County Public Right-of-Way Use for Utility Infrastructure Policy

Wilson County, Kansas

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INTRODUCTION

The Board of County Commissioner of Wilson County ("the Board") has the power under Kansas Statues Annotated 19-101a to regulate activities with the County Public right-of-way and to authorize and require permits and assess fees in connection with such regulation also including statue K.S.A. 17-1902(e) which prohibits the use or occupation not specific portion of the County Public right-of-way.

The policies, specifications, and stanards contain within the Wilson County Utility Installation Policy, have been established after careful review of standards and best practices of of other government agencies; recommedations of national associations of highway, public works, and utility officials; as well as review of national standards and codes governing utilities. This Utility Installation Policy also is based on the prior experience of Wilson County with utility permit operations, and its judgment with regard to proper design, construction and operation practices. This policy conforms generally with other standards under which the County operates, and provides reasonable requirements for the protection of the public interest in accommodating utilities within the County Publick right-of-way.

The purposes for the establishment of this Utility Installation Policy are to facilitate increased safety and convenience for the traveling public; preserve Wilson County's infrastructure; mitigate the impact of utilities on thes structural integrity, durability, and aesthetic quality of the County's roadways; provide for the accommodation of utilty facilities within the right-of-way, and establish procedures and controls for the issuance of permits, regulating any and all activities relating to utility facilities by the County. The permit system established herein makes known the intent of the utility company to carry out work within the County Public right-of-way by requiring eh advance submission of a written application; provides that the nature and extent of any utility work within the County Public right-of-way work shall be clearly defined by the utility company and agreed to by the County, established an administrative means for the County to coordinate the use of space within the County Public right-of-way and to hold the utility company responsible for such authorized work; and provides a means to grant approval for the authorized work and to establish records of all utility work and operations within the County Public right-of-way.

No person, firm, corporation, association, utility, or entity, shall enter upon the County Public right-of-way, or in any manner establish a physical presence on, upon, in or over the County Public right-of-way for the purpose of constructing, maintaining or repairing utilities or related facilities or appurtenances, temporary, permanent, private or public thereto, without the written express permission of Wilson County.

A permit allowing a Utility Company the privilege of placing its facilities in or on the County Public right-of-way does not constitute any permanent right of use. Removal, remodeling, maintenance or relocation of the facilities will be promptly accomplished by the owner at no cost to Wilson County.

Utility Companies who utilize subcontractors are responsible for subcontractor compliance with Wilson County Public Right-of-Way Use, Repair and Maintenance Policy and standards and permits issued pursuant to this Policy. Unsatisfactory work will be rejected and result in permit revocation and may result in denial of future permits.

Subcontractors must carry the required liability insurance as specified in the Wilson County Public Right-of-Way Use, Repair and Maintenance Policy unless the subcontractor is covered by the Utility Company insurance.

Utility Company and all subcontractors shall follow industry accepted construction and safety practices and follow applicable statues and regulation(s).

Periodic updates will be made to this Policy and permits and typical construction details included in this policy. The current version of the permits or details applies.

Non-compliance with any of the terms of this Utility Installation Policy or any permit or agreement issued pursuant to the Policy may be considered as cause for shut down of operations until compliance is assured to the satisfaction of Wilson County or County's Representative or revocation of the permit at the discretion of Wilson County or County's Representative. The cost of any work required by Wilson County in the removal of non-complying construction will be assessed against the Utility Company or ROW Occupant.

PERMITS AND STANDARDS

It is unlawful for any person to make or to cause or permit to be made any installation or construction of a utility upon County Public right-of-way under County jurisdiction without first obtaining from Wilson County a permit authorizing such construction.

The department shall issue a permit to construct utilities only if the applicant has the legal authority to occupy and use the County Public right-of-way for the purposes identified in the application for the permit.

No permit for maintenance shall be required when repair work within a County Public right-of-way is to be completed within a period of forty eight (48) hours. Also a permit is not required to install a street light, street tree, traffic sign, traffic signal, line markers and survey markers. Permit requirements pertaining to emergency construction are addressed in this section below.

Permits are required when utility facilities are installed, relocated, removed or maintained along, crossing over or under all County Public right-of-way. The Wilson County Commission has delegated authority to the Wilson County Road and Bridge Supervisor or County's Representative to approve and execute all Permits.

APPLICATIONS

Applications for permits shall be submitted in format and manner specified by Wilson County and shall contain the following:

- name, address, telephone, and facsimile number of the applicant of the facility to be installed, maintained, or repaired within the County Public right-of-way.
- description of the location, purpose, method of installation, and surface and subsurface area of the proposed construction.
- construction start date and end date or number of construction days.
- traffic control plan, if necessary.
- construction plans shall consist of three (3) sets of 8 ½" x 11" or 11" x 17" sheets; 24" x 36" sheets will only be accepted when smaller sheets would be illegible, that shall include a description of the proposed project, adequate drawings to indicate the location of the proposed utility with respect to the County Public right-of-way line and the edge of the road, noting all construction details such as depths, type of materials, operating pressures, voltages, vertical and horizontal clearances, etc.

Prior to construction, Wilson County shall reserve the right to review all construction staking of the project in accordance with approved permits.

Permit application for pipelines carrying hazardous materials shall display the names of company officials who can be contacted on a 24-hour basis in case of an emergency. The Utility Company shall notify Wilson County Road and Bridge Department of all changes in the calling list within seven (7) days of such change.

Validity of Application and Permit - A valid application shall consist of a complete application for permit, application fee, project time schedule, traffic control plan, project location maps and construction plans. A valid permit shall consist of an approved application for permit, permit fee, proof of insurance and updated project time schedule.

Revocation of Permit – In lieu of bond, Wilson County may revoke the permit and remove any work performed for failure to complete a project as described in the Permit or failure to comply with this policy. The Utility Company or ROW Occupant shall reimburse the County for any cost incurred by the County to restore the County Public right-of-way. The County will not authorize any other permit for the Utility Company or ROW Occupant until the Utility Company or ROW Occupant has either reimbursed Wilson County or restored the right-of-way.

Terms and Limitations - The approved permit shall specify the location, extent, and method of construction, the start date and duration of the project, the Permittee to whom the permit is issued, and any conditions placed on the permit.

Changes in the scope of work for any issued permit by Wilson County to a Utility Company or ROW Occupant will require prior review and approval by Wilson County Road and Bridge Supervisor.

Emergency Construction - If there is an emergency necessitating response work or repair, the Utility Company or ROW Occupant which has been granted permission hereunder to occupy the County Public right-of-way may begin that repair or emergency response work or take any action required under the circumstances, provided that the Utility Company or ROW Occupant notifies Wilson County Road and Bridge Supervisor no later than twenty-four (24) hours after beginning the work and timely thereafter meets any permit or other requirement had there not been such an emergency. Any damage to the County Public right-of-way will be restored in accordance with the Wilson County Public Right-of-Way Use, Repair and Maintenance Policy and this policy. The Utility Company or ROW Occupant shall take all reasonable safety measures and temporary traffic control measures consistent with the "Manual of Uniform Traffic Control Devices" (MUTCD), U.S. Department of Transportation, FHWA, or the State of Kansas Traffic Control Standards or the State of Kansas Traffic Control Standards, to protect the traveling public during repairs and cooperate fully with local law enforcement.

Final Inspection – To receive acceptance of the work authorized by a permit, completion of the work must be verified with a final inspection by the Wilson County Road and Bridge Supervisor or County's Representative. It is the Contractor's responsibility to call for a final inspection. If work or restoration is found to be defective or insufficient the Contractor shall complete said work and call for re-inspection.

ACTION ON APPLICATIONS FOR PERMITS TO CONSTRUCT

Notice of Approval of Application or Permit - Wilson County will return the Notice of Approval within fourteen (14) days of submission. Delivery of Notice of Approval does not constitute a permit without payment of permit fee.

Notice of Incomplete Application or Permit - If the application is deemed to be incomplete, Wilson County shall promptly advise the applicant in a written, electronic, or facsimile communication of the reasons for rejecting the application as incomplete.

Denial of Application or Permit - Wilson County hereby reserves the right to prohibit the use or occupation of specific portions and/or all of the County Public right-of-way. If the County denies a request to use or occupy a specific portion and/or all of the County Public right-of-way, the applicant shall be served a notice of such denial by first class mail. The notice shall indicate that the applicant shall have ten (10) days from the date of receipt of the notice to request a public hearing. Failure to do so shall constitute a waiver of the person's right to contest the denial before the governing body. The hearing shall be held by the governing body within thirty (30) days after the filing of the request therefore, and the applicant shall be advised by Wilson County of the time and place of the hearing. Following the public hearing, if the County governing body denies an applicant's request to use or occupy a specific portion and/or all of the County Public right-of-way such determination may be appealed to the district court.

Duration of Application and Permit - Applications for utility and all other infrastructure projects shall be valid for three (3) months from Application Received Date. Permits for utility and all other infrastructure projects shall be valid for six (6) months from the Notice of Approval Date. Applications for transmission pipeline and access entrances shall be valid for twelve (12) months from Application Received Date. Permits for transmission pipeline and access entrances permits shall be valid for eighteen (18) months from the Notice of Approval Date.

Notice of Construction - The Contractor or ROW Occupant must notify the Wilson County Road and Bridge Supervisor of a proposed construction start date two (2) weeks before commencement of work and one (1) day before work is initiated and again at the completion of all work. Notification procedure is to phone and email the contact person indicated on the Permit. If no answer, leave a voicemail message stating the utility company name, contractor name, location of work, contact person, permit number and call back phone number then follow up with an email with the same information. All work shall be completed with the designated construction time indicated on the agreements and permits.

Non-Transferability of Permits - Permits are not transferable from owner to owner.

Permit to be Available at Project Site - The permit or a copy of the permit shall be available for review at the project site for the duration of the project and shall be shown, upon request, to any law enforcement officer or any employee of a Wilson County agency, board, commission, or department with jurisdictional responsibility' over activities in the County Public right-of-way.

PAYMENT AND FEE SCHEDULE

Application Fee - Each applicant shall pay to Wilson County Road and Bridge Department an application fee for each application for permit submitted by applicant in accordance with the Wilson County Permit Fee Schedule.

All application fees are non-refundable.

All application fees are to be submitted with the application to the Wilson County Road and Bridge Department.

Permit Fee - Each applicant shall pay to Wilson County a permit fee for each approved permit submitted by applicant in accordance with the Wilson County Permit Fee Schedule.

All permit fees are non-refundable.

All permit fees shall be submitted fourteen (14) days prior to commencement of work.

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BONDS AND INSURANCE

PERFORMANCE, PAYMENT, AND OTHER BONDS

Contractor or ROW Occupant shall furnish a performance bond to Wilson County in the amount of at least equal to one hundred percent (100%) of the original contractor price of the project as security for the faithful performance of the work to be performed within the County Public right-of-way. If the contract price increases, an additional amount equal to one hundred percent (100%) of the increase. The Contractor or ROW Occupant shall furnish a payment bond to Wilson County in an amount of at least equal to one hundred percent (100%) of the original contract price. If the contract price increases, an additioinal amount equal to one hundred percent (100%) of the increase. The amount of the payment bond must be no less than the amount of the performance bond. These bonds shall remain in full force and effect during the term of the Project and continuing in full force and effect during the term of the Project until final completion is issused by Wilson County. The Contractor shall also furnish such other bonds as are required by Wilson County for work to be performed within the County Public right-of-way.

All bonds shall be in the form prescribed by Wilson County except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

If the surety on any bond furnished by Contractor or ROW Occupant is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of this policy, Contractor or ROW Occupant shall promptly notify Wilson County or County's Representative and shall, within twenty (20) days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of this policy and Wilson County.

Escrow Accounts - For small local public utility projects where not more than two road cuts within the County Public Right-of-Way will occur, Wilson County will allow the use of a "cash bond" that will be deposited in an Escrow Account to be submittted by the ROW Occupant or Contractor to Wilson County.

For work within an asphalt surface area, the bond amount shall be $40.00 per lineal of foot per two foot (2') wide section, anything over two foot (2') wide shall be rounded up to the next two foot (2') width.

Work performed in the County Public right-of-way, but is not in an asphalt surface area (e.g. gravel surface or dirt) the bond amount shall be $10 per lineal foot per two foot (2') wide section.

LICENSED SURETIES AND INSURERS

All bonds and insurance required by Wilson County shall be purchased and maintained by Contractor or ROW Occupant shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be requested by Wilson County or County's Representative.

CERTIFICATES OF INSURANCE

Contractor or ROW Occupant shall deliver to Wilson County or County's Representative, with copies to each additional insured and loss payee required by Wilson County, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor or ROW Occupant is required to purchase and maintain.

Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

Failure of Wilson County to demand such certificates or other evidence of Contractor or ROW Occupant's full compliance with these insurance requirements or failure of Wilson County to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor or ROW Occupant's obligation to maintain such insurance.

Wilson County does not represent that insurance coverage and limits established in this Policy necessarily will be adequate to protect Contractor or ROW Occupant.

The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor or ROW Occupant's liability under the indemnities granted to Wilson County under this Policy.

CONTRACTOR'S INSURANCE

Contractor or ROW Occupant shall purchase and maintain such insurance as is appropriate for the Work being performed within the County Public right-of-way and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under this Policy, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The policies of insurance required by Wilson County shall:

1. with respect to insurance required by Wilson County, be written on an occurrence basis, include as additional insured's (subject to any customary exclusion regarding professional liability) Wilson County or County's Representative, and any other individuals or entities identified by Wilson County, all of whom shall be listed as additional insured's, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insured's, and the insurance afforded to these additional insured's shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in this Policy or required by Laws or Regulations, whichever is greater;

3. include contractual liability insurance covering Contractor's indemnity obligations under Indemnification Section of this Policy;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty (30) days prior written notice has been given to Wilson County and Contractor and to each other additional insured requested by Wilson County to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Policy will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work; and

6. include completed operations coverage:

    a. Such insurance shall remain in effect for two years after final payment.

    b. Contractor shall furnish Wilson County and each other additional insured requested by Wilson County, to whom a certificate of insurance has been issued, evidence satisfactory to the County and any such additional insured of continuation of such insurance at final payment and one year thereafter.

The limits of liability for insurance required by Wilson County shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under the Contractor's Insurance Section of this Policy:

a. State:	Statutory
b. Applicable Federal (e.g., Longshoremen's)	Statutory
c. Employer's Liability	$ 500,000

2. Contractor's General Liability under the Contractor's Insurance Section of the Policy which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody, and control of the Contractor:

:

a. General Aggregate $ 2,000,000

b. Products - Completed Operations Aggregate $ 1,000,000

c. Personal and Advertising Injury $ 1,000,000

d. Each Occurrence (Bodily Injury and Property Damage) $ 1,000,000

e. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable.

f. Excess or Umbrella Liability

1) General Aggregate $ 5,000,000

2) Each Occurrence $ 5,000,000

3. Automobile Liability under the Contractor's Insurance Section of the Policy:

a. Bodily Injury:
Each Person $ 1,000,000
Each Accident $ 1,000,000

b. Property Damage:
Each Accident $ 1,000,000

c. Combined Single Limit of $ 1,000,000

4. The Contractual Liability coverage required under the Contractor's Insurance Section of this Policy shall provide coverage for not less than the following amounts:

a. Bodily Injury:
Each Person $ 2,000,000
Each Accident $ 2,000,000

b. Property Damage:
Each Accident $ 2,000,000
Annual Aggregate $ 2,000,000

5. The following entities shall be listed on policy as additional insureds:

a. Wilson County, Kansas and its officers, agents, and employees

INDEMNIFICATION

By accepting this permit and commencing the work, the Permittee agrees to indemnify and hold harmless Wilson County from all claims, actions, lawsuits or damages of any kind and description which may accrue to or be suffered by any person, corporations, other entity, or real or personal property by reason of performance of the work, character of materials used or manner of installations or construction, or the maintenance or operation of the installations, or improper occupancy of the County Public right-of-way or public or private real or personal property, and in the case any such claim is made or an action or lawsuit is commenced against Wilson County for damages arising out of any of the above causes, the Permittee shall, upon notice from the county of such claim or commencement of such action or lawsuit, defend the same at the Permittee's sole costs and expense shall fully satisfy any judgment after said lawsuit shall have been finally determined adversely to the county. This hold harmless and indemnification shall survive expiration of the permit.

