Road right-of-way whenever possible.**

Irrigation facilities, which must be within the County right-of-way, shall be constructed to reduce impacts to the road system and eliminate hazards to the traveling public. Johnson County accepts no responsibility for any facilities located in County right-of-way.

All drainage installations shall be designed to permit free, unobstructed passage of debris and silt, or provide for their deflection and/or collection at a point upstream that will not create a maintenance problem.

Sedimentation basins may be required when a silting problem exists.

Modification of natural channels, or transferring runoff from one basin to another, is not permitted except where no reasonable alternative exists, and where the proposal has been reviewed and approved by the Department and other applicable agencies.

The developer/contractor is responsible for obtaining and complying with all applicable local, state and federal permits.

A recurring problem on Johnson County roads is ice build-up in winter. Drainage design shall anticipate areas of potential ice build up. Additional design considerations will be required in these areas that may include signage and/or guardrails.

Water flowing in a roadside ditch shall be diverted away from the road as quickly as possible.

Water that flows out of driveways must be diverted to ditches. Damage to roadways caused by such water is similarly the responsibility of the owner, and repair costs incurred by the Department will be billed to the owner, including labor, equipment and materials.

Damage to a County road caused by a blocked driveway culvert or lack of a driveway culvert is the responsibility of the property owner. If it becomes necessary for the County

to undertake repairs, the County will bill the resulting costs to the responsible party, including labor, equipment and materials.

At a minimum, the following practices shall not be allowed within the County right-of-way:

- a. New waste ditches;
- b. New diversion structures;
- c. Open or unlined channels;
- d. New irrigation facilities for new developments.

Johnson County will work cooperatively with irrigators to resolve conflicts with new and existing facilities.

All irrigation facilities must be designed, constructed and installed in conformance with all applicable sections of these Standards, including but not limited to, requirements to obtain a ROW Permit.

SECTION 3-125 CULVERTS

Use of culverts at access points to roads: Driveways or road connections to a County road shall not be constructed in such a way as to impede the normal flow of drainage in roadside ditches, culverts, drains, bridges or other drainage works, or to cause such drainage to flow onto or across the driving surface of a County Road. In the event such an impediment results in damage to a County road, the Road and Bridge Department may remove the impediment and bill the responsible party for the costs of repairs to the road, including labor, equipment and materials.

The minimum size of culvert is 18 inches in diameter or equivalent.

Culverts are required where driveways connect to County roads unless specifically exempted by the Department and these Standards. It is the responsibility of the responsible parties to maintain their culverts free and clear of silt, mud, debris and ice.

In certain instances, a culvert may not be required by virtue of the topography. In that event, a waiver must be obtained from the Department. The waiver, if granted, will be noted on the ROW Permit. Such a waiver does not constitute a waiver of the ROW Permit, inspection of the access, or any other requirements of the access.

Culverts shall be located at each natural draw or watercourse as conditions warrant to prevent excessive accumulation of flow in roadside ditches or along the toe of slopes.

Culverts under all roads shall be designed to accommodate the following design storm frequency runoff: one hundred (100) year for bridges, twenty five (25) year for culverts on roads with an ADT of more than one hundred (100) and ten (10) year for roads with less than one hundred (100) ADT.

Storm runoff estimates shall be determined by any of the following methods:

- a. Runoff from stream flow records
- b. Tabular method as per Technical Release MO55 from the Engineering Division of the U.S. Department of Agriculture
- c. HEC-1 Computer Program from the U.S. Army Corps of Engineers
- d. SCS Method
- e. The Rational Method for small basins
- f. Other methods as approved by the Department

The culvert shall slope downward in the direction of natural flow and be designed to be self-cleaning whenever possible. The outlet shall be designed not to discharge on unprotected fills or unstable material, or at adverse angles to streams or open channels. Headwalls, riprap or other means of protection will be required at inlets or outlets where erosion will occur.

The structural capacity of the pipe shall be properly designed to handle HS20-44 loads.

When a battery of pipes is used, a clear spacing of one-half (1/2) the pipe diameter (one (1) foot minimum, four (4) foot maximum) must be provided between pipes. Maximum and minimum cover, pipe metal gauge and strength classification shall be as specified by the culverts manufacturer.

Cleanout access shall be provided at least every four hundred (400) feet. Cleanout access shall also be provided at each angle point and at each change in grade. Manholes shall be used for clean outs and access points.

SECTION 3-130 OPEN CHANNELS AND DITCHES

Channels and ditches shall be designed to avoid roadside safety hazards. Open channels and ditches shall be designed to prevent erosion and to have adequate capacity for the anticipated flows.

SECTION 3-135 SIDE SLOPES

Preferred fore slope is 6H:1V; back slope is 3H:1V.

Any slope designed steeper than 2H:1V shall be certified for stability by a registered Engineer in the state of Wyoming qualified in soils analysis. Where heavy snowfall is expected, flatter slopes in cuts on the southern side of the roadway should be used to provide maximum exposure to the sun. Flatter slopes should be used wherever possible to reduce erosion, decrease maintenance costs, facilitate plant growth, and provide for safer operation.

Transition slopes shall be provided between adjoining cuts and fills, and shall be designed for pleasing appearance.

Where the side slopes of the original ground approach 1.5H:1V, the embankment shall be contained with a suitable retaining wall. Side slopes in rock will be based on the stability of the formation. Benching of side slopes should be used sparingly and only where justified by sound engineering reasons, including the following:

- a. To stabilize material where benching is more economical than flattening
- b. To intercept drainage in long and deep cuts
- c. To intercept and store loose material

DIVISION 3-200 BRIDGE DESIGN

SECTION 3-205 DESIGN STANDARDS FOR BRIDGES

Bridges shall conform to AASHTO Standard Specifications for Highway Bridges, latest edition. The design loading requirements shall conform to AASHTO HS20-44 specifications. Plans and a design report shall be prepared by a qualified structural engineer and shall be submitted to the Department for review and approval prior to construction. Clear deck width, at a minimum, must accommodate the full width of the travel lanes of approach roads.

Design of bridges on all public roads that have a span of twenty (20) feet or more shall be submitted to WYDOT for review and approval per the requirements of WS § 24-2-106 prior to construction.

The waterway area shall accommodate a one hundred (100) year design flood frequency. A minimum of one and one-half (1-1/2) foot of freeboard is required for the 100 year event. Additional freeboard will be required when drift, debris-laden flows, or ice are anticipated.

DIVISION 3-300 UTILITIES

Johnson County recognizes the need and importance of public utility facilities to be placed within the County right-of-way. However, these facilities may create hazards or be detrimental to the purpose and function of the County road system. It is therefore the policy of Johnson County to locate these facilities in accordance with the following Standards.

SECTION 3-305 STANDARDS

- A. Pole lines will be permitted within said right-of-way provided the poles are set within three (3) feet of the edge of the right-of-way line and all other provisions applicable to this policy are in compliance. The three (3) foot limitation on poles shall also apply to guy wires and anchors. Overhead lines shall be permitted to sag under worst anticipated conditions no lower than eighteen (18) feet above the roadway and shall preferably be no closer than twenty-three (23) feet. No pole or structure above ground shall be placed within a pedestrian walkway nor set closer than twelve (12) feet to the shoulder of any County road except light and traffic control poles with breakaway bases.

Multiple users shall be required to utilize a single pole alignment within the County right-of-way. Any and all agreements shall be between the utility companies. New multiple pole lines will not be allowed within the County right-of-way unless prior authorization has been granted by the Department.

- B. Underground utilities will be permitted within said right-of-way, provided they are within ten (10) feet of the edge of the right-of-way line and all other provisions of these Standards are complied with.

All non-metallic facilities shall have tracer wire installed with the facility. Minimum wire shall be #12AWG, solid copper.

All manholes, meter pits, valve boxes and appurtenant facilities shall be located such that they do not interfere with the County's use of the right-of-way or create a hazard.

All facilities shall be buried a minimum of thirty-six (36") inches if located within the County right-of-way. The depth shall be below the lowest point in the road cross section.

Johnson County accepts no responsibility for any facilities located in County right-of-way.

- C. Any future alteration or modification of the facility within the existing right-of-way required and requested by the County shall be completed without delay and without cost to the County.