Permittee assumes all liability for Permittee and any of its respective related entities' agents, employees, contractors, subcontractors, material suppliers, vendors, transport providers, designees and representatives.

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CONSTRUCTION STANDARDS

Kansas One - Call - In accordance with Kansas Statue Chapter 66: Public Utilities, Article 18: Utility Damage Prevention, any person excavating in the County Public right-of-way shall comply with the requirements of Kansas One-Call regarding notification of excavation and marking of subsurface facilities. Such person shall provide underground service location with the assigned number for the permit to excavate or other information as may be necessary to properly identify the proposed excavation.

Replacement or Change of Use of Facility – Replacement or change of use of existing Utility Company facilities with the same facilities or facilities of a different type, or design is to be considered as a new utility installation requiring a new permit, and all work shall adhere to this policy.

Change in Ownership – Wilson County Road Department shall be notified in writing of the names and addresses of the new owners within thirty (30) days after a Utility Company changes ownership.

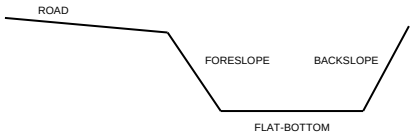
Abandon or Retire in Place – The Utility Company shall notify Wilson County Road and Bridge Supervisor when a utility has been abandoned or retired in place and is responsible for all costs associated with removal (or making safe in place) abandoned or retired in place utility. The Utility Company shall remove all above ground structures, pedestals, markers, manholes, and other structures or installations deemed necessary by the County Road and Bridge Supervisor or County's Representative.

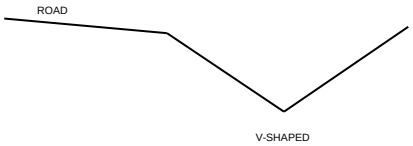
Discharge of Waste Material – Applications for a permit for the installation of utility facilities which may discharge materials into the waters of the United States or waters of the State shall comply with all applicable requirements of the Corps of Engineers, Federal, State and local environmental protection agencies with jurisdiction. A copy of any necessary permit and authorization shall be provided to Wilson County Road and Bridge Supervisor or County's Representative.

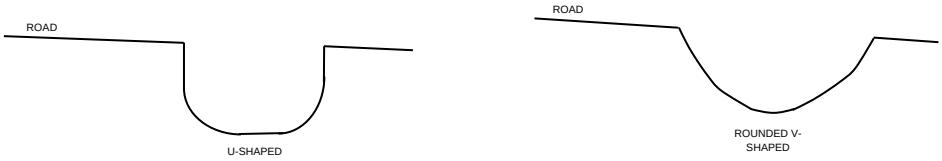
DITCH PROFILE AND GRADING

General – Properly constructed ditches should resist erosion, be self-cleaning, and discharge onto nearly level vegetated areas, thus maximizing the length of time between regarding, thereby reducing maintenance costs. Ditches should be located on the uphill side of the roadway to prevent runoff from flowing onto and over the road surface.

Grading – Ditches should extent the shoulders with smooth transition to a shallow foreslope. Side slopes of 4:1 are recommended, with 2 ½:1 being the maximum slope. Excavate roadway ditches at a bottom elevation 1:2 feet below the road base and the longitudinal grade of the ditch should be one percent (1%) or more. Deeper ditches may be necessary to provide positive drainage patterns. The ditch bottom should be rounded V-shaped (preferred), parabolic, or flat, as shown below, and at least two feet (2') wide to disperse the flow and slow the velocity. Do not construct U-shaped ditches. Ditches shall have a one percent (1%) gradient, with one-half percent (1/2%) minimum, to insure proper flow.







Lining – Line ditches which have a channel slope less than five percent (5%) with grass, and line those which have a five percent (5%) or greater channel slope with geo-fabric or aggregate filter underlain riprap or other material. Line ditches as soon as possible to prevent erosion and to maintain the ditch profile. Whenever possible, excavate ditch only as far as lining can catch up before the next expected or potential rainfall event.

Aggregate for ditch lining shall be specified by construction plans or by the County Road and Bridge Supervisor for County's Representative and shall meet the requirements of Table 1: Stone for Aggregate Ditch Lining (D_{50}) under Section 1114: Stone for Riprap Ditch Lining and other Miscellaneous Uses in the KDOT Standards Specifications for State Road and Bridge Construction. The gradation requirements are as follows:

Table 1: Stone for Aggregate Ditch Lining (D_{50})

Size D_{50}	Max. Size	Percent retained on standard square mesh sieves*										
Inch	Inch	8"	6 ½"	6"	5"	4"	3"	2 ½"	2"	1 ½"	1"	½"
1	2										50	85
2	4							15*	50		85	
3	6					15*	50			85		
4	8				15*	50			85			
5	10		15*		50			85				
6	12	15*		50			85					

* Suggested

Ditch lining aggregates shall meet the following minimum quality requirements:

Specific Gravity, sat. & surf. dry, min. (KT-6, Procedure I)	2.40
Soundness, min. (KTMR-21)	0.85
Wear, max. (KTMR-25)	45%
Absorption, max. (KT-6 Procedure I)	6.0%

Cleaning & Maintenance – Roadside ditches play a substantial role in providing adequate drainage for the roadway. It is important that the road ditches be properly shaped and sloped and remains free of vegetation and debris. Check all ditches two (2) times a year or after heavy precipitation events, when they become clogged with sediments or debris, to prevent ponding, bank overflows, and road washouts. All entrance culverts shall remain clear with no obstructions, to promote good drainage. Regrade ditches **only when absolutely necessary** and line with vegetation or stone as necessary. If regrading of ditches

is necessary if should be limited to late spring or summer, after spring rains have diminished and drier weather has set in, and when vegetation can re-establish itself.

BEST MANAGEMENT PRACTICES (BMP)

Determine limits of disturbed area and install perimeter BMPs – Flag area to be disturbed by grading, cutting, filing and utility installation. Flag limits of area to be disturbed o keep from unnecessarily disturbing land. Assess site drainage and pick a standard drawing of BMPs to use on this site. Install silt fence where water sheets off of the construction site.

Grading/Excavating – Install all perimeter BMPs prior to a grading or excavating activities.

Stabilize Stockpiles – Install BMPs to stabilize stockpiles of dirt or other erodible material to prevent sediment from reaching the street or breaching perimeter protection. This might include covering the stockpile, or additional silt fence around the stockpile.

Temporary Construction Entrance – A temporary construction entrance is required at the beginning of the grading process and shall be constructed of two to three inch (2"-3") rock and shall be at least twenty-four feet (24') wide and fifty feet (50') long (unless length has to be less due to inadequate right-of-way). Thickness of the rock shall be adequate to support construction traffic and must be a minimum of six inches (6"). The temporary construction entrance will occasionally need to be cleaned of accumulated mud and dirt.

Curb Inlet Protection – Use standard gravel filter bag arrangement for curb inlet protection. The bags are burlap or synthetic net about twenty-four inches (24") long and six inches (6") high. Bags are filled with three-quarter inch (¾") screened rock and placed around the inlet are with no evident gaps between the bags.

Area Inlet Protection – If the area inlet is complete, gravel filter bags as described above map be placed around the inlet. If the inlet is not completed it may be necessary to use staked hay bales placed around the inlet. Hay bales should be tightly packed and staked down with at least two (2) 2" x 2" x 4' stakes per bale.

Maintenance – The Contractor is responsible for maintaining and repairing all BMPs as needed throughout construction. Failure to have BMPs properly placed and maintained will delay required inspections.

Inspections – The Contractor shall perform periodic inspections to ensure erosion and sediment control measures are functioning as designed. In addition to periodic inspections, an inspection shall be conducted of BMPs after each rain event. Any problems noted during these inspections shall be corrected immediately.

Installation of Sediment Fence – Dig a trench at least six inches (6") deep along the fence alignment. Drive posts at least eighteen inches (18") into the ground on the downslope side of the trench. Space posts a maximum of six feet (6'). Fasten support wire fence to upslope side of posts, extending six inches (6") into trench. Attach continuous length of fabric to upslope side of fence posts. Try to minimize the number of joints. Avoid joints at low points in the fence line. Where joints are necessary, fasten fabric securely to support posts and overlap to the next post. Place the bottom one foot (1') of fabric in the six inch (6") deep trench (minimum), lapping toward the upslope side. Backfill trench with compacted earth or gravel.

Sediment Fence Maintenance – Inspect sediment fences at least once a week and after each rain event. If the fabric of the sediment fence collapse, tears, decomposes or becomes ineffective, replace promptly. Remove the sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence. Contractor shall take care to avoid damaging or undermining the fence during cleanout.

Final Grading – BMPs may be removed in order to complete final grading and sodding of the construction area. If sodding of the construction is delay, the company or owner is required to maintain BMPs until the sod can be put down.

SEEDING AND SODDING

All disturbed grassed areas within the County Public right-of-way shall be rehabilitated by covering with topsoil and seeding or sodded in accordance with the specification stated below. Areas shall be maintained until turf is established.

Grass Seed – Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.

Seed Species – Seed of grass species as follows:

Type "A" seed mixture shall be used for established lawns. Type "A" seed mixture shall be as follows:

Kinds of Seeds	Minimum Pure Live Seed (%)	Rate of Pure Live Seed (lbs. per acre)
Alta Fescue or Kentucky 31 Fescue (Festuca Elatior Var. Arundinces)	75	25
Rye Grass (Lolium Perenne or L. Multiflorum)	80	25
Kentucky Blue Grass (Poa. Pratensis)	75	20
Creeping Red Fescue (Festuca Rubra)	85	10
Total		80 lb/acre

Type "B" seed mixture shall be used for road ditches and right-of-ways, established waterways and other areas designated. Type "B" seed mixture shall be as follows:

Kind of Seeds	Minimum Pure Live Seed (%)	Rate of Pure Live Seed (lbs. per acre)
Alta Fescue or Kentucky 31 Fescue (Festuca Elatior Var. Arundinces)	75	90
Rye Grass (Lolium Perenne or L. Multiflorum)	80	50
Total		140 lb/acre

Lime – Lime shall be agricultural limestone, complying with ASTM C 602, containing a minimum eighty-five percent (85%) calcium carbonate equivalent, Class O, with a minimum ninety-five percent (95%) passing through No. 8 sieve and a minimum fifty-five percent (55%) passing through No. 60 sieve.

Fertilizer – Fertilizer shall be uniform in composition and free flowing. Fertilizer shall be 12-12-12. Apply fertilizer at a rate of 500 pounds per acre.

Mulches – Provide air-dry, clean, and mildew-free with no viable seeds of noxious weeds, threshed straw of wheat, oats, or barley. Apply mulch at a rate of two (2) tons per acre and anchored into the soil a minimum of three inches (3") to provide standing stubble mulch.

Soil Stabilizer – Stabilize the mulch with a synthetic emulsion similar to HYDRO STOCK 8500. Apply stabilizer uniformly in accordance with the manufacturer's recommendations. In lieu of emulsions, it is acceptable to embed or anchor the mulch into the soil by using an approved disc type roller having flat serrated discs spaced not more than ten inches (10") apart and equipped with cleaning scrapers.

Water - Water shall be free from oil, acid, alkali, salt, etc., and shall be from an approved source prior to use.

Lawn Preparation – Limit lawn subgrade preparation to areas to be planted. Prior to fertilizing, liming, and seeding operations and after final grading, the areas to be seeded shall be harrowed or raked to provide a smooth seed bed.

Seeding – Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds five miles per hour (5 mph). Evenly distribute seed by sowing equal quantities in two different directions at right angles to each other. Do not use wet seed or seed that is moldy or otherwise damaged. Sow seed at a rate of 8 to 10 pounds/1,000 square feet. Rake seed lightly into top one-eighth inch (1/8") of topsoil, roll lightly. Watering with fine spray is optional.

Acceptance of Seeded Area - Acceptance of seeded areas will be based upon having a dense, well-rooted turf, capable of preventing all erosion. Grass areas which show signs of erosion, ruts, etc., will not be acceptable. Seeded areas shall be mowed to a height of three inches immediately prior to inspection. Lawns that do not comply with the County requirements shall be reestablished until lawns are satisfactory.

TRAFFIC CONTROL

Traffic Control Plan - All utility work within the County Public right-of-way, or involving equipment parked in the County Public right-of-way requires a Traffic Control Plan. The Traffic Control Plan is to be provided by the Utility Company or ROW Occupant for all Right-of-Way Use Permits and Agreements, whenever such Utility Company work interferes with the movement of traffic or where the work or equipment is located within the County Public right-of-way. All traffic control plans must be preapproved by Wilson County Road and Bridge Supervisor or County's Representative.

Warning to Public – The traveling public shall be warned of the activities of the Utility Company or ROW Occupant or individuals involved with utility construction and maintenance within the County Public right-of-way by means of signs, flaggers, and traffic control devices as outlines in the latest edition of the "Manual of Uniform Traffic Control Devices" (MUTCD), U.S. Department of Transportation, FHWA, or the State of Kansas Traffic Control Standards.

Flaggers – Flaggers will be required according to the MUTCD when utility construction and maintenance work within the County Public right-of-way (including pavement) is in progress. Control by flaggers is for

the safety of the workers and the traveling public. Flaggers must wear ANSI Class II safety vests and high visibility headwear at all times when flagging traffic.

RESTORATION OF THE PUBLIC RIGHT-OF-WAY

Disturbed Areas – Areas of the County Public right-of-way disturbed by the installation, maintenance, removal and relocation of utilities shall be kept to a minimum with special care taken to avoid disturbing existing drainage facilities.

Backfill Requirements – All excavations will be backfilled immediately after work is complete, or as directed by Wilson County Road and Bridge Supervisor or County's Representative, and shall comply with the Wilson County Public Right-of-Way Use, Repair and Maintenance Policy under the Road Surface and Base Design Section.

Road Replacement - Roadways will be repaired in accordance with the Road Design, Repair and Maintenance Section which is a part of the Wilson County Right-of-Way Use, Repair and Maintenance Policy. Notify the County Road and Bridge Supervisor of the schedule for paving to provide an opportunity for the County or County's Representative to inspect the repair while in progress. Failure to give adequate notice is basis for withdrawal of the permit as well as having the work rejected.

Sidewalk and Curb Replacement - Sidewalk and curb replacement shall be poured and finished to match existing sidewalk & curb. Remove sidewalk and curb to the nearest joint. Concrete shall be 4,000 psi with air entrainment, cured with a spray-on curing compound, and protected from hot and cold weather for seven (7) days when necessary. Sidewalk shall not be less than four (4) inches thick.

Cleanup and Restoration Time - Immediately after completion of a project within the County Public right-of-way, the road and right-of-way shall be returned to normal grade and elevation with adequate compaction of backfill material and all excess or undesirable material removed by the Utility Company. All destroyed vegetation shall be replaced by the Utility Company by sodding, seeding, fertilizing or mulching as required by Wilson County or County's Representative in conformity with the Wilson County Public Right-of-Way Use, Repair and Maintenance Policy.

Erosion Control – Adequate protection against erosion shall be provided by the Utility Company or ROW Occupant in disturbed areas that are susceptible to erosion. Such protection by means in the form of rock rip-rap, wash checks, hay cover or other material that does not interfere with county maintenance operations and is approved by Wilson County Road and Bridge Department Supervisor or County's Representative.

Restoration Methods - All materials and construction methods used to restore the roadway surface, base and subbase shall be equal to or better than that required by the Wilson County Right-of-Way Use, Repair and Maintenance Policy and current edition of the "Kansas Department of Transportation Standard Specifications for Road and Bridge Construction."

Ditches - Restore all ditches and slopes to the original configuration.

Yards - Disturbed areas in yards shall be smoothed and hand raked. All areas shall be sodded except for trenches or plow marks less than twelve (12) inches wide, which shall be seeded and mulched. Any landscaping items, shrubs, and trees destroyed or damaged by the work shall be replaced.