SECTION 3-310 INSTALLATION

All utilities shall be installed in accordance with the plans and specifications approved by the utility owner and the Department. Where applicable, the plans for installation must bear the name, seal and signature of a registered professional engineer responsible for their preparation. The alignment of all utilities within County right-of-way and major floodways is subject to approval by the Department.

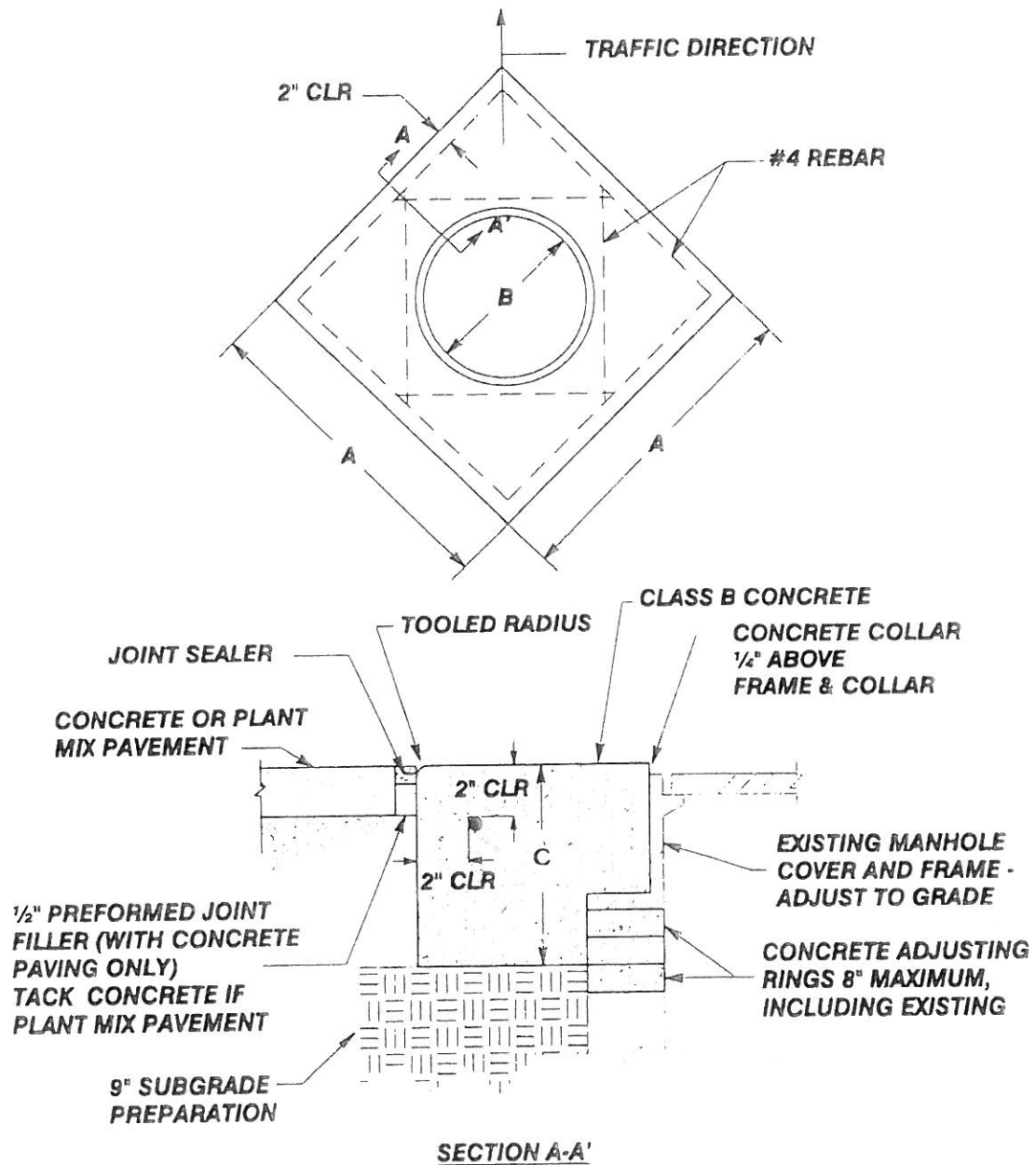
- A. Underground utilities: All accesses to underground utilities from the road surface (e.g. manholes, vaults) shall be heavy duty construction made of cast iron, capable of safely supporting anticipated maintenance equipment and vehicular traffic and AASHTO HS-25 loading. No aluminum castings will be allowed.

The minimum depth of cover for any underground utility within a County right-of-way shall be thirty-six (36") inches.

All valves, manholes, vaults or other appurtenant structures located within the County right-of-way shall be buried a minimum of eighteen (18") inches, except in paved areas. In paved areas, these appurtenant structures shall conform to the finished grade of the road and shall have concrete collars conforming to Figure 3-1, in accordance with Wyoming Public Works Standard Specifications.

- B. Aboveground utilities: All aboveground utilities shall conform with the requirements of Section 3-305 A.
- C. Utilities in major floodways: All utilities within or adjacent to major floodways shall comply with applicable floodplain standards, and shall be located and installed in a manner that will prevent objectionable damage such as land erosion, water pollution or flood diversions.

DIM	EXISTING MANHOLE FRAME & COVER	VALVE BOXES
A	4'	2'
B	2'	1'
C	8"	7"



CONCRETE COLLAR

NOT TO SCALE

FIGURE 3-1

SECTION 3-315 CHANGES AFFECTING UTILITIES

Future changes to County roads may require the relocation or removal of utility installations. For minor changes, the affected utility company shall complete the relocation or removal within thirty (30) days after notification by the Department. For major utility relocation projects involving extensive design and securing of contracts or material orders, the affected utility company shall complete the relocation or removal within ninety (90) days, or a time frame as mutually agreed upon with approval from the Department, of the final design. To avoid the necessity for such changes, utility companies are encouraged to locate their facilities consistent with future plans for County roadways.

DIVISION 3-400 MAILBOX TURNOUTS

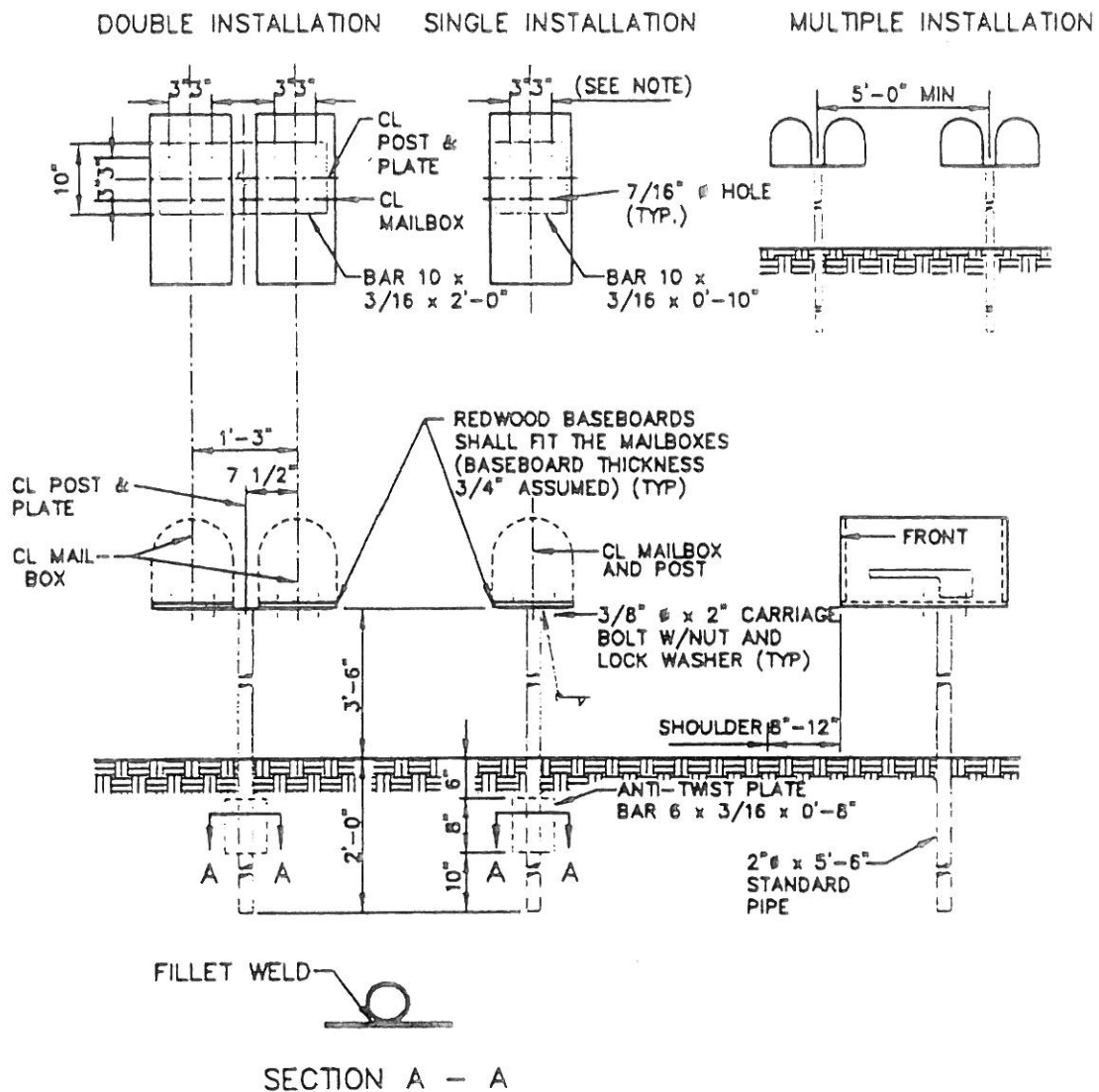
All new mailbox installations shall require the approval of the U.S. Postal Service (USPS) as to mailbox design, and the USPS and the Department as to turnout location.