Repair - Any Occupant of the County Public right-of-way is hereby required to repair all damage to a County Public right-of-way caused by the activities of a Utility Company or ROW Occupant for which permission has been given hereunder, or of any agent affiliate, employee, or subcontractor of that Occupant, while occupying, installing, repairing or maintaining facilities within the County Public right-of-

way and to return the Public right-of-way, to its functional equivalence before the damage pursuant to the applicable current policies, permits and agreements of Wilson County. If the Utility Company or ROW Occupant fails to make the repairs required by Wilson County, the County may affect those repairs and charge the Utility Company or ROW Occupant the cost of those repairs.

Settlement - The Contractor shall be responsible for repairing any settlement resulting from this work for one year after work is completed.

OVERSIZE/OVERWEIGHT VEHICLES

Permit Required – No person shall operate or move within a Wilson County Public Road, or cause another to operate or move, a vehicle or combination of vehicles if vehicle or combination of vehicles is of a size or weight of vehicle or load exceeding the maximum specified under Article 19 of Chapter 8 of the Kansas Statues Annotated, and amendments thereto, or of a height exceeding the maximum specified at K.S.A. 17-1914, and amendments thereto, without first receiving Permit from Wilson County for such operation.

The following maximum dimensions and weight shall apply to the permit:

Max. Width	16 ft., 6 in.
Max. Length	126 feet
Max. Height	15 feet
Max. Single, non-drive axle	22,000 lbs
Max. Single, drive axle	24,000 lbs
Max. Tandem axle	45,000 lbs
Max. Triple axle	60,000 lbs
Max. Quad or more axle	65,000 lbs
Max. Gross Weight	150,000 lbs

Jurisdiction – The permits issued by Wilson County for Oversize/Overweight Vehicles only applies to County Roads under the jurisdiction of the Wilson County, Kansas as authorized by the Wilson County Board of Commission. The Oversize/Overweight Vehicle Permit does not release the Permittee from complying with other existing laws that may apply to the movement or from obtaining additional permits which my apply to the movement on other roadways being used, such as State, Private or Municipal roads.

Professional Consultation – The Wilson County is authorized and has sole discretion to utilize professional consultants for all or any portion of the review of an Movement of Oversize/Overweight Load Permit application. When the County determines professional consultation is necessary, the Applicant shall deposit an amount that the County estimates as compensation for professional consultation. The County shall then retain the professional consultant on the matters determined necessary. If the deposited amount is greater than the actual consultation fee, the overage shall be refunded to the Applicant upon Permit issuance or denial. If the deposited amount is less than the actual consultation fee, the underage shall be paid by the Applicant prior to Permit issuance.

Carrier Responsibility – Any Permittee who accepts a permit issued by Wilson County shall be deemed to have agreed to the following conditions: (a) to be knowledgeable of the laws contained in K.S.A. 1996 Supp. 8-1911, as amended, and there standards and policies; (b) to hold the County harmless, and to indemnify the County as immune from all suits, claims or damages arising from the movement of vehicles; and (c) to pay Wilson County for damages within the County Public right-of-way caused by the permitted vehicle.

Public and Private Liability – The Permittee assumes all responsibility for injury to persons or damage to public or private property, including his own, caused directly or indirectly by the transportation of vehicles or vehicles and objects authorized under the Oversize/Overweight Vehicle Permit. The Permittee agrees

to hold Wilson County harmless from all suits, claims, damages, or proceedings of any kind, and to indemnify Wilson County for any claim it may be required to pay arising from the movement.

Liability Insurance – Permits are not valid if insurance expires. The Applicant, driver(s), vehicle(s) and/or load(s) thereon shall carry liability insurance in the following amounts: (a) Housetrailers, manufactured homes, and mobile homes not exceeding 16 ½ ft in width: insurance amounts as provided by K.S.A. 8-1911(h)(3), and amendments thereto;

(b) Automobile Bodily Injury liability – each person ..... $ 500,000
Automobile Bodily Injury liability – each accident ..... $ 1,000,000
Automobile Property Damage liability – each accident ..... $ 1,000,000
Automobile Single Limit policy ..... $ 1,000,000
General Liability – per occurrence/aggregate ..... $ 1,000,000

Proof of insurance shall accompany the vehicle and/or load and person insured during movement in Wilson County.

Legal Load Heights and Weights – The maximum legal heights and weights allowed on Wilson County roadways are the following:

Legal Width ..... 8 ½ ft.
Legal Height ..... 14 ft.
Legal Length (Single Motor Vehicle) ..... 42 ½ ft.
Legal Length (Truck-Trailer Combinations) ..... 65 ft.
Legal Length (Tractor-Trailer Combinations) ..... No Limit
Legal Length (Single Semi Trailer) ..... 59 ½ ft.
Legal Length (Each Trailer when pulled in Tandem) ..... 28 ½ ft.

Single Axle ..... 20,000 lbs
Tandem Axle ..... 34,000 lbs
(Tandem axles with centers less than forty inches (40”) apart are counted as one axle)

Maximum Gross Weight Limit ..... 80,000 lbs
(Interstate Highway)
Maximum Gross Weight Limit ..... 85,500 lbs
(Other Highways)

(The weight on any group of axles is limited by bridge postings.)

Route Check – The Pemittee shall check the proposed route of travel for adequate clearance, road detours, construction projects, and other conditions that may affect the movement of an oversize/overweight vehicle. All county road and bridge load postings must be obeyed. For information on roadway/bridge conditions/load postings, contact the Wilson County Road and Bridge Department.

Validity of Permit – Any of the following actions shall immediately void the permit and subject the Permittee to appropriate legal action: (a) Misrepresentation of information set forth in an application for permit; (b) Any operation on Wilson County roads or bridges posted for a load limit less than the gross weight of the move; (c) Any operation on closed Wilson County road or bridges closed to traffic; (d) Any operation on roadways or bridges that are not maintained or under the jurisdiction of Wilson County; (e) a change or erasure on the issued Oversize/Overweight Vehicle permit.

Times of Movement – Movements of oversize/overweight vehicle or combination of vehicles shall be made one-half hour before sunrise to one-half hour after sunset on weekdays (Monday through Friday) and from one-half hour before sunrise to noon on Saturdays. Movements shall not be made from noon on the day proceeding and continuing until daylight of the 1st day after the holidays here listed: New Year’s Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas, except with the approval of the Wilson County Road and Bridge Department Supervisor or when emergency repair movements are necessary and in the best interest of public safety and welfare.

Speed – Maximum speed shall be 45 M.P.H. on all permit movements or 5 M.P.H. above the minimum posted speed limit except when otherwise specified on the permit. Legal weight and legal height vehicle or combination of vehicles are allowed to travel at the legal maximum speed limit.

Weather Conditions – When visibility is unduly impaired by rain, snow, fog, smog, or at any time travel conditions are considered to be unsafe by the Wilson County Road and Bridge Department, state or local police, the police may direct or escort the movement to a place of safety off the roadway, and movements shall be postponed until weather conditions permit a safe move.

Flagging – The movement requires the display of clean, plain, red or orange flags that is not less than 12 inches square. One flag shall be displayed at each of the four corners of the vehicle or load; and if any portion of the load extends beyond the width of the corner flag, one additional flag shall be displayed at the widest point on each side of the vehicle or load.

Escorts – When escorting loads more than fourteen feet (14') wide, the following conditions apply: (a) A front and rear escort vehicle is required for vehicles/loads that exceed fourteen feet (14') in width or ninety feet (90') in length; (b) Warning signs must be displayed on the front of the permit vehicle and on the rear of the permit vehicle or load if the vehicle, load, or combination exceed legal length or a width of ten feet (10'); (c) When moving an oversize/overweight load, the driver of each escort vehicle and the person driving the permitted vehicle shall have the ability to communicate verbally with each other, using two-way equipment; (d) Unless conditions dictate a different following distance, escorting vehicles shall travel at a distance not to exceed three hundred feet (300') in front or three hundred feet (300') to the rear of the load; (e) Warning lights shall be installed on the top of each escort vehicle and shall be in good operating condition, emit a rotating or flashing amber light, be mounted on top of the towing vehicle, and be readily visible at a distance of not less than 1,000 feet.

Warning Sign – A warning sign shall be used by movers of oversize/overweight loads in the following manners and circumstances: (a) Each vehicle transporting oversize manufactured houses or modular sections of buildings shall have an oversize warning sign attached to the rear of the manufactured home or modular section being transported; (b) Oversize/Overweight loads shall have attached to the front of the transporting vehicle and to the rear of the load an oversize warning sign; (c) Warning signs shall be readily visible from a distance of five hundred feet (500') from one-half hour before sunrise to one-half hour after sunset and shall be removed from the vehicle when the load being transported does not exceed legal dimensions; (d) An escort warning sign or oversize warning sign shall be attached to the front or to the top of each vehicle preceding the load being transported, and a similar sign shall be attached to the top or to the rear of the vehicle trailing the load being transported.

Vehicles Used – The vehicles and equipment used to make movements within Wilson County Public right-of-ways shall be properly licensed, registered, insured, operated, and equipped in accordance with the Laws of the State of Kansas or any political subdivision or administrative agency thereof having jurisdiction. Also, the vehicles and equipment used shall be designed, built and have the capacity to safely make the move.

Common Regulations – (a) An oversize/overweight permit shall be carried in the permitted vehicle. The permit shall be made available for inspection by any law enforcement authority upon request. An enforcement authority may revoke a permit if the permit vehicle operator or permit holder violates the terms of the permit. For the operator of a permitted vehicle, the effect of having a permit revoked is the same as operating without a permit. After revoking a permit, an enforcement authority may take enforcement action against the permit vehicle operator, the permit holder, or both; (b) Any vehicle and/or load being moved shall not be left unattended while located in the County Public right-of-way; (c) When approached by any emergency vehicle, applicant shall immediately move far enough to one side of the roadway to allow sufficient clearance for the passage of such emergency vehicle; (d) The movement shall

not impede other traffic in an unreasonable manner and at no time shall traffic be blocked from use of the County roadway.

TRAFFIC AND PEDESTRIAN SAFETY

Execution – Operations shall be so conducted at all times as to permit safe and reasonably free-moving travel over the County roadways within the limits of the work. If Wilson County or County's Representative finds at any time, that proper signing is not in place, or that conditions may not permit safe travel through the work area, the Permittee (upon being notified by the County) shall immediately stop work, and take the necessary steps to correct any traffic safety concerns.

Signs - The Permittee shall provide all safety measures for the movement of traffic and pedestrians in compliance with the version current in Kansas of the MUTCD. These include all signs, warning devices, barricades, flaggers and equipment. Warning devices, signs, and barricades shall be kept clean and in good repair.

Flaggers - Flaggers will be required when one lane of traffic is closed or obstructed, except on local streets inside subdivisions.

Damage to Road - If signs, pavement or other facilities are damaged, and may be hazardous for traffic, the damage shall be immediately repaired by the Contactor or ROW Occupant.

Open Excavations - Open excavations shall be fenced if left unattended. Excavation near the roadway shall be cribbed or sheeted if necessary to prevent damage to the roadway.

STOP WORK ORDER, PERMIT MODIFICATION, AND PERMIT REVOCATION

When Wilson County has determined that a ROW Occupant has violated any of the applicable policies or permits that a project poses a hazardous situation or constitutes a public nuisance, public emergency, or other threat to the public health, safety, or welfare, or when the County determines that there is a paramount public purpose, Wilson County or County's Representative is authorized to issue a stop work order, to impose new conditions upon a permit, or to suspend or revoke a permit by notifying the Permittee or ROW Occupant of such action in a written, electronic, or facsimile communication.

Enforcement – Wilson County prohibits unauthorized work to be perforeed within the County Public right-of-way in accordance with Kansas Statue 68-545. Any occupation of the Wilson County Public right-of-way without first obtaining written permission from the County shall be guilty of a misdemeanor. A citation resulting in fines may be issued to the Contractor or ROW Occupant. Unauthorized work performed without Wilson County or County's Representative inspecting the work may be required to be removed and reinstalled with proper inspection by Wilson County or the County's Representative. All disputes in regard to citations will be handled through the Wilson County District Court in accordance with County Codes and Regulations.

Conformity to Laws - The project shall conform to all applicable laws, regulations and codes covering said installations. All construction shall conform to regulations of governmental agencies for the protection of the public.

POST-EXCAVATION REPAIR, MAINTENANCE, AND PAVEMENT FAILURE

Repair and Maintenance Obligation of Occupant - Each Occupant that causes construction to be done in the Wilson County Public right-of-way shall be responsible to maintain, repair, or reconstruct the project

site the so as to maintain a condition acceptable to Wilson County or County's Representative until such time as the County Public right-of-way is reconstructed, repaved, or resurfaced by Contractor.

Subsurface or Pavement Failures - In the event that subsurface material or pavement over or immediately adjacent to any excavation should become depressed, broken, or fail in any way at any time after the work has been completed, the Wilson County Road and Bridge Supervisor shall exercise his or her best judgment to determine the person(s) responsible, if any, for the failure in the subsurface or surface within the County Public right-of-way and shall designate such person as the responsible party. The Road and Bridge Superintendent shall notify said person(s) of the condition, its location, and the required remedy, and such person(s) shall repair or restore, or cause to be repaired or restored, such condition to the satisfaction of the Road and Bridge Supervisor within seventy-two (72) hours of the notification. The Supervisor may extend the time for the responsible party to repair or restore the affected County Public right-of-way.

Repair by the County - If, in the judgment of the Wilson County Road and Bridge Supervisor, the site of an excavation is considered hazardous or if it constitutes a public nuisance, public emergency, or other imminent threat to the public health, safety, or welfare that requires immediate action, the Road and Bridge Supervisor may order the condition remediation by a written, electronic, or facsimile communication to the person(s) responsible, if any for remedying the condition and shall designate such person as the responsible party.

Any Contractor performing work within the County Public right-of-way is hereby required to repair all damage to the County Public right-of-way caused by the activities of that ROW Occupant for which permission has been given hereunder, or of any agent affiliate, employee, or subcontractor of that occupant, while occupying, installing, repairing or maintaining facilities within the County Public right-of-way and to return the public right-of-way, to its functional equivalence before the damage pursuant to the applicable current policies, permits and agreements of Wilson County. If the Contractor fails to make the repairs required by Wilson County, Wilson County may affect those repairs and charge the Permittee or Contractor the cost of those repairs. The cost of repairs will compensate Wilson County for any costs associated with the administration, construction, consultants, equipment, inspection, notification, remediation, repair, restoration, or any other actual costs incurred by Wilson County that were made necessary by reason of the repair or restoration undertaken by Wilson County.

Relocation of Utilities - Whenever requested by Wilson County, in order to accomplish construction and maintenance activities directly related to improvements for the health, safety and welfare of the public, an Occupant promptly shall remove its facilities from the County Public right-of-way or shall relocate or adjust its facilities within the County Public right-of-way at no cost to the political subdivision. Such relocation or adjustment shall be completed as soon as reasonably possible within the time set forth in any request by Wilson County for such relocation or adjustment. Any damages suffered by Wilson County or its Contractors as a result of such ROW Occupant's failure to timely relocate or adjust its facilities shall be borne by such Permittee or ROW Occupant.

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ROAD DESIGN AND REPAIR STANDARDS

ROAD DESIGN

Design Speed – Wilson County will, when conditions allow, design and maintain roads to the maximum speed allowed by Kanas Statues. K.S.A. 8-1558 establishes a maximum speed limit on any county or township highway, 55 miles per hour, except when a special hazard exists that requires lower speed for compliance with K.S.A. 8-1557. Local authorities may alter the maximum speed limit in accordance with K.S.A. 8-1560(h).

Width of Road - The road width is defined as the combined width of traveled way and the shoulders. The minimum width of traveled way for rural roads is sixteen feet (16'), and the minimum shoulder is two foot (2'). These minimum values are to be increased based on road classification, design speed, and traffic levels as shown in Table 2: Total roadway width (ft) by road classification below:

Table 2: Total roadway width (ft) by road classification

Design Speed	Rural Secondary Roads		Minor Roads
	Class 1	Class 2	Class 3
35	18 ft	18 ft	18 ft
40	18 ft	18 ft	20 ft
45	20 ft	20 ft	20 ft
50	20 ft	20 ft	20 ft
55	22 ft	----	20 ft

Note: Total roadway width includes the width of both traveled way and shoulders.