Existing mailboxes may have turnouts constructed as a joint project of the box holder, Johnson County and the USPS.

1. Box holders may remove and replace their existing mailboxes and stands at their own expense, provided the design of their structure is not deemed a safety hazard and complies with these Standards and is approved by the USPS and the Department. However, should scheduling prevent mailbox removal by its owner, Johnson County Road and Bridge crews will remove it at no charge to the box holder. The responsible party will be liable for replacement of the box in accordance with these Standards.
2. The USPS shall be contacted for the availability of mail delivery and approval of turnout design.

SECTION 3-405 STANDARDS

- A. All mailbox installations shall conform to the requirements shown on Figure 3-2 and 3-3. Any deviations from these Standards must be reviewed and approved by the Department.
- B. All mailboxes and turnouts must be designed, constructed, and installed in conformance with all applicable sections of these Standards, including but not limited to requirements to obtain a ROW Permit.
- C. Multiple mailbox units, as provided by the USPS, are allowed. The number of post supports shall determine minimum length requirements, i.e. units with two posts shall have a minimum length of 25' as shown in Figure 3-3.



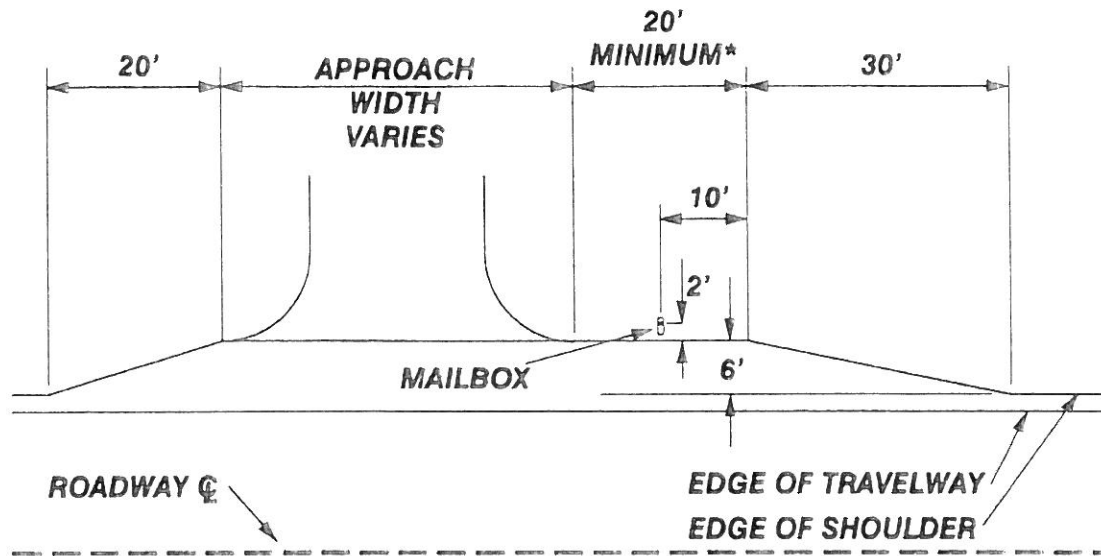
NOTES:

1. DIMENSIONS MAY REQUIRE ADJUSTMENT DEPENDING UPON MAILBOX SIZE USED. DIMENSIONS SHOWN ARE FOR AN 11 1/2" MAILBOX.
2. ONLY TWO MAILBOXES PERMITTED EACH POST, UNLESS USPS APPROVED MULTIPLE UNITS.

MAILBOX DETAIL
NOT TO SCALE

FIGURE 3-2

*** ADD 5' FOR EACH
MAILBOX POST**



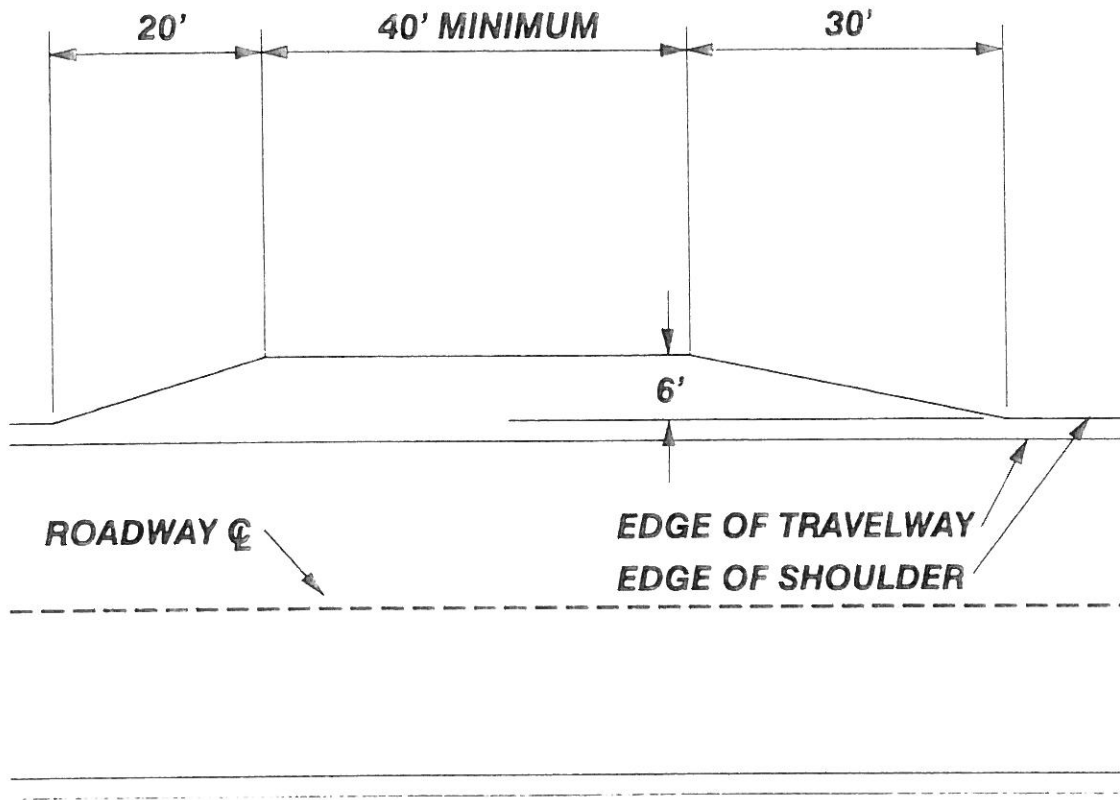
MAILBOX TURNOUT DETAIL

NOT TO SCALE

FIGURE 3-3

DIVISION 3-500 SCHOOL BUS TURNOUTS

The location of a school bus turnout shall be determined by the Department and shall be designed and constructed in accordance with Figure 3-4.



SCHOOL BUS TURNOUT DETAIL

NOT TO SCALE

FIGURE 3-4

DIVISION 3-600 FENCE

Johnson County does not install or maintain fences along its right-of-way. Should a responsible party wish to install a fence within the County right-of-way, the fence must be installed in accordance with these Standards. Maintenance of the fence shall be the duty of the responsible party.

To insure that a County road is capable of being used as a stock driveway or trail, W.S. 11-28-105 authorizes the BOCC to require fencing of the right-of-way along a County road. The BOCC may also require cattle guards or gates so livestock will be contained within the right-of-way. All fencing, cattle guards, or gates shall be at the expense of the party requesting to establish the access.

SECTION 3-605 STANDARDS

- A. All fences within County right-of-way, if allowed, shall be installed in accordance with WYDOT Standard Specifications, Section 607. Any deviations from these WYDOT Standard Specifications must be reviewed and approved by the Department.
- B. All fences within County right-of-way must be designed, constructed and installed in conformance with all applicable sections of the WYDOT Standard Specifications, including but not limited to, requirements to obtain a ROW Permit, sight triangle and distance restrictions and traffic safety requirements.

DIVISION 3-700 CATTLE GUARDS

Johnson County maintains existing cattle guards on the County Road System. If a responsible party requests a new cattle guard, the Department shall review the request. If the installation is approved, the responsible party shall be liable for payment of all costs for materials, equipment and labor, and payment shall be made prior to ordering the new cattle guard. The responsible party is responsible for all fencing to connect to the new cattle guard.

SECTION 3-705 STANDARDS

All cattle guard installations shall be in accordance with WYDOT Standard Specifications, Section 615. Any deviations from these Standards must be reviewed and approved by the Department.

DIVISION 3-800 DRIVEWAYS AND PARKING AREAS

These Standards shall only apply to that portion of the driveway that is within one hundred (100) feet of the centerline of the public roadway.

Requirement for ROW Permit: Whenever a responsible party proposes to connect or upgrade a driveway or parking area to a public roadway, they must obtain a ROW Permit from the Department prior to commencing construction.

SECTION 3-805 STANDARDS

A driveway is defined as an access for vehicles providing a connection from a public or private roadway to either individual residences or to a parking area serving multiple residences; commercial businesses; recreational, institutional or industrial land uses; or a combination of land uses. An access way serving a ranch or farm and any associated residence regardless of length shall be considered a driveway, and shall meet all such standards as are necessary for public health and safety. Maintenance of driveways, including but not limited to culverts, drainages and surfacing, shall be the duty of the responsible party.

All driveway access shall be in accordance to the WYDOT Access Manual.

Driveway widths: The dimensions of driveway widths, openings, and radius shall be as shown in Table 3-1.

DRIVEWAY WIDTHS			
TYPE OF SERVICE	MINIMUM DRIVEWAY WIDTHS	MAXIMUM WIDTH (EXCLUDING RADIUS)	RETURN RADIUS MAXIMUM
Commercial/Industrial	20 feet	*	*
Residential (single)	20 feet	24 feet	10 feet
Multi-Family	20 feet	30 feet	10 feet
Field	16 feet	24 feet	10 feet

*To be determined during discussion with Department

TABLE 3-1

- A. Driveway grades: Driveways shall have a maximum grade of ten (10) percent and shall provide a reasonable transition (i.e. a landing) in terms of grade between the driveway and the roadway it joins over a distance of not less than twenty-five (25) feet. For single family residences and duplexes located on lots having difficult terrain, driveway grades may exceed ten (10) percent as long as a parking area adjacent to the roadway is provided and approved by the Department.
- B. Surfacing of driveways: Driveways serving single family residences or serving duplexes, where the road providing access is not paved, may be either graveled or paved. Driveways serving single family residences or serving duplexes, where the road providing access is paved, shall be paved to the right-of-way.
- C. Provision for drainage: Driveway design shall make adequate provision for drainage and prevention of erosion. All driveways shall have eighteen (18) inch diameter culverts (minimum) to handle roadside drainage unless otherwise approved by the Department.
- D. Use of culverts at access point to Roads: Driveways or road connections to a County road shall not be constructed in such a way as to impede the normal flow of drainage in roadside ditches, culverts, under drains, bridges or other drainage works, or to cause such drainage to flow onto or across the driving surface of a County road. In the event that such an impediment results in damage to a County road, the Department may remove the impediment and bill the Responsible Party for the costs of repairs to the road, including labor, equipment and materials.