Intersections

A.) Roads shall be laid out as to intersect as nearly as possible at right angles. No road shall intersect any other road at an angle of less than seventy degrees (70°).

B.) Road jogs with center line offsets of less than one hundred twenty-five feet (125') shall not be permitted.

C.) Property lines at road intersections shall be rounded with a minimum radius of twenty-five feet (25').

Intersection Sight Distance - The driver of a vehicle approaching an at-grade intersection should have an unobstructed view of the entire intersection, including any intersection traffic-control devices, and sufficient lengths of the intersecting road to permit the driver to anticipate and avoid potential collisions. Guidelines for intersection sight distance at intersection between very low-volume local roads are discussed below:

Use the following procedure for determining required signing based on sight distance:

A.) Determine the operating speed for each intersection approach.

B.) Using the operating speed, determine the intersection sight distance from Table 3: Intersection Sight Distance.

C.) The observer with the sighting rod and the assistant with the target rod should position themselves on different approaches at the appropriate distance from the intersection.

D.) The observer sighting over the sighting rod should determine if the top of the target rod is visible. If the target rod is visible, then the clear sight triangle has been achieved.

E.) If the clear sight triangle is less than the distance given for stop control, stop signs should be used.

F.) If the clear sight triangle is greater than the distance given for stop control, yield signs may be used.

G.) If the clear sight triangle is greater than the distance given for no control, no control signs are required based on sight distance.

H.) The intersection sight triangle analysis should be performed for all legs considering traffic approaching from both the right and the left.

If further guidance is needed for conditions not addressed in this section, refer to AASHTO *Green Book*, Fourth Edition (2001), pages 654 to 681.

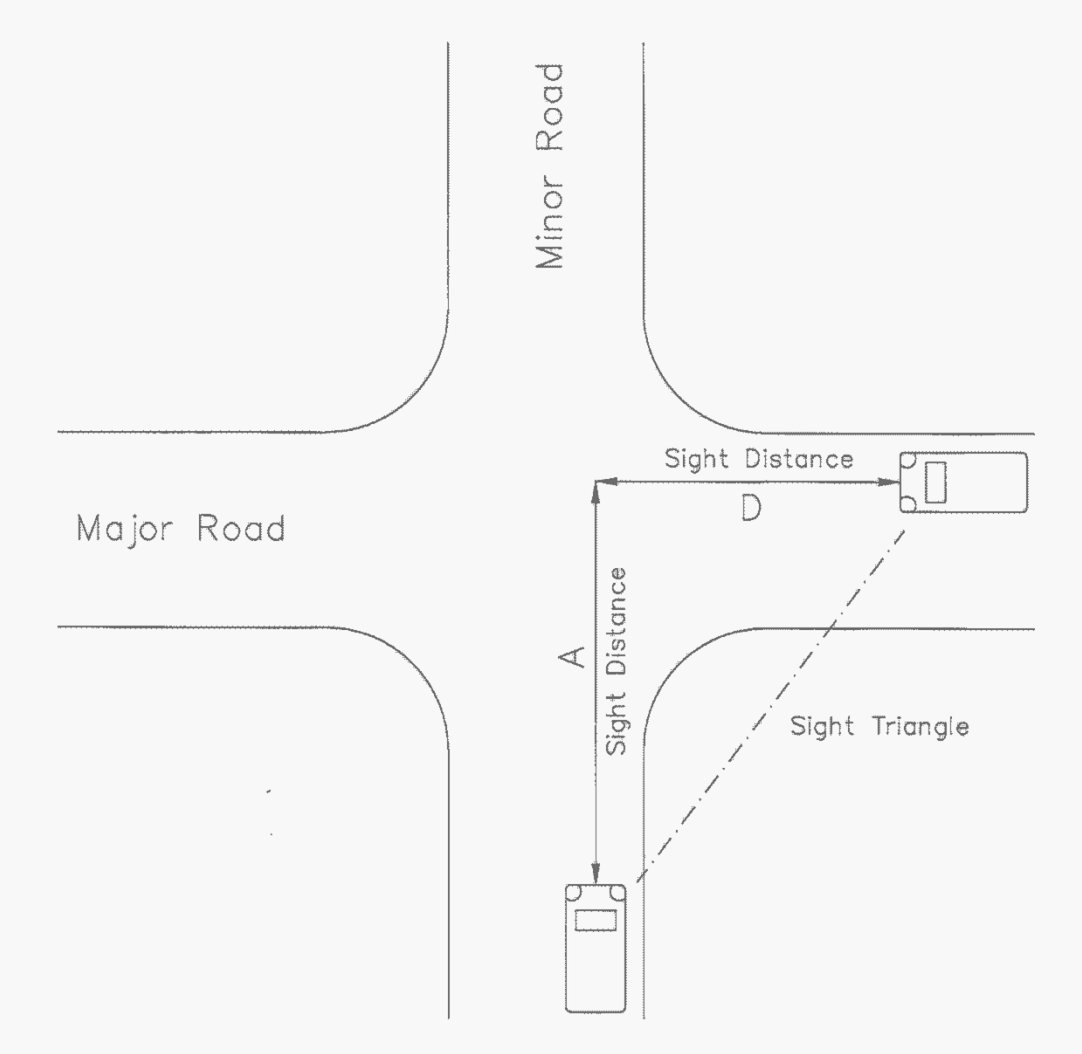

Table 3: Intersection Sight Distance							
	Distance (ft)	**Operating Speed (mph)**					
		10	20	30	40	50	60
Stop Control	D	110	225	335	445	555	665
	A	50	50	50	50	50	50
No Control	D	---	90	140	195	245	325
	A	---	90	140	195	245	325

[1] values in the table are for passenger cars on 3% grade, see AASTHO Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤), Chapter 4, Intersection Sight Distance, page 40 – 47 for adjustment factors.

[2] downgrades require an increased distance

[3] remove vegetation higher than three (3) feet in the clear sight area

Stopping Sight Distance - The length of road that is visible ahead of the driver should be long enough to enable a vehicle traveling at the design speed to stop before reaching a stationary object in the road. The design criteria for stopping sight distance on very low-volume roads vary with traffic volumes levels and the proximity of intersections, narrow bridges, railroad-highway grade crossings, sharp curves and steep grades, but the design criteria does not vary between road classifications of county roads. Sight distance criteria applicable to new construction projects and to existing county roads are presented below in Table 4: Minimum sight distance (ft) for specified design traffic volumes and location types.

Table 4: Minimum sight distance (ft) for specified design traffic volumes and location types

	0-100 veh/day	100 – 250 veh/day		250 – 400 veh/day
Design Speed (mph)	All locations	"Lower risk" locations[1]	"Higher risk" Locations[2]	All locations
35	170	170	205	205
40	215	215	250	250
45	260	260	300	300
50	310	310	350	350
55	365	365	405	405
60	435	435	470	470

[1] away from intersections, narrow bridges, railroad-highway grade crossings, sharp curves, and steep downgrades
[2] near intersections, narrow bridges, or railroad-highway grade crossings, or in advance of sharp curves or steep downgrades

Minimum Curve Radius/Maximum Degree of Curvature – For road curve design guidelines of very low volume local roads refer to AASTHO Guidelines for Geometric Design for Very Low-Volume Local Roads (ADT $\leq$ 400), Chapter 4 Design Guidelines.

Pavement Surface Crown - Pavement surface crown, or cross slope, should be A-shaped, **NOT** a parabolic shape to provide proper surface drainage. The surface crown for county roads typically ranges from two to six percent (2%-6%), depending on the pavement surface material. A summary of surface crown requirements is provided in Table 5: Surface Crown Design Requirements.

Table 5: Surface Crown Design Requirements

Road Classification	**Surface Crown**
Rural Secondary Road	
Class 1 - Paved Surface	2% or ¼" per foot of fall
Class 1 – Gravel Surface	4% or ½" per foot of fall
Class 2 – Gravel Surface	4% or ½" per foot of fall
Minor Road	
Class 3 - Paved Surface	2% or ¼" per foot of fall
Class 3 - Gravel Surface	4% or ½" per foot of fall
Class 3 - Dirt Surface	4% or ½" per foot of fall

Right-of-Way Width - Unless otherwise specified, an easement or County Public right-of-way must be at least sixty feet (60') in width (30 feet each side of center line). Depending on the site conditions and use of the road, Wilson County may, at its discretion, require more or less right-of-way than specified herein.

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ASPHALT ROAD SURFACE AND BASE DESIGN

SUBGRADE DESIGN

Approval of Materials – Asphalt materials shall be approved by the Wilson County Road and Bridge Supervisor or County's Representative prior to use in the work. The County Road and Bridge Supervisor or County's Representative may accept a certified analysis by the material supplier laboratory when a copy of the certified analysis accompanies each shipment of asphalt to the project. The County Road and Bridge Supervisor or County's Representative reserves the right to perform tests of the asphalt received on the job.

Summary – This section includes subgrade preparation at locations which have been previously graded.

Subgrade Clearing – Before beginning preparation of the subgrade, all sod and other vegetation shall be removed from the roadbed. The subgrade surface shall be brought to the specified lines, grades and cross-section, as indicated on the construction plans or approved by the Wilson County Road and Bridge Supervisor or County's Representative. Tolerance allowed on all lines, grades and cross-sections shall be no more than one-quarter of an inch (1/4"). If existing pavements or bridges are encountered, excavate the subgrade at all control points to a depth that will allow placement of the required thickness, flush with the existing surface. Use a transition (from normal to special section) of sufficient length to prevent an abrupt or noticeable change in grade. Contractor or ROW Occupant shall remove and dispose of any excess material.

Subgrade Compaction – After clearing, the top six inches (6") of the subgrade for pavements shall be compacted to not less than ninety-five percent (95%) of the standard proctor maximum density as measured by AASHTO T-99, Method C and within a tolerance of plus three percent (3%) and minus two percent (2%) of the optimum moisture content. The tolerance applies only to the top six inches (6").

Protection and Maintenance of Subgrade - The subgrade shall be protected from action of the elements or others. Any action (eg. Settlement or erosion) that damages the subgrade prior to placing the pavement thereon, shall be repaired and the specific lines, grades, cross-section, tolerance, density, and moisture content range reestablished.

The Contractor shall protect all existing improvements from damage resulting from his subgrade operation. Any improvement damaged shall be repaired or replaced by the Contractor at their own expense.

Rolling Test – Once the subgrade has been brought to the final construction elevation, but prior to approval of the subgrade for paving, all lanes shall be roll tested in their entire length. The subgrade will not be acceptable if rutting, pumping, or deformation of the subgrade results from the roll test. This testing will be done by the Contractor at their own expense, and will be in addition to the applicable moisture and density testing.

Equipment for roll testing shall be tandem dump truck (one front and two rear axles) carrying the maximum allowable legal load.

The truck shall proceed slowly along each traffic lane, allowing the County Road and Bridge Supervisor or County's Representative to walk alongside and observe the results. Areas failing the roll test will be reworked and retested prior to approval of the subgrade for paving.

BASE AGGREGATE DESIGN

Base Aggregate Mixing – The mixing methods are:

- Central Plant Method. Use a stationary mechanical mixing plant to uniformly mix the water and aggregate.

- Road Mix Method. After the aggregate is placed in a uniform windrow, use a motor grader, or other equipment approved by the Wilson County Road and Bridge Supervisor or County's Representative, to uniformly mix the water and the aggregate.

Mix the aggregate with sufficient water to allow compaction of the mixture to the specified density. If the aggregate is predominantly limestone, use the central plant. Use a central plant or road mix method to mix types of granular aggregate other than limestone, or to mix any type of aggregate if the original contract quantity is less than 15,000 square yards.

When required or specified, mix calcium chloride with the aggregate at the approved rate. Add the calcium chloride (in solution, flakes, pellets or granular) at the same time the water is mixed with the aggregate.

Base Aggregate Material – Provide one of the types of aggregates for use in aggregate base construction as shown in Table 8: Gradation and Plasticity of Aggregates for Aggregate Base Construction. Material shall comply with Section 1104: Aggregates for Aggregate Base Construction of the KDOT Standard Specifications for State Road and Bridge Construction.

Type AB-1 or AB-2 may be singularly or any combination of crushed stone, crushed or uncrushed gravel, sand, sand-gravel, or limestone gravel mixed with soil or other qualified binder material.

Type AB-3 is at least 85% limestone or dolomite produced by mechanical crushing.

Deleterious Substances: Provide aggregates that are free from weeds, sticks, grass, roots and other undesirable foreign matter.

Table 8: Gradation and Plasticity of Aggregates for Aggregate Base Construction

Type	Percent retained on standard square mesh sieves*									P.I.	Liquid Limit (Max.)
	2"	1 ½"	1"	¾"	3/8"	No. 4	No. 8	No. 40	No. 200		
AB-1	0	1-10		5-40		35-75	54-85	78-95	90-98	0-6	25
AB-2*			0		1-35		25-50	60-75	78-90	1-6	25
AB-3**	0	0-5		5-30		35-60	45-70	60-84	80-92	2-8	30

* The fraction passing the No. 200 sieve shall not exceed 2/3 of fraction passing the No. 40 sieve.
** For grading factors less than 4.00 but greater than 3.75, provide additional materials as a penalty at a rate of 1.5% for each 0.05 less than 4.00 grading factors. Use a maximum lot size of 500 cubic yards or tons to determine penalty. Average all tests within the lot to determine penalty.

Base Aggregate Placement – The base aggregate material shall be uniformly spread in successive layers to such depth that when compacted, the base will have the minimum thickness specified. The maximum compacted thickness of any layer of aggregate base is six inches (6"). If the thickness is greater than six inches (6"), spread and compact the aggregate base in multiple lifts of equal thickness with a maximum lift thickness of six inches (6"). The maximum compacted thickness of any layer may be increased to eight inches (8") when vibrating compaction equipment or other compaction equipment is approved by the Wilson County Road and Bridge Supervisor or County's Representative. On aggregate

course projects without shoulders, construct all lifts, regardless of thickness, with an edge slope of 1:1 or flatter. If the aggregate base is constructed in more than one (1) layer, allow sufficient time for the initial layer to cure to prevent any rutting or surface distortion from equipment being used to place the succeeding layers.

The base aggregate material shall meet the required specification Section 1104: Aggregate for Aggregate Base Construction of the KDOT Standard Specifications for State Road and Bridge Construction immediately before compaction operations are commenced. If, for any reason, segregation occurs in excess of ten percent (10%) variation from the gradation required in Table 8: Gradation and Plasticity of Aggregates for Aggregate Base Construction or if the materials become contaminated, such segregated or contaminated materials shall be removed and replaced with suitable materials at the expense of the Contractor or ROW Occupant. The limited segregation of ten percent (10%) variation will be ascertained by a sieve analysis of a minimum one hundred (100) pound sample taken from the in-place base course. However, when crushed stone is used, segregated surface areas may be corrected by adding limestone screenings of such gradation and quantity as required to fill the surface voids and firmly bind the loose material in place.

Shaping and compacting shall be carried on continuously until a true, even and uniform surface or proper grade and cross-section is obtained, and until the density of the complete base is a least ninety-five percent (95%) of maximum density as determined by AASHTO T-99. The proper moisture content shall be maintained by wetting the surface as required during shaping and compacting operations.

After compacting the aggregate base, trim the surface to the specified lines and grades. On projects having more than 20,000 square yards of aggregate base, use automatic grade controlled equipment to trim the compacted aggregate base. In irregular areas, trim the aggregate base by wetting, blading and rolling. Compact the trimmed surface of the aggregate base with a smooth-wheel or a pneumatic-tire roller. When necessary, lightly scarify and blade the surface to eliminate equipment imprints while performing final rolling.

Curing and Maintenance of Aggregate Base – Allow the aggregate base to cure before any heavy equipment is allowed on the aggregate base. Curing of aggregate bases constructed of AB-1 or AB-2 is complete when the moisture content is a maximum of sixty percent (60%) of the optimum moisture content. Curing of aggregate bases constructed of AB-3 is complete when the moisture content is a maximum of seventy percent (70%) of the optimum moisture content. The Wilson County Road and Bridge Supervisor or County's Representative will perform testing to determine when the cure of the aggregate base is complete. It may be required that the surface of the aggregate base be kept moist during the curing period to prevent loss of surface material. Do not apply asphaltic surfacing until the aggregate base is cured. Maintain the base until the surfacing is applied.

Shoulders, Entrances and Side Roads – When shoulder construction is not included in the project, re-construct, compact and shape the existing shoulder from the top of the completed aggregate base to the shoulder line. Shape the shoulders to provide a uniform shoulder line.

Raise the grade of entrances and side roads to meet the edge of the completed aggregate base. Construct, compact and shape the entrances and side roads full width with shoulders and shoulder radii adjacent to the shoulders of the roadway.

PRIME AND TACK COAT DESIGN

Summary – This section includes the application of liquid asphalt to a prepared pavement (concrete, asphaltic concrete), or granular base.

Prime and Tack Coat Material – Bituminous prime or tack coat shall be MC-30 in conformance with Section 1204: Cutback Asphalt from the KDOT Standard Specification for State Road and Bridge Construction.

Table 9: Liquid Asphalt Material Recommendation

Material to be Treated	Application Usage	Type of Emulsion or Grade of Cutback	Application Rate Gal/SY	Application Temperature °F	Cure Time at 70°F
Treated Base; ie, lime, fly/ash, cement	Prime	MC-30	0.1 – 0.3 Gal/SY	85-120	12-24 hrs
Untreated Aggregate Base w/ Fines	Prime	MC-30	0.1 – 0.3 Gal/SY	85 - 120	12 - 24 hrs

Sand Cover – Sand Cover, if used, shall be any clean granular mineral meeting the following grading requirements. When tested with laboratory sieves one-hundred percent (100%) shall pass the No. 4 sieve and not more than two percent (2%) shall pass the No. 200 sieve. The moisture content of the sand shall not exceed three percent (3%) by weight.

Pressure Distribution – The distributor shall be so designed, equipped, maintained and operated that liquid asphalt at even heat may be applied uniformly on variable widths of surface up to fifteen (15') feet at readily determined and controlled rates from 0.02 to 1.00 gallons per square yard, with uniform pressure, and with an allowable variation from any specified rate not to exceed 0.02 gallons per square yard. Distributor equipment shall include a tachometer, pressure gauges, a calibrated tank and thermometer for measuring temperatures of tank contents. Distributors shall be equipped with a power unit for the pump, and full circulation spray bars adjustable laterally and vertically. The calibration of all distributors must be approved by the Wilson County Road and Bridge Supervisor or County's Representative, and the Contractor shall furnish all equipment, material and assistance necessary if calibration is required.

Preparation of Existing Surface for Tack Coats – The existing surface shall be free of all dust, loose material, grease or other foreign material at the time the tack is applied. Shape, blade and broom side roads that receive asphalt treatment, at the same time as the roadbed surface. When required by Wilson County Road and Bridge Supervisor or County's Representative, Contractor or shall give the broomed surface of an earth subgrade or a water-bound base course or subbase a light application of water (approximately 0.1 gallon per square yard) before the asphalt material is applied.

Preparation of Existing Surface for Prime Coats – The surface to be primed shall be shaped to the required grade and cross-section, shall be free from all ruts, corrugations, segregated material or other irregularities, and shall be uniformly compacted by rolling. The surface shall be firm and slightly damp when primer is applied. Delays in priming may necessitate reprocessing or reshaping to provide a smooth compacted surface.

Application for Asphalt Material for Tack Coats – Asphalt emulsion shall be applied uniformly with a pressure distributor at the rate specified in Table 9: Liquid Asphalt Material Recommendation, under the Prime and Tack Coat Design section of this policy, or as approved by the Wilson County Road and Bridge Supervisor or County's Representative to be within a minimum of 0.05 and a maximum of 0.15 gallons per square yard. Water may be added to the asphalt emulsion and mixed therewith in such proportion that the

resulting mixture will contain not more than fifty percent (50%) of added water, the quantity of added water shall be approved by the Wilson County Road and Bridge Supervisor or County's Representative. The application of the resulting mixture shall be such that the original emulsion will be spread at a specified rate either identified on the construction plans or approved by the Wilson County Road and Bridge Supervisor or County's Representative. The asphalt emulsion shall be heated at the time of application to a temperature in accordance with construction plans, or as approved by the Wilson County Road and Bridge Supervisor or County's Representative. The tack shall be properly cured and the tacked surface shall be cleaned of all dirt and surplus sand before the next course is placed.

The tack coat shall be applied in such manner as to cause the least inconvenience to traffic and to permit one-way traffic without pickup or tracking of the asphalt emulsion.

Application for Asphalt Material for Prime Coats – Bituminous material shall be applied to the width of the section to be primed by means of a pressure distributor in a uniform, continuous spread. The subgrade shall be moistened before the prime is applied. The application rate shall be as specified in Table 9: Liquid Asphalt Material Recommendation, under the Prime and Tack Coat Design section of this policy or approved by the Wilson County Road and Bridge Supervisor or County's Representative between 0.1 and 0.5 gallons per square yard. The primer shall be heated at the time of application to at a temperature in accordance with the limits provided in Table 9: Liquid Asphalt Material Recommendation, under the Prime and Tack Coat Design section of this policy.

Care shall be taken that the application of bituminous material at the junctions of spreads is not in excess of the specified quantity. Building paper shall be placed over the ends of the previous applications and the joining application shall start on the building paper. Building paper used shall be removed and satisfactorily disposed of. Pools of primer material remaining on the surface after the application shall be removed.

When traffic is maintained, not more than one half of the width of the section shall be treated in one application and one-way traffic will be permitted on the untreated portion of the roadbed. As soon as the bituminous material has been absorbed by the surface and will not pick up, traffic shall be routed to the treated portion and the remaining width of the section will be primed.

The primer shall be properly cured, and the primed surface shall be cleaned of all dirt and surplus sand before the next course is placed.

Application of Sand Cover – If the asphalt material is not completely cured within the maximum specified curing time, sufficient sand shall be spread over the surface with a mechanical spreader to blot up the excess asphalt. The rate of application shall be specified by the Wilson County Road and Bridge Supervisor or County's Representative. Prior to placing an asphalt paving course, all loose sand shall be swept from the primed or tacked surface.

ASPHALTIC CONCRETE SURFACE AND BASE DESIGN

Summary – This section includes the construction of asphalt concrete base and/or asphalt concrete surface.

Asphaltic Material – Asphaltic concrete surface and base material shall be provided in accordance with construction plans or as required by Wilson County Road and Bridge Supervisor or County's Representative. No material shall be used until it has been approved by the Wilson County Road and Bridge Supervisor or County's Representative. All costs associated with material testing, certification and the preparation of trial mixes to determine the job mix formula shall be the responsibility of the Contractor. Representative samples of all materials proposed for use under these specifications shall be submitted to the testing laboratory by the Contractor, at the Contractor's expense, for testing and the preparation of trial

mixes to determine the job-mix formula. Additional tests necessary for determining conformance with the requirements specified in this Policy will be performed under the supervision of the Wilson County Road and Bridge Supervisor or County's Representative without cost to the Contractor, unless testing is the responsibility of the Contractor in the Contract Documents.

Asphalt - Asphalt cement used in the manufacture of asphalt paving mixtures shall conform to the Performance Graded system. The PG graded material used shall conform to the provincial grade used by KDOT or as designated by Wilson County Road and Bridge Department or County's Representative. In the Wilson County area, the provincial grade is a PG64-22.

These general guidelines may not address all project conditions. American Public Works Association (APWA) strongly recommends that a Licensed Engineer in the State of Kansas apply sound pavement design principles when designating mix type and selecting asphalt cement grade based upon individual project conditions.

The asphalt cement shall conform to ASTM D 6373 and APWA Type 3-01 specification (50 compaction blows per face). Sampling shall be in accordance with ASTM D 140.

The Contractor or Asphalt Supplier shall submit a quality assurance plan for the asphaltic cement to the Wilson County Road and Bridge Supervisor or County's Representative that conforms to AASHTO PP 26. They shall also submit a temperature-viscosity chart showing the recommended mix and compaction temperatures for non-modified asphalts, and shall provide the specific gravity of the asphalt.

Aggregate – The quality of aggregates used in Asphaltic Concrete shall conform to the following:

Course Aggregate (Retained on the No. 4 Sieve)	
LA Abrasion (ASTM C 131)	35% loss (maximum)
Soundness using Mag. Sulfate (ASTM C 55 5 cycles)	15% loss (maximum)
Total shale, clay, coal and lignite content (ASTM C 142)	1.0% by weight (max.)

Fine Aggregate (Passing the No. 4 Sieve)	
Organic Content	1% maximum

The parent material of manufactured sand must also meet the requirements for course aggregate shown above.

Sampling shall be in accordance with ASTM D 75. Gradation analysis shall be in accordance with Standard Method of Test for Material Finer that No. 200 Sieve in Mineral Aggregates by Washing, ASTM C 117 and Standard Method Test for Sieve Analysis of Fine and Coarse Aggregate, ASTM C 136.

Composition of the Mix – Asphaltic concrete mixtures shall consist of Mineral Aggregates and Asphalt Cement within the following limits for Asphaltic Concrete-Type 3-01 specified by Wilson County.

Aggregate 1: ½" Quality Crushed Limestone
Aggregate 2: 3/8" Quality Crushed Limestone
Aggregate 3: Quality Limestone Screenings
Aggregate 4: River Sand

Asphalt Cement for Asphaltic Concrete Type 3-01

Percent by Weight of Total Mixture	4% - 7%

Table 10: Asphaltic Concrete-Type								
Total Percentage Passing by Weight								
Sieve Size		25%	25%	35%	15%		Specs. For Type 3-01	
mm	US	Agg. 1	Agg. 2	Agg. 3	Agg. 4	Composition	Min.	Max.
50	2”	100.0	100.0	100.0	100.0	100.0	100	100
37.5	1 ½”	100.0	100.0	100.0	100.0	100.0	100	100
25	1”	100.0	100.0	100.0	100.0	100.0	100	100
19	¾”	100.0	100.0	100.0	100.0	100.0	100	100
12.5	½”	70.0	100.0	100.0	100.0	92.5	85	100
9.5	3/8”	24.7	100.0	100.0	100.0	81.2	70	90
4.75	# 4	2.5	18.8	99.1	99.4	54.9	50	70
2.36	# 8	2.0	2.5	66.5	96.1	38.8	37	47
1.18	# 16	1.9	2.2	43.4	90.3	29.8	26	36
0.6	# 30	1.7	2.0	30.7	81.0	23.8	18	30
0.3	# 50	1.5	1.9	23.4	56.7	17.5	12	22
0.15	# 100	1.4	1.7	19.0	8.2	8.7	6	15
0.075	# 200	1.2	1.5	16.3	0.4	6.4	4.0	10.0

In addition to the above limits, the difference between the “Percentage Passing Square Mesh Sieve” of successive sieve sizes shall not exceed 25.

The fraction of material retained on the No. 4 (4.75 mm) Sieve shall be composed of particles with not less than 75% having two or more fractured faces, and not more than 20% by weight of that fraction shall be composed of flat or elongated particles.

The maximum permissible variation allowed by Wilson County for an asphaltic concrete design mix shall be as followed:

Permissible Gradation Variation from Asphaltic Concrete Type 3-01 (Percent by Wt. of Total Mix)

U.S. Standard Sieve Size	
No. 4 and Larger	4.0
No. 8, 16, 30 and 50	3.0
No. 200	1.0
Asphalt Cement	0.3

Design of the Mix - The Asphaltic Mix Design used by Wilson County for Asphaltic Concrete Cement Type 3-01 was optimized using four asphalt contents (4.0, 4.5, 4.8, 5.5 AC). Table 11: Mix Design Requirements of Asphaltic Concrete Cemet Type 3-01 below lists the mix properties at the optimum asphalt content chosen (4.8% AC). The mixing temperature range is 305 to 315 °F and the compaction temperature range is 285 to 295 °F.

Table 11: Mix Design Requirements of Asphaltic Concrete Cement Type 3-01		
Property	**APWA 3-01 Specification**	**Test Results***
Optimum AC Content	NA	4.8 ± 0.2
Bulk Gravity of Mix (G_{mb})	NA	2.366
Mix Density (lbs/ft^3)	NA	147.6
% Air Voids	3-5	3.9
% VMA	NA (AI MS-2: 14 min.)	12.7
% Voids Filled	NA (AI MS-2: 65-78)	69.5
Dust Proportion	NA (AI MS-2: 0.6 – 1.2)	1.67
Stability (lbs)	1,500 min.	4,040
Flow (0.01")	8-16	14

*Test Result are from the local supplier that supplies Wilson County with Asphaltic Concrete Cement Type 3-01.

Note: NA = Not Applicable AI MS-2 Specifications are provided for information only.

Property		Test Method	Specifications	Test Results*
Flash Point, °C		AASHTO T 48	230 min.	310
Rotational Viscosity, Pa's	@ 135°C	AASHTO T 316	3.0 max.	0.396
	@ 165°C		Report	0.111
Specific Gravity	@ 15.6°C	AASHTO T 228	Report	1.033
Density, lbs/gal			Report	8.60
Absolute Viscosity, Poise	60°C	AASHTO 202	Report	2,307
Penetration, 100g, 5 sec, dmm	25°C	AASHTO T 49	Report	75
Dynamic Shear , kPa	@ 65°C	AASHTO T 315	Report	1.42
AFTER RTFOT				
Mass Loss, %		AASHTO T 240	1.0 max.	0.498
Dynamic Shear, kPa	@ 64 °C	AASHTO T 315	2.2 min.	4.47
PRESSURE AGING RESIDUE (100°C, 300 psi, 20hr.)		AASHTO R 28		
Dynamic Shear, kPa	@ 25 °C	AASHTO T 315	5,000 max.	4,150
Creep Stiffness, Stiffness, MPa (60 sec.)	@ -12 °C	AASHTO T 313	300 max.	173
m Value			0.300 min.	0.344
Kansas DOT SUPERPAVE™ Binder Grade, PG:				64-22

This material does meet requirements of the Kansas DOT, Section 1200, Performance Binder, PG 64-22, for those properties tested.

Mixing Temperature for Wilson County Asphaltic Concrete Cement Mix – The suggested mixing temperature range is 154 °C to 160 °C (310 °F to 320°F). The suggested compaction temperature range is 143 °C to 149 °C (290 °F to 300 °F).

Preparation of the Area to be Paved – The area to be paved shall be true to line and grade, and shall have a properly prepared surface prior to the start of the paving operations. It shall be free from all loose or foreign material.

Where a base is rough or uneven, a leveling course shall be placed and properly compacted before the placing of subsequent courses.

When leveling course is not required, all depressions and other irregularities shall be patched or corrected, and the work approved by the Wilson County Road and Bridge Supervisor or County's Representative before the paving operation begins.

The area to be paved shall be primed or tacked uniformly in accordance with the requirements of the Prime and Tack Coat Section of this policy.

The surfaces of curbs, gutters, vertical faces of existing pavements and all structures in actual contact with asphalt mixes shall be painted with a thin, complete coating of asphaltic material to provide a closely bonded, watertight joint.

Weather Limitations – When the moisture of the aggregate in the stockpile or from the dryer interferes with the quality of mix production, or with normal plant operations, or when pools of water are observed on the surface to be paved, the mixing and placing of hot-mix asphalt will not be permitted without the permission of the Wilson County Road and Bridge Supervisor or County's Representative.

Hot Mix asphalt paving shall not be mixed or placed when the ambient air or base temperature is below 40°F (4.4°C), or when there is frost in the subgrade or any other time when weather conditions are unsuitable for the type of material being placed without expressed approval of the Wilson County Road and Bridge Supervisor or County's Representative.

Asphalt mix laydown temperatures and rolling times shall conform to the follow specifications:

Table 12: Minimum Laydown Temperature

Base Temp.	1-1/2"	2"	3" and Greater
40-50°F (4.4-10°C)	300°F (149°C)	285°F (141°C)	275°F (135°C)
50-60°F (10-16°C)	295°F (146°C)	280° (138°C)	270° (132°C)
60-70°F (16-21°C)	285°F (141°C)	275° (135°C)	265° (129°C)
70-80°F (21-27°C)	280° (138°C)	270° (132°C)	265° (129°C)
80-90°F (27-32°C)	270° (132°C)	265° (129°C)	260° (127°C)
90°+F (32°+C)	265° (129°C)	260° (127°C)	255° (124°C)
Rolling Time	12 minutes	15 minutes	15 minutes

Regardless of the temperature, final acceptance of the asphalt mat shall be based on density and roller test patterns. Rolling times shown are maximum times during which target density must be achieved.