DIVISION 3-900 SURFACING REQUIREMENTS

Road surfacing as required by these Standards shall be either hot plant mix pavement or gravel, as herein specified. Other surfacing types may be acceptable upon review.

SECTION 3-905 HOT PLANT MIX PAVEMENT

Hot plant mix pavement, where required, shall be in accordance with Wyoming Public Works Standard Specifications. A job-mix formula shall be submitted to the Department for review and approval prior to construction.

SECTION 3-910 GRAVEL SURFACING

Gravel surfacing, where required, shall be in accordance with Wyoming Public Works Standard Specifications. The gravel surfacing gradation shall be submitted to the Department for review and approval during the project design period.

DIVISION 3-1000 VARIANCES FROM DESIGN AND CONSTRUCTION STANDARDS

Whenever there are practical difficulties involved in carrying out the provisions of these Standards, the BOCC, under the following circumstances, may grant a variance from the design criteria and construction specifications contained in these Standards.

1. If, by reason of exceptional topographic or physical conditions or other extraordinary and exceptional situation, or condition, the application of these Standards would result in peculiar and exceptional practical difficulties to, or exceptional and undue hardship upon, an individual proposing to construct a road or bridge.
2. A variance of these Standards may be granted provided relief will not result in substantial detriment to public health, safety and welfare, or substantial impairment of the Standards. Prior to taking action, the BOCC shall review the request for variance and, if necessary, refer any request for variance to the appropriate fire district, the Sheriff's Department and other interested agencies for comment. The BOCC shall make a determination on whether or not a variance request should be granted.

In reviewing such requests, the BOCC will, at a minimum, consider the following:

- A. The effect of using a lesser standard on public health and safety, including the ability of emergency vehicles to gain access using roads built to a lesser standard;
- B. The severity of the terrain crossed by the road alignment;
- C. The availability of alternative alignments where the same or more stringent road standards could be met with the same or less environmental damage;
- D. The length of road segments which will be built to a lesser standard; and
- E. The amount of snowfall anticipated and degree of exposure of the road surface to the sun.

Costs may be included in the review of a variance request, but will not be a primary factor for considering a request. If costs are considered, the BOCC shall consider the initial and long term costs. The applicant shall provide all cost data requested by the BOCC.

DIVISION 3-1100 ENFORCEMENT OF DESIGN AND CONSTRUCTION STANDARDS

Following construction of any public road, a certification shall be given by the Responsible Party's Engineer that construction has been completed in conformance with these Standards. In addition the Department may conduct inspections to determine if the construction meets these Standards. If the inspections disclose any work, in whole or in part, as unsatisfactory, the Department shall give the Responsible Party or Responsible Party's representative the necessary instructions for correction, and the Responsible Party shall comply with and execute such instructions. At the discretion of the Department, the County may withhold the granting of the future ROW Permits until such time corrective work is completed.

The Department may appoint an employee, construction inspector or other related technical officer or inspector, or other employee to act as an authorized representative

DIVISION 3-1200 VIOLATIONS

It shall be unlawful, per W.S. 24-1-104, for any person, firm, or corporation to construct, enlarge, alter, repair, move, improve, remove, excavate, convert or demolish any public improvements or common facilities or permit the same to be done in violation of these Standards. Responsible Parties who violate these Standards shall be required to correct such actions immediately.

If, in the opinion of the Department, an unsafe condition exists, the Responsible Party is not meeting the Standards, does not have a ROW Permit or the Responsible Party is not conforming to the approved traffic control plan, the Department may suspend ALL operations until the situation is corrected. If the Responsible Party does not remedy the situation immediately, the Department may have the problem corrected and bill the Responsible Party for any expenses incurred.

Except for emergencies, if the work and installation are not completed as stated and in accordance with the Standards as determined by the Department, the County shall give written notice of the defects to the Responsible Party. If satisfactory corrective work is not done within the required time limit, the work shall be in default and the County shall have the work completed and bill the Responsible Party. **In an emergency**, the Responsible Party shall make modifications immediately to protect the health, safety and welfare of the public.