Transportation of Asphalt Mix – The asphalt mix shall be transported to the job site in vehicles with tight metal bottoms, clean of all foreign material which may affect the mix. If a release agent is used, it must comply with State and Federal environmental regulations. The dispatching of the vehicles shall be so scheduled that all materials delivered may be placed in daylight unless the Wilson County Road and

Bridge Department Supervisor or County's Representative approves artificial light. Delivery of the material to the paver shall be at a uniform rate an in an amount within the capacity of the paving and compacting equipment.

Hauling trucks shall be provided with covers of sufficient size and weight to completely cover the truck bed to protect the load and to prevent cooling of the upper surface. Failure to have the load completely covered shall be sufficient cause for rejection of the entire load. The load shall remain covered until the truck is next in line to be unloaded. In no case shall a load remain uncovered for more than ten (10) minutes before starting to use the load. If for any reason there is a delay in completely using a load, the remaining part of the load shall be recovered until it can be used. It shall be the responsibility of the Contractor to inform all truck drivers of their provisions before starting work.

Spreading and Finishing – The spreading and finishing of each course shall be to the thickness and width indicated on the construction plans. The suggested minimum lift thickness shall be three times the nominal maximum size of the mix. Nominal maximum is defined as the first sieve size larger than the sieve which retains at least ten percent (10%) of the aggregate by weight.

Spreading and finishing shall be conducted in the following manner:

Mechanical Pavers - The base and surface courses shall be spread and struck-off with a mechanical paving machine. The paving machine shall be operated so that the material does not accumulate and remain along the sides of the receiving hopper. The wings of the spreader hopper shall not be emptied (flipped) between tuck loads.

Equipment which leaves tracks or indented areas which cannot be corrected in normal operation, or which produces other permanent blemishes or fails to produce a satisfactory surface, shall not be used. The screed auger shall be operated approximately ¾ full and the hopper conveyor shall not be allowed to run out of material during the paving operation.

Longitudinal joints and edges shall be constructed to true lines. Lines for the paver to follow in placing individual lanes will be established parallel to the centerline of the proposed roadway. The paver shall be positioned; and operated to follow closely the established line.

Sufficient trucks shall be used to continuously supply asphalt to the paver. Delays in the paving operation shall be kept to a minimum.

The Contractor shall make every effort to minimize the number of passes heavy equipment makes over uncompleted roadway sections.

When using pavers in echelon, the second paver shall follow the edge of the material placed by the first paver. The length of each laydown pass shall be limited, depending on weather conditions, to assure a hot joint and obtain proper compaction.

As soon as the first load of material has been spread, the texture of the unrolled surface shall be checked to determine its uniformity. Segregation of materials shall not be permitted. If segregation occurs, the spreading operation shall be immediately suspended until the cause is determined and corrected.
Transverse joints in succeeding courses shall be offset at least two feet (2'). Longitudinal Joints shall be offset at least six inches (6"). The longitudinal joints shall be laid out so that the surface joint is under the lane markings where possible.
Any irregularities in alignment left by the paver shall be corrected by trimming directly behind the machine. Distortion of the pavement during this operation shall be avoided.

Edges against which additional pavement is to be placed shall be placed on a thirty degrees (30°) (2:1) bevel, or as specified by the Wilson County Road and Bridge Supervisor or County's Representative. Any irregularities in the surface of the pavement course shall be corrected directly behind the paver. Excess material forming high spots shall be removed by a shovel or lute. Indented areas shall be filled with hot mix and smoothed. Broadcasting of material shall not be permitted.

Hand Spreading - In small areas where the use of mechanical finishing equipment is not practical, the mix may be spread and finished by hand. The material shall be distributed uniformly to avoid segregation of the coarse and fine aggregate. Broadcasting of material shall not be permitted. During the spreading operation, all material shall be thoroughly and uniformly distributed by lutes or rakes. Material that has formed into lumps and does not break down readily shall be removed. Following placing and before rolling, the surface shall be checked with templates and straightedges and all irregularities corrected.

Compaction - A minimum of three rollers shall be used for compacting mixes unless otherwise approved by the Wilson County Road and Bridge Supervisor or County's Representative. Additional rollers shall be used as necessary to provide specified pavement density.

Immediately after spreading, each course of the pavement mixture shall be compacted by rolling. The initial or "breakdown" rolling shall be accomplished with a steel-wheeled vibratory roller. The pneumatic-tired roller shall be used to knead and compact the pavement mixture following the initial rolling and preceding the final rolling. Care shall be exercised in the use of the pneumatic-tired roller to ensure that the pavement mixture is sufficiently cooled to avoid "picking up" of the mixture on the tires of the roller, and also to ensure that the pneumatic-tired rolling is completed before the mixture becomes too cool to allow satisfactory finish rolling. Final, or finish rolling, shall be done with a steel-wheeled roller. The sequence of rolling operations may be changed with the approval of the Wilson County Road and Bridge Supervisor and County's Representative. All rolling shall be longitudinal, starting near the edge of the pavement. Alternate trips of the roller shall be of slightly different lengths. The initial rolling shall take place as closely behind the laydown machine as the temperature and condition of the mat will allow.

The motion of the roller shall be slow enough at all times to avoid displacement of the hot mixture. The initial compaction roll shall be accomplished with the roller drive wheel leading the tiller wheel. Any displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected immediately by the use of rakes and fresh mixture when required. To prevent adhesion of the mixture to the roller, the wheels shall be kept properly moistened, but excess water will not be permitted.

The surface of the mixture after compaction shall be smooth and true to established section and grade. Any surface which is segregated, or is in any way defective, shall be removed and replaced with fresh hot mixture at the Contractor expense, and shall be immediately compacted to conform with the surrounding area.

Rolling Procedure Thin Layers (Lifts): When placing a thin lift (less than two inches (2") compacted thickness) in single-lane width or full width, the mixture should be rolled in the following sequence:

1.) Transverse joint.

2.) Outside edge.

3.) Breakdown rolling, beginning on the low side.

4.) Intermediate rolling; same procedure as Step 3.

5). Finish rolling.

When paving a thin lift in echelon, or when abutting a previously placed lane or other lateral restraint, the mixture should be rolled in the following sequence:

1). Transverse joint.

2). Longitudinal joint.

3). Outside edge.

4). Breakdown rolling, beginning on the low side.

5). Intermediate rolling; same procedure as Step 4.

6). Finish rolling.

Thick Layers (Lifts): When placing a thick lift (two inches (2") or more compacted thickness) in single-lane width or full width, the mixture should be rolled in the following sequence:

1). Transverse joint.

2). Breakdown rolling, beginning 12 to 15 in. interior to the lower unsupported edge. The return pass shall be made with the edge of the roller three inches (3") exterior to the unsupported edge of the pavement.

3). Breakdown rolling of outside edge. Repeat the process described in Step 2 above on the other longitudinal edge.

4). Intermediate rolling, beginning on the low side.

5). Finish rolling.

When paving a thick lift in echelon, or when abutting a previously placed lane or other lateral restraint, the mixture should be rolled in the following sequence:

1). Transverse joint.

2). Longitudinal joint.

3). Breakdown rolling, beginning at the longitudinal joint.

4). Intermediate rolling, beginning on the low side.

5). Finish rolling.

When paving in echelon, two to three inches (2"-3") of the first mat shall be left unrolled, and rolled when the joint between the lanes is rolled and after the second mat is placed. Edges shall not be exposed more than fifteen (15) minutes without being rolled. Particular attention shall be given to the construction of transverse and longitudinal joints in all courses.

In laying a surface mix adjacent to any finished area, it shall be placed sufficiently high so that, when compacted, the finished surface will be true and uniform. Where the grade is slight, a level will be used to insure drainage to the desired outlet.

Transverse joints - When the transverse joint is next to an adjoining lane, the first pass shall be made with a static steel-wheeled roller moving along the longitudinal joint for a few feet. The surface will then be checked with a straightedge and corrections shall be made if necessary. The joint then shall be rolled transversely, with a six (6") inch of the drum width on the newly laid material. This operation shall be repeated with successive passes, each covering an additional six to eight inches (6"-8") of the new mat, until the entire width of a drive roll is on the new mixture. During transverse rolling, wooden boards of the proper thickness should be placed at the edge of the pavement to give the roller a surface to drive on once it passes the edge of tile mat. If boards are not used, transverse rolling must stop six to eight inches (6"-8") short of the outside edge to prevent damaging it, and the edge must he compacted later during longitudinal rolling. Transverse joints shall be carefully constructed and thoroughly compacted to provide a smooth riding surface. If the joint has been distorted, it shall be trimmed to a line. The joint face shall be tacked before the fresh material is placed against it.

Longitudinal joints: Longitudinal joints shall be rolled directly behind the paving operation. The edge to be joined shall be tack coated. The paver screed shall be set to overlap the first mat by one to two inches (1"-2"). The elevation of the screed above the surface of the first mat should be equal to the amount of roll-down expected during compaction of the new mat. For large aggregate mixes, the coarse aggregate in the material overlapping the cold joint should be carefully removed and wasted, leaving only the finer portion of the mixture to be pressed into the compacted lane at the time the joint is rolled. For mixes with smaller coarse aggregate, such as surface courses, the overlapping material should be pushed with a lute into a hump over the joint area prior to compaction.

Edges: The edges of the pavement shall be rolled concurrently with or immediately after rolling the longitudinal joint. In rolling pavement edges, roller wheels shall extend two to four inches (2"-4") beyond the pavement edge provided the lateral displacement is not excessive.

Breakdown Rolling: Breakdown rolling shall immediately follow the rolling of the longitudinal joint and edges. Rollers shall be operated as close to the paver as necessary to obtain adequate density without causing undue displacement. The breakdown roller shall be operated with the drive wheel nearest the laydown machine. Exceptions may be made by the Wilson County Road and Bridge Supervisor or County Representative when working on steep slopes or super-elevated curves.

Intermediate Rolling: Pneumatic-tired rollers shall be used for intermediate rolling. The intermediate rolling shall follow the breakdown rolling as closely as possible and while the paving mix is still of a temperature that will result in maximum density from this operation. Pneumatic-tired rolling shall be continuous after the initial rolling until all of the mix placed has been compacted to the required density. Turning of pneumatic-tired rollers on the hot paving mix which causes displacement shall not be permitted.

Finish Rolling: The finish rolling shall be accomplished while the material is still warm enough for the removal of roller marks. All roller marks shall be removed by the finish rolling operation. All rolling operations shall be conducted in close sequence.

In places inaccessible for the operation of standard rollers as specified, compaction shall be performed by trench rollers or others approved by the Wilson County Road and Bridge Supervisor or County's Representative. The trench roller shall be operated until the lift is thoroughly compacted. Hand tamping, manual or mechanical, may be used in such areas, if such operations will give the required density.

Density and Surface Requirements - The completed asphalt concrete paving shall have a density equal to or greater than ninety-five percent (95%) for Asphalt Concrete Base and ninety-six percent (96%) for Asphalt Concrete Surface. Density is based on laboratory specimens and made from plant mix conforming to the job mix formula. Density testing shall conform to ASTM D 2950 or ASTM D 2726 or D 1188.

If cores are used to determine density, one or more tests (one test equals three cores) will be taken for each tonnage lot and averaged to determine acceptance. Two (2) cores will be taken from the lane being paved, and one (1) core centered on the longitudinal joint with the adjoining lane. The Wilson County Road and Bridge Supervisor or County's Representative will mark the locations of all cores.

The compacted surface shall be one-quarter of an inch (1/4") above the edge of curb. All unsatisfactory work shall be repaired, replaced or corrected. The surface of the final course shall be of a uniform texture and conform to line and grade shown on the plans.

The field control density will be based on the density of plant produced mix compacted in a laboratory.

GRAVEL ROAD SURFACE AND BASE DESIGN

SUBGRADE DESIGN

Subgrade Clearing – Before beginning preparation of the subgrade, all sod and other vegetation shall be removed from the roadbed. The subgrade surface shall be brought to the specified lines, grades and cross-section, as indicated on the construction plans or approved by the Wilson County Road and Bridge Supervisor or County's Representative. Tolerance allowed on all lines, grades and cross-sections shall be no more than one-quarter of an inch (1/4").

Subgrade Compaction – After clearing, the top six inches (6") of the subgrade for pavements shall be compacted to not less than ninety-five percent (95%) of the standard proctor maximum density as measured by AASHTO T-99, Method C and within a tolerance of plus three (3%) percent and minus two percent (2%) of the optimum moisture content. The tolerance applies only to the top six inches (6").

Protection and Maintenance of Subgrade - The subgrade shall be protected from action of the elements or others. Any action (eg. Settlement or erosion) that damages the subgrade prior to placing the pavement thereon, shall be repaired and the specific lines, grades, cross-section, tolerance, density, and moisture content range reestablished.

The Contractor shall protect all existing improvements from damage resulting from his subgrade operation. Any improvement damaged shall be repaired or replaced by the Contractor or ROW Occupant at their own expense.

Rolling Test – Once the subgrade has been brought to the final construction elevation, but prior to approval of the subgrade for paving, all lanes shall be roll tested in their entire length. The subgrade will not be acceptable if rutting, pumping, or deformation of the subgrade results from the roll test. This testing will be done by the Contractor or at their own expense, and will be in addition to the applicable moisture and density testing.

Equipment for roll testing shall be tandem dump truck (one front and two rear axles) carrying the maximum allowable legal load.

The truck shall proceed slowly along each traffic lane, allowing the County Road and Bridge Supervisor or County's Representative to walk alongside and observe the results. Areas failing the roll test will be reworked and retested prior to approval of the subgrade for paving.

BASE DESIGN

Base Aggregate Material – Provide one of the types of aggregates for use in aggregate base construction as shown in Table 13: Gradation and Plasticity of Aggregates for Aggregate Base Construction. Material shall comply with Section 1104: Aggregates for Aggregate Base Construction of the KDOT Standard Specifications for State Road and Bridge Construction.

Type AB-1 or AB-2 may be singularly or any combination of crushed stone, crushed or uncrushed gravel, sand, sand-gravel, or limestone gravel mixed with soil or other qualified binder material.

Type AB-3 is at least eight-five percent (85%) limestone or dolomite produced by mechanical crushing.

Deleterious Substances: Provide aggregates that are free from weeds, sticks, grass, roots and other undesirable foreign matter.

Table 13: Gradation and Plasticity of Aggregates for Aggregate Base Construction

Type	Percent retained on standard square mesh sieves*									P.I.	Liquid Limit (Max.)
	2"	1 ½"	1"	¾"	3/8"	No. 4	No. 8	No. 40	No. 200		
AB-1	0	1-10		5-40		35-75	54-85	78-95	90-98	0-6	25
AB-2*			0		1-35		25-50	60-75	78-90	1-6	25
AB-3**	0	0-5		5-30		35-60	45-70	60-84	80-92	2-8	30

* The fraction passing the No. 200 sieve shall not exceed 2/3 of fraction passing the No. 40 sieve.
** For grading factors less than 4.00 but greater than 3.75, provide additional materials as a penalty at a rate of 1.5% for each 0.05 less than 4.00 grading factors. Use a maximum lot size of 500 cubic yards or tons to determine penalty. Average all tests within the lot to determine penalty.

Base Aggregate Placement – The base aggregate material shall be uniformly spread in successive layers to such depth that when compacted, the base will have a minimum thickness specified. The Contractor or may construct the base in any number of layers that he chooses except that in no case shall any individual layer have a compacted thickness of more than four inches (4"). Each layer shall be compacted as hereinafter specified before any succeeding layer is placed.

After spreading a layer of material, water in an amount sufficient to insure the desired compaction shall be added and uniformly mixed with the base aggregate in a manner to prevent segregation. Excess moisture resulting in runoff shall be avoided. If for any reason, the material and subgrade become too wet to permit satisfactory work, they shall be allowed to dry to a moisture content that will permit satisfactory work.

The base aggregate material shall meet the required specification of Section 1104: Aggregates for Aggregate Base Construction of the KDOT Standard Specifications for State Road and Bridge Construction immediately before compaction operations are commenced. If, for any reason, segregation occurs in excess of ten percent (10%) variation from the gradation required in Table 13: Gradation and Plasticity of Aggregates for Aggregate Base Construction or the materials become contaminated, such segregated or contaminated materials shall be removed and replaced with suitable materials at the expense of the Contractor. The limited segregation of ten percent (10%) variation will be ascertained by a sieve analysis of a minimum 100 pound sample taken from the in-place base course. However, when crushed stone is used, segregated surface areas may be corrected by adding limestone screenings of such gradation and quantity as required to fill the surface voids and firmly bind the loose material in place.

Shaping and compacting shall be carried on continuously until a true, even and uniform surface or proper grade and cross-section is obtained, and until the density of the complete base is a least ninety-five percent (95%) of maximum density as determined by AASHTO T-99. The proper moisture content shall be maintained by wetting the surface as required during shaping and compacting operations. Final rolling shall be accomplished by use of a self-propelled smooth-wheeled roller.

Surfacing Aggregate – Provide one of the types of aggregate for surfacing or subgrade modification for secondary roads as show in Table 14: Gradation Requirements for Aggregates for Surfacing or subgrade Modification for County Secondary Roads. Material shall comply with Section 1112: Aggregates for Surfacing or Subgrade Modification for County Secondary Roads in the KDOT Standard Specifications for State Road and Bridge Construction.

Table 14: Gradation Requirements for Aggregates for Surfacing or Subgrade Modification for County Secondary Roads										
Type	**Material**	**Percent retained on standard square mesh sieves***								**Gradation Factor**
		2”	**1 ½”**	**1”**	**¾”**	**3/8”**	**No. 4**	**No. 8**	**No. 30**	
SS-3	Crushed Stone		0	0-15		45-85			90-100	
SS-5	Crushed Stone	0	0-5	0-30		45-90			90-100	
SS-14	Limestone Gravel		0							
*After removal of all deleterious substances										

Percentage of Wear – The percentage of ware of surface aggregate shall not exceed fifty-five percent (55%) when tested by ASTM C131.

Deleterious Material – The percentage of deleterious material shall not exceed the following:

Table 15: Deleterious Substances						
Type	**Material**	**Passing No. 200 Mesh Sieve**		**Sticks (wet)**	**Clay Lumps & Friable Particles**	**Combination***
		Note 1	**Note 2**			
SS-3	Crushed Stone	8.0	15.0	2.0	5.0	5.0
SS-5	Crushed Stone	8.0	15.0	2.0	5.0	5.0
SS-14	Limestone Gravel	7.0	30.0			
*Of any delirious substances except material passing No. 200 (2).						

The sum of the percentages of all deleterious substances shall not exceed ten percent (10%).

Surface Construction – Aggregate surfacing shall be placed in one lift on the roadway to the lines and dimensions as shown on construction drawings or as requested by Wilson County. The depth of the aggregate shall be six inches (6”) unless otherwise directed.

Aggregate shall be distributed and spread uniformly over the prepared base and then incorporated into the upper two to four inches (2”-4”) of the paving bed by the use of blade, tiller, scarifier, or disk until a uniform mixture of aggregate and soil is obtained.

The mixture shall then be shaped and compacted until a true uniform surface of proper cross section is obtained and until there is no visible evidence of further consolidation.

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DIRT ROAD SURFACE AND BASE DESIGN

BASE DESIGN

Base Clearing – Before beginning preparation of the base, all sod and other vegetation shall be removed from the roadbed. The base surface shall be brought to the specified lines, grades and cross-section, as indicated on the construction plans or approved by the Wilson County Road and Bridge Supervisor or County's Representative. Tolerance allowed on all lines, grades and cross-sections shall be no more than one-quarter of an inch (1/4").

Base Compaction – After clearing, the top six inches (6"), the base shall be compacted to not less than 95% of the standard proctor maximum density as measured by AASHTO T-99, Method C and within a tolerance of plus three percent (3%) and minus two percent (2%) of the optimum moisture content. The tolerance applies only to the top six inches (6").

Protection and Maintenance of Base - The base shall be protected from action of the elements or others. Any action (eg. Settlement or erosion) that damages the subgrade prior to placing the pavement thereon, shall be repaired and the specific lines, grades, cross-section, tolerance, density, and moisture content range reestablished.

The Contractor shall protect all existing improvements from damage resulting from his base operation. Any improvement damaged shall be repaired or replaced by the Contractor at their own expense.

Rolling Test – Once the base has been brought to the final construction elevation, all lanes shall be roll tested in their entire length. The base will not acceptable if rutting, pumping, or deformation of the base results from the roll test. This testing will be done by the Contractor or at their own expense, and will be in addition to the applicable moisture and density testing.

Equipment for roll testing shall be tandem dump truck (one front and two rear axles) carrying the maximum allowable legal load.

The truck shall proceed slowly along each traffic lane, allowing the County Road and Bridge Supervisor or County's Representative to walk alongside and observe the results. Areas failing the roll test will be reworked and retested prior to approval of the subgrade for paving.

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ENTRANCES ONTO COUNTY ROADS

Permit Required – Anyone creating a new entrance location or any change or modification of an existing entrance onto Wilson County Public right-of-way shall first be required to obtain an Access Entrance Permit from the Wilson County Road and Bridge Department.

Payment of Costs Associated with Access Entrance – The property owner or permittee is responsible for paying for the initial access entrance materials and construction or modification of existing entrances. Wilson County will install the access entrance at the cost shown on the current Boubon County Access Entrance Fee Schedule. Payment must be made to the County before the access entrance will be installed.

Access Entrance Ownership – After installation of new access entrance, the culvert pipe will become the property of Wilson County and they will be responsible for culvert maintenance.

Insurance – All Contractors or Owners desiring to provide services for the installation of an access entrance in Wilson County shall submit a certificate of insurance in the amount of not less than $1,000,000 aggregate with Wilson County named as additional insured.

Entrance Criteria – The Wilson County Road and Bridge Supervisor will review the location and construction plans to determine if there is adequate sight distance, correct slope between road and fence line and other specific criteria determined by the Wilson County as follows:

A.) Adequate sight distance along a road in each direction from any given point of access where a vehicle must stop before entering the roadway.

B.) The finished surface elevation of an entrance to a County roadway shall initially be sloped away from the road at about a four percent (4%) slope to prevent surface water from draining onto the County roadway.

C.) The entrance centerline lying within the County Public right-of-way shall be at a right angle to the centerline of the road for a minimum of thirty feet (30%) from the new edge of the shoulder of the roadway.

Culvert Pipe Requirements – If the location of the entrance is approved, the Wilson County Road and Bridge Supervisor will determine if a culvert pipe is required, the size of opening required and the length of pipe required.

A.) Type of Culvert Pipe – Culvert pipes shall be approved by the Wilson County Road and Bridge Supervisor. Used culvert pipe showing rust or having holes will not be approved. New culvert pipe shall meet the requirements of Section 1904: Corrugated Metal Pipe and End Sections of the KDOT Standard Specifications for State Road and Bridge Construction. The following new pipe types are approved:

1. Corrugated Metal Pipe (2 -2/3" x 1/2" Corrugations): 15", 18", 24", 30", 36" & 42" (14 gauge); 48" (12 gauge); and 60" (10 gauge).

2. Corrugated Metal Pipe End: 15", 18" & 24" (16 gauge); 30" & 36" (14 gauge); 42" & 48" (12 gauge); and 60" (10 gauge).

3. Tied reinforced concrete pipe (2000D Class or better – no rejects).

4. PVC plastic pipe (SDR 35 or better).

B.) Size of Culvert Pipe – The size of the culvert pipe will be determined by Wilson County based on the drainage area. A fifteen inch (15") diameter is the smallest size culvert pipe that will be allowed.

C.) Length of Culvert Pipe – The Wilson County Road and Bridge Supervisor will determine the length of culvert pipe based on the top width requested, entrance use, ditch depth and type of road being entered. The following criteria shall be followed:

1. A minimum of sixteen foot (16') entrance top is required.

2. A minimum of thirty foot (30') culvert pipe is required.

Entrance Installation and Restrictions

A.) Wilson County will install all permanent access entrances within the County Public right-of-way.

B.) Temporary access entrances may be installed by a licensed contractor.

C.) Access entrance installation shall be according to access entrance details and standards within this Policy.

D.) Access entrance fill shall be compacted by tamping or rolling.

E.) No filling will be permitted in the County Public right-of-way other than necessary to construct the proposed entrance.

F.) No excavations will be made within the limits of the traveled portion of the roadway.

G.) The construction, future repair or maintenance of entrances shall be carried on in such a way as not to interfere with or interrupt traffic on the roadway.

H.) Private property may not be used so as to obstruct or encumber the County Public road right-of-way, or interfere with safety, comfort, and the use of the County roadway users.

I.) Nothing in this policy shall preclude Wilson County from entering upon any access entrance on the County Public right-of-way and performing necessary maintenance for the protection of the County roadway.

Grandfathered Entrances – Existing approved entrances will continue to be maintained by Wilson County. When culvert pipe replacement is necessitated, the County will furnish a new culvert pipe or the same length as removed, whichever is longer, at no expense to the owner. A permit will be required if additional length of culvert pipe is requested.

Entrance Surfacing – The Permittee will be required to pay for the maintenance of the access entrance surfacing (gravel, oil, asphalt, or concrete). Entrance surfacing removed by the County during road construction will be replaced by the County at no expense to the owner.

Roadway Constructions and Replacement of Entrances – Any access entrances removed for road construction will be replaced by the County at no cost to the owner. At the request of the owner and with proper location approval, the County may construct additional entrances at the time of roadway construction with the owner responsible for the cost of the access entrance.

Removal of Entrance by Owner – If need to be, Owner may remove culvert and access entrance on their property at their expense. Drainage ditch shall be restored to provide adequate positive drainage flow. If at some time in the future, the property owner wished to reestablish the entrance, they will have to start the permit process over again and are responsible for cost of reinstalling the access entrance.

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UTILITY INSTALLATION WITHIN RIGHT-OF-WAY

GENERAL PROVISION

Summary - This section applies to all public and private utilities, including electric power, telephone, telegraph, cable television, water, gas, oil, petroleum products, steam, chemicals, sewage, drainage, irrigation, and similar lines that are to be located, adjusted, or relocated, within the County Public right-of-way. Such utilities may involve underground, surface, or aboveground facilities, either singly or in combination.

Utility Company lines constructed on County Public right-of-way shall be in conformance with the current "National Electrical Safety Code", "American Waterworks Association Specifications", "Federal Pipeline Safety Regulations" and KDOT "Standard Specifications for State Road and Bridge Construction".

Location - Utility Company installations shall be located to minimize need for later adjustment to accommodate future roadway improvements and to permit servicing such lines with minimum interference to roadway traffic and county road maintenance operations.

Parallel Installation Location – Parallel installations shall be located on uniform alignment within seven feet (7') or less of the County Public right-of-way line to reduce impacts on traffic operations and preserve space for future roadway improvements or other transportation purposes.

Crossing Installation Location – Utility Company line crossing of County Public right-of-way are to be installed perpendicular to the roadway alignment to the extent possible.

TRENCHING AND BACKFILL

*All trenching operations shall strictly follow OSHA trenching and excavation requirements of 29 CFR 1926.651 and 1926.652.

Trench Construction for Public and Private Utilities - Where soil and depth conditions permit, trenches should be cut to have vertical faces with a maximum width of outside diameter of pipe plus two feet (2'). Trenches must be shored where necessary for safety and to protect the traveled way, shoulders and slopes.

Trench Construction of Transmission Pipeline Utilities – Where soil and depth conditions permit, trenches should be cut to have 1:1 sloped face with a pipe embedment trench area to have a maximum width of outside diameter of pipe plus eighteen inches (18") on each side of the pipe.

Pipe Embedment Material – Embedment material shall be a ¾" washed, crushed stone with at least 95% of the material passing the ¾" square sieve and not more than 5% passing a #4 sieve, extending four inches (4") below the pipe over earth or the Pipe O.D./4, miniumum of 6", below the pipe over rock, to twelve inches (12") over the top of the pipe.

The material shall be free from clay lumps or organic matter. The fraction passing the No. 4 seive shall have a liquid limit not greater than 25 and a plasticity index not greater than 5.

This requirement may be waived for lines with inside diameter of two inches (2") or less, and installed in compliance with the American Waterworks Association (AWWA) standards, and other applicable Industry Standards.

Placement of Pipe Embedment - The pipe embedment material shall provide a cradle of granular embedment material which shall be placed in six inch (6") lifts and compacted to a minimum of 90%. Shovel slicing of embedment shall be performed along the sides of the pipe as embedment is placed, to consolidate the bedding and haunching below the pipe. Consolidate granular embedment by rodding, spading and compacting as necessary to provide uniform pipe support and meet compaction requirements.

Granular Backfill Material – Granular backfill material shall be a graded gravel or crushed stone of the following gradation:

Sieve Size (square opening)	Percent Passing (by weight)
1 inch	100
3/4 inch	85-100
3/8 inch	50-80
No. 4	35-60
No. 40	15-25
No. 200	4-8

Granular backfill material shall be free from clay lumps or organic matter. The fraction passing the No. 4 sieve shall have a liquid limit not greater than 25 and a plasticity index not greater than 5.

Placement of Backfill Material - Granular backfill material shall be placed on the compacted pipe embedment material, in layers not to exceed nine inches (9") loose thickness and compacted.

Granular backfill material shall be compacted by vibratory means. Each lift or granular backfill material shall be compacted to a minimum of 95 percent of maximum density as compacted at a moisture content within plus two (2) or minus two (2) percent of optimum. Extreme care shall be used in compaction operations to prevent compacting equipment from contacting the pipe.

Blasting Plan – A blasting plan shall be submitted to Wilson County Road and Bridge Supervisor or County's Representative before blasting a trench for utilities in rock within the County Public right-of-way. A blasting plan will also be reviewed by KDOT Bridge Design before blasting a trench for utilities in rock in the County Public right-of-way within one hundred feet (100') of a bridge or highway structure.

PIPELINE INSTALLATIONS

Pipeline Construction - Utility Company shall specify the type and class of material, test, design and maximum working pressures of their pipeline installations. Utility Companies operating pipelines that are not constructed, operated, and maintained under regulations established by the U.S. Department of Transportation shall upon revision in the class of material or an increase in the maximum operating pressure, advise Wilson County Road and Bridge Supervisor in writing of such revisions.

Pipeline Vents – Vents are appurtenances by which fluids between carrier and casing may be inspected, sampled, exhausted or evacuated. Vents shall be located at the high end of short casings and at both ends of casing longer than one hundred and fifty feet (150'). Vent standpipes shall be located and

constructed so as not to interfere with maintenance of the roadway nor to be concealed by vegetation. Where possible, they shall be marked and located at the County Public right-of-way line. The markers shall display the name and telephone number of company officials to contact in case of emergency.

Pipeline Drains – Drains are appurtenances by which liquids or heavy gases may be evacuated or exhausted. Roadside ditches or natural water courses shall not be used for purging the carrier unless specifically authorized by Wilson County or any state or federal agency with jurisdiction over said ditches or water courses.

Pipeline Markers – The Utility Company shall place readily identifiable and suitable markers at the County Public right-of-way line where it crosses the County Public right-of-way except in those cases where a vent serves as a marker. Pipeline marker shall be designed and installed in accordance with the Utility Location Maker Detail in this Policy.

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UNDERGROUND UTILITY INSTALLATIONS

GENERAL REQUIREMENTS

Underground utility installations should be located within the seven foot (7') utility corridor at the County Public right-of-way line. All installations and appurtenances shall be located to minimize interference with maintenance operations of Wilson County and other utilities in the corridor.

All Utility Company appurtenances above the ground surface shall be located within the seven foot (7') utility corridor at the County Public right-of-way line.

Utilities will not be permitted in the traveled way or median shoulder, expectations will be considered in extreme cases and require written approval by Wilson County Road and Bridge Supervisor or County's Representative.

Pipeline Depths - Underground utilities other than transmission pipelines shall be installed at a minimum depth of three feet (3'). Transmission pipelines shall be installed at a minimum depth of six feet (6'). In no case shall the depth of cover for any underground facilities be less than that meeting applicable Industry Safety Guidelines. Locations where it will be difficult to attain minimum depth due to wet or rocky terrain shall be avoided. Any plan location change must be approved by Wilson County Road and Bridge or County's Representative.

Above Ground Structures – Any above ground structures (i.e. pedestal) shall be marked by a post higher than the surrounding vegetation. This post shall be a minimum of six feet (6') All pedestal type structures shall be located at County Public right-of-way line.

Parallel Installation Casing – Utility Company lines installed parallel to County Public right-of-way require casing at certain locations. Such locations include, but are not limited to, crossings of side roads and major entrances.

Utility Facility Structures – Buried vaults larger that a hand hole (3 foot x 4 foot) shall be located on private right-of-way. Aboveground equipment cabinets other than splitter posts shall be located on private right-of-way.

UNDERGROUND INSTALLATIONS CROSSING RIGHT-OF-WAY

All utilities crossing under ditches and roadways should have a minimum depth of cover of five feet (5') below ditch grade (original plan grade elevation), whichever shall govern. In fill sections, the natural ground line at the toe of the slope will be considered as ditch grade. However, in no case shall the depth of cover be less than that meeting applicable Industry Safety Guidelines.

If the minimum depth is not possible because of existing utilities, water table, ordinances, or similar reasons, the line shall be rerouted or protected with a casing, suitable bridging, concrete slab or other appropriate means.

Locations that are considered unsuitable or undesirable shall be avoided. These include, but are not limited to, locations as in deep cuts, near bridge footings, and in wet or rocky terrain where it is difficult to obtain minimum depth. Plan location changes must be approved by Wilson County Road and Bridge Supervisor or County's Representative.

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ENCASEMENT OF UTILITIES

GENERAL CONSTRUCTION

Casings are oversized load bearing conduits or ducts through which a utility is inserted:

- To protect the County Public right-of-way from damages and to provide for repair, removal and replacement of the utility without interference to roadway traffic.
- To protect the carrier pipe from external loads or shock, either during or after construction of the highway.
- To convey leaking fluids or gases away from the area directly beneath the roadway to a point of venting at or near the County Public right-of-way line.

The casing shall include necessary appurtenances, such as vents, drains, and markers. Casing pipe shall be sealed at both ends with a suitable material to prevent water or debris from entering the annular space between the casing and the carrier, in accordance with Pipeline Industry Standards.

Utility Company lines crossing County Public right-of-way shall be cased five feet (5') beyond the County Public right-of-way to five feet (5') beyond the County Public right-of-way line.

CASING REQUIREMENTS FOR UTILITIES CROSSING THE RIGHT-OF-WAY

Underground Electric Service Lines – Underground electric service lines shall be placed in conduit or ducts five feet (5') beyond the County Public right-of-way line to five feet (5') beyond the County Public right-of-way line and shall be clearly marked by the Utility Company at the outer limits of the County Public right-of-way.

Underground Fiber Optic Lines – Underground fiber optic lines shall be placed in schedule 40 PVC, HDPE, or equivalent from five feet (5') beyond the County Public right-of-way to five feet (5') beyond the County Public right-of-way line, with a tracer wire and must be clearly marked by the Utility Company at the limits of the County Public right-of-way.

Direct Buried Telephone and Communications Cable Lines – Direct buried telephone and communications cable will not be required to be cased.

Exemption of Casing – Pipelines carrying high-pressure natural gas, liquid petroleum products, ammonia, chlorine, or other hazardous or corrosive products need not be cased provided they are:

- Welded steel pipelines;
- Cathodically protected, if welded steel;
- Coated in accordance with accepted Industry Standards, if welded steel;
- Wall thickness is thick enough to meet requirements of the Federal Pipeline Safety Regulations – Code of Federal Regulations – Title 49 Code of Federal Regulations Parts 191 and 192 (Natural Gas) or Part 195 (Liquid Petroleum Gas) with respect to wall thickness;
- Designed for operating stress levels in accordance with Federal Pipeline Safety Regulations;
- Natural gas distribution and service lines with maximum pressure of sixty (60) pounds per square inch (PSI) of copper, steel or plastic which have an inside diameter of two inches or less.

Casement of Gas Lines - Gas pipelines not meeting the applicable conditions and provisions listed above under Exemption of Casing shall be cased five feet (5') beyond the County Public right-of-way limits and

shall be vented and marked at the outer County Public right-of-way limits. The markers shall give the name of the owner and phone number to contact in case of an emergency.

Casement of Sanitary Sewer Lines - Sanitary sewer lines crossing the County Public right-of-way must be encased five feet (5') beyond the County Public right-of-way line to five feet (5') beyond the County Public right-of-way line. An exception shall be made for gravity flow lines placed prior to road construction, properly bedded, and constructed of heavy duty cast or ductile iron pipe with suitable mechanical and/or restraint joints and seals. Suitability shall be determined by Wilson County Road and Bridge Supervisor or County's Representative.

Casement of Water Lines – Water lines must be cased, from five feet (5') beyond the County Public right-of-way to five feet (5') beyond the County Public right-of-way. Venting and sealing of casement is not required. Casement is not required provided:

- Water line is placed prior to roadway construction utilizing extra strength cast iron or ductile iron with mechanical and/or restraint joints and seals, and is properly bedded. The extra strength pipe is to be used from County Public right-of-way to County Public right-of-way.

- Any copper, steel, or plastic waterline has an inside diameter of two inches (2") or less.

Casement of Plastic Pipe – All plastic pipe with inside diameter greater that two inches (2") must be cased five feet (5') beyond County Public right-of-way to five feet (5') beyond County Public right-of-way and meet minimum ASTM specifications and all applicable laws and codes.

Uncased Utility Installations – Uncased Utility Company installations, which by reason of shallow depth or location make them vulnerable to damage from roadway construction or maintenance operations, shall be protected with suitable bridging, concrete slabs or other appropriate measures.

CASING MATERIAL

The following materials are acceptable for use in the casing of utility facilities when permitted by industry requirements and standards.

Welded Steel Pipe – Welded steel pipe, smooth wall, in sound condition meeting the requirements of the current KDOT "Standard Specifications for State Road and Bridge Construction".

Corrugated Metal Pipe – Corrugated metal pipe and coupling band meeting the requirements of the current KDOT "Standard Specifications for State Road and Bridge Construction".

Reinforced Concrete Pipe – Reinforced concrete pipe meeting the requirements of the current KDOT "Standard Specifications for State Road and Bridge Construction".

Vitrified Clay Pipe – Vitrified clay pipe meeting the requirements of the current KDOT "Standard Specifications for State Road and Bridge Construction".

Cast Iron Pipe or Ductile Iron – Cast iron pipe or ductile iron of the same class used for carrier pipe, providing it meets the minimum ASTM Specifications. A statement certifying that such specifications are met will be submitted as a part of the permit.

Polyvinyl Chloride (PVC) – Polyvinyl Chloride (PVC) meeting the requirements of the current KDOT "Standard Specifications for State Road and Bridge Construction".

High-Density Polyethylene (HDPE) – High-Density Polyethylene (HDPE) providing it meets the minimum ASTM Specifications.

Chlorinated Polyvinyl Chloride (CPVC) – Chlorinated Polyvinyl Chloride (CPVC) providing it meets the minimum ASTM Specification F441 and all applicable laws and codes.

The use of PVC pipe for casing is acceptable up to maximum diameter of twelve inches (12").
Electric Conduits – Electric conduits may be of non-metallic materials such a polyvinyl chloride, high-density polyethylene, transite, or vitrified clay.

BORING

Boring Pits – Pits for boring will not be permitted in the County Public right-of-way.

Boring Requirements – Casing and pipeline installation of pipe greater than twelve inch (12") in diameter shall be accomplished by using the directional boring (horizontal directional drilling, HDD) method of installation, also commonly referred to as guided horizontal boring. Tunneling, jacking and trenching methods will not be acceptable methods unless prior written approval from Wilson County Road and Bridge Supervisor or County's Representative.

The use of water under pressure (jetting) or puddling will not be permitted to facilitate boring operations. Some boring may require water to lubricate cutter and pipe. This type of boring will be acceptable under these standards.

Where unstable soil conditions exist, boring operations shall be conducted in such a manner as not to be detrimental to the County Public right-of-way being crossed.

If excessive voids or a too large bored hole is produced during casing or pipeline installations, or if it is necessary to abandon a bored hole, prompt remedial action shall be taken by the Utility Company, subject to the written approval of Wilson County Road and Bridge Supervisor or County's Representative.

All voids or abandoned holes caused by boring are to be filled by pressure grouting when deemed necessary by Wilson County Road and Bridge Supervisor or County's Representative in writing. The grout material should be a sand cement slurry with a minimum of two sacks of cement per cubic yard and a minimum of water to assure satisfactory placement.

The hole diameter resulting from bored installations shall not exceed the outside diameter of the utility pipe, cable or casing (including coating) by more than one and a half (1.5) inches on pipes with an inside diameter of twelve inches (12") or less; or two inches (2") on pipes with an inside diameter greater than twelve inches (12").

Failed Bore Path - If excessive voids or a too large bored hole is produced during casing or pipeline installations, or if it is necessary to abandon a bored hole, prompt remedial action shall be taken by the Utility Company, subject to the written approval of Wilson County Road and Bridge Supervisor or County's Representative.

All voids or abandoned holes caused by boring are to be filled by pressure grouting when deemed necessary by the County Road and Bridge Supervisor or County's Representative in writing. The grout material should be a sand cement slurry with a minimum of two sacks of cement per cubic yard and a minimum of water to assure satisfactory placement.

Product Bore Hole Diameter - The hole diameter resulting from bored installations shall not exceed the outside diameter of the utility pipe, cable or casing (including coating) by more than 1.5 inches on pipes with an inside diameter of twelve inches (12") or less; or two inches (2") on pipes with an inside diameter greater than twelve inches (12").

Drilling Fluids – The Utility Company shall use a mixture of bentonite clay or other approve stabilizing agent mixed with potable water with a minimum pH of 6.0 to create the drilling fluid for lubrication and soil stabilization. Vary the fluid viscosity to best fit the soil conditions encountered. Do not use any other chemicals or polymer surfactants in the drilling fluid without written consent from Wilson County Road and Bridge Supervisor or County's Representative. Utility Company shall certify to the County Road and Bridge Supervisor in writing that any chemicals to be added are environmentally safe and not harmful or corrosive to the facility. Utility Company shall report to the County Road and Bridge Supervisor the source of water for mixing the drilling fluid. Approval from the County Road and Bridge Supervisor is required for obtaining water from such sources as streams, rivers, ponds or fire hydrants. Any water source used other that a potable water may require a pH test.

Sump Pits - A sump pit is require to be on site by Utility Company to contain drilling fluids if vacuum devices are not operated throughout the drilling operation, unless approved by the County Road and Bridge Supervisor or County's Representative.

Cleanup Work – Within forty-eight (48) hours of completing installation of the boring product, Utility Company shall clean the work site of all excess slurry and spoils. The Utility Company shall be responsibility for the removal and final disposition of excess slurry or spoils and shall ensure that the work site is restored to pre-construction conditions.

Damage Restoration – The Utility Company is hereby required to repair all roadway damage caused by heaving, settlement, separation of pavement, escaping drilling fluid (frac-out), or the directional drilling operation. If the Utility Company fails to make the repairs required by Wilson County, Wilson County may affect those repairs and charge the Utility Company for the cost of those repairs. The cost of repairs will compensate Wilson County for any costs associated with the administration, construction, consultants, equipment, inspection, notification, remediation, repair, restoration, or another actual cost incurred by Wilson County that were made necessary by reason of the repair or restoration undertaken by Wilson County.

As-built Plans – The Utility Company shall provide to Wilson County Road Department a complete set of As-Built Plans showing all boring (successful and failed) within thirty (30) days of completing the work.

DEFINITIONS

For purposes of this Article, the following terms shall have the following meanings:

"Contractor", "Occupant", "Utility Company" or "ROW Occupant" means any person, firm, corporation, association, utility, or entity, which enters upon the Public right-of-way of Wilson County, or in any manner establishes a physical presence on, upon, in or over the Public right-of-way of Wilson County, for the purpose of installing, constructing, maintaining or operating lines, conduits, wires, fiber optic wires, cables, pipes, pipelines, poles, towers, vaults or temporary facilities.

"Policy" shall mean this Wilson County Public right-of-way Use for Utility Infrastructure Policy adopted by the Board of Commissioners of Wilson County, Kansas.

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"County" shall mean the County of Wilson, Kansas.

"Road and Bridge Department" shall mean Wilson County Road and Bridge Department.

"Supervisor" shall mean the Road and Bridge Supervisor for Wilson County.

"County's Representative" shall mean any person, firm, corporation, association, or entity, which is appointed by the Wilson County Board of Commissioners to represent Wilson County.

"Construction" shall mean any work above or below surface or subsurface of the county right-of-way, including, but not limited to opening the or county right-of-way; installing, servicing, repairing or modifying any facility(ies) in or under the surface or subsurface of the county right-of-way, and restoring the surface and subsurface of the county right-of-way.

"Facility" or "Facilities" shall include, but not be limited to, any and all cables, cabinets, ducts, conduits, converters, equipment, drains, handholds, manholes, pipes, pipelines, splice boxes, surface location markers, tracks, tunnels, utilities, vaults, and other appurtenances or tangible things owned, leased, operated, or licensed by an owner or person, that are located or are proposed to be located in the county right-of-way.

"Private Utilities" means privately owned facilities which convey or transmit commodities as defined in this Policy but devoted exclusively to private use.

"Public Utilities" means facilities which convey or transmit commodities as defined in this Policy and directly or indirectly serve the public or any part thereof.

"Transmission Pipeline" means faciliites which convey or transmit commodities as defined in this Policy but devoted exclusively to private use.

"Owner" shall mean any person, including the county, who owns any facility or facilities that are or are proposed to be installed or maintained in the county right-of-way.

"**Applicant"** shall mean an application for permit.

"Permit" shall mean a permit to construct as it has been approved, amended, or renewed by the Road and Bridge Department.

"Permittee" shall mean the applicant to whom a permit to construct has been granted by Wilson County in accordance with this Policy.
"Person" shall mean any person, corporation, partnership, any municipal excavator, or any governmental agency.

"County Public right-of-way" shall mean the area across, along, beneath, in, on, over, under, upon, and within the dedicated public alleys, boulevards, courts, lanes, roads, sidewalks, spaces, streets, and ways within the County, as they now exist or hereafter will exist and which are or will be under the permitting jurisdiction of the County Road and Bridge Department.

"Roadway" shall mean that portion of the road extending from outside shoulder line to outside shoulder line or between curb lines.

"Oversize/Overweight Vehicles or Loads" shall mean a vehicle or load exceeding the maximum sizes and weights defined in K.S.A. 8-1902, 8-1904 and 8-1909.

"Boring" shall mean piercing a hole under the surface of the ground without disturbing the earth surrounding the hole. Water jetting and puddling is not permitted. Holes may be mechanically bored and cased using a cutting head and a continuous auger mounted inside of the casing. Small diameter holes may be augured and the casing or utility facility pushed in later.

"Carrier" shall mean pipe directly enclosing a transmitted fluid (liquid or gas).

"Casing" shall mean a larger pipe enclosing a carrier.

"Backfill" shall mean replacement of soil around and over an underground Utility Company facility.

"Trenched" shall mean installed in a narrow excavation.

REFERENCES

1. AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT < 400), 2001.
2. Guide for Accommodating Utilities within ROW for Counties & Small Cities in Kansas, LTAP, March 2007.
3. FHWA Gravel Roads Maintenance and Design Manual, SD LTAP, November 2000.
4. Traffic Control Devices for Low-Volume Roads – Part 5, 2009 Edition.
5. Rural Road Design, Maintenance, and Rehabilitation Guide, SDOT Office of Research, Sept. 1995.
6. Field Guide for Unpaved Rural Roads, LTAP, July 2004.
7. KDOT Utility Accommodation Policy, 2007.
8. Rural Road Condition Survey Guide, SDOT Office of Research, July 1995.