

**BONNEVILLE COUNTY PUBLIC WORKS  
STANDARD SPECIFICATIONS AND DRAWINGS**

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# BONNEVILLE COUNTY SPECIFICATIONS FOR DESIGN AND CONSTRUCTION

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## **GENERAL CONDITIONS**

### **A. PURPOSE**

1. These Standard Specifications and Drawings are meant to provide for a uniform roadway network through Bonneville County at the local level while maintaining consistency throughout the planning, design, and construction process. Projects require compliance with guidelines that are effective for traffic operation and roadway safety, based on past use, engineering judgment, and other national guidelines. The following Standards represent minimum values and are not a substitute for engineering knowledge, experience, or judgment. If alternate designs or procedures can be shown to provide performance equal to or better than the following standards, said alternate may be proposed for use to the PUBLIC WORKS DEPARTMENT. After a proposed alternative is approved in writing by the PUBLIC WORKS DEPARTMENT, such alternative may be used on the specific project in question, but should not be taken as a blanket approval for all projects in Bonneville County.

### **B. NEED FOR CONTROL AND UNIFORMITY**

1. It is the intent of this manual to provide for a uniform roadway network at the local level throughout Bonneville County and to promote the construction of good, long lasting, efficient, and safe roadways while reducing maintenance and repair costs.
2. It is further the intent of these standards to educate homeowners, developers, Engineers, and others about design standards, maintenance responsibilities, and other guidelines for items in, around, or nearby the Public Right-of-Way (ROW).
3. Bonneville County is authorized by State Statute to plan, design, construct and administer roadway facilities by virtue of the following Idaho Code Sections:
  - i. 40-201 (Highways and Bridges – general provisions)
  - ii. 67-6518 (State Government & State Affairs – Local Land Use Planning).

## I. ABBREVIATIONS AND DEFINITION OF TERMS

The following abbreviations are used throughout this manual.

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
APWA	American Public Works Association
ASCE	American Society of Civil Engineers
ASTM	American Society of Testing and Materials
AWWA	American Water Works Association
BMP's	Best Management Practices
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
ISPWC	Idaho Standards for Public Works Construction
MUTCD	Manual on Uniform Traffic Control Devices
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Agency
SWPPP	Storm Water Pollution Prevention Plan

- **Addendum** – Any written or graphic modification or interpretation of the Contract Documents issued prior to the bid opening by the County or an authorized representative.
- **ANSI A300** - The current standard published by the American National Standards Institute, Inc. for certain standard tree, shrub and other woody plant maintenance standard practice.
- **ANSI Z133.1** - The current standard published by the American National Standards Institute, Inc. for certain safety standards regarding the planting and maintenance of trees in proximity to utility lines.
- **Average Daily Traffic** - The average 24-hour volume, being the total volume during a stated period divided by the number of days in that period. Unless otherwise stated, the period is a year. The term is commonly abbreviated as ADT.
- **Backfill** - Replacement of suitable material compacted as specified around and over a pipe, conduit, casing, or gallery.
- **Base** – Material placed above the subgrade to provide structural support to the surfacing.
- **Bedding** - Special or specified suitable material to support a pipe, conduit, casing, or gallery.
- **Bridge** – Structures twenty (20) feet or larger in span, measured along the centerline of the roadway from the inside face of wall or abutment.
- **Calendar Days** – Every day shown on the calendar, Sundays and Holidays included. Unless otherwise designated, days as used in the Contract Documents will be understood to mean Calendar Days.
- **Cap** - Rigid structural element surmounting a pipe, conduit, casing, or gallery.
- **Carrier Pipe** - Pipe directly enclosing a transmitted fluid (liquid or gas).
- **Casing** - A larger pipe enclosing a carrier pipe.
- **Certificate of Substantial Completion/Letter of Conditional Acceptance** – A document from the County to the Engineer/Developer stating major work on the project

has been completed and accepted for maintenance by the County. The guarantee period (usually one year) begins at the time this document has been officially entered in the County Commissioners minutes. Refund of inspection fees or deposit (retainages) is not paid until all work and/or conditions have been completed and accepted by the County.

- **Change Order** – A written order to the Contractor, covering changes in the plans, specifications, or quantities, within the scope of the contract, and establishing the basis of payment and/or time adjustments for the work affected by said changes.
- **Clear Right-of-Way** – a right-of-way without obstructions (trees, boulders, etc.), canals, ditches or other obstacles that would prevent the immediate use of the full and complete right-of-way width.
- **Clear Zone:** the total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, a non-recoverable slope, and/or a clear run-out area. The desired minimum width is dependent upon traffic volumes and speeds and on the roadside geometry. Simply stated, it is an unobstructed, relatively flat area beyond the edge of the traveled way that allows a driver to stop safely or regain control of a vehicle that leaves the traveled way.
- **Conduit or Duct** - An enclosed tubular runway for protecting wires or cables.
- **Contract Documents/Bidding Documents** - The written agreement between the County and the Contractor covering performance of work and the furnishing of all labor, materials, tools, and equipment for construction, including, but not limited to the Invitation for Bids, Bid Proposal, Contract, Payment and Performance Bond, Standard Specifications, Standard Drawings, Special Provisions or Plans and any change orders or supplemental agreements extending the work contemplated.

In case of discrepancies, Special Provisions shall prevail over Plans, Standard Specifications and Standard Drawings. On Plans or Drawings, dimensions denoted by actual figures, shall govern over scale dimensions. In case of any ambiguity or dispute over interpretation of the provisions of the Contract, the decision of the Public Works Director shall be final.

- **Control of Access** - The condition where the right of owners or occupants of abutting land or other persons to access, light, air, or view in connections with a roadway is fully or partially controlled by local authority.
- **County Road** - The entire width between the boundary lines of every way publicly maintained when any part is open to the use of the public for vehicular travel, with jurisdiction extending to the adjacent property line, including sidewalks, shoulders, berms and rights-of-way, not intended for motorized traffic. The terms “public streets,” and “County right-of-way” are interchangeable with County road.
- **County Road Structures** - Any structure which is a part of the public County road such as bridges, culverts, retaining walls, etc.
- **Cover** - Depth to top of pipe, conduit, casing, or gallery below grade of roadway or ditch.
- **Cradle** - Rigid structural element below and supporting a pipe.
- **Critical Root Zone** - The area under a tree extending from the base of a tree in all directions to a line 10 feet outside of the drip-line.
- **Culvert** – Any structure with a span of twenty (20) feet or less measured along the centerline of the roadway.

- **Dedication** - The setting apart of land or interest in land for use by the public. Land becomes dedicated when accepted by Bonneville County as a public dedication, either by ordinance, resolution, or entry in the official minutes or by the recording of a plat showing such dedication.
- **Development** - Conversion of raw land into subdivided or re-subdivided construction ready residential, commercial, or industrial building sites. Land development involving property improvements for commercial and industrial purposes, i.e. building sites, building additions, etc.
- **Development Agreement** - is a contract entered into between Bonneville County and a holder of property with development rights, the principal purpose of which is to negotiate and to establish the development regulations that will apply to the subject property during the term of the agreement and to establish the conditions to which the development will be subject.
- **Direct Burial** - Installing a utility facility underground, without encasement, by plowing.
- **Drainage Swales** – The area between the edge of pavement and property line that lies within the Public right-of-way providing roadside drainage. Swales provide storm water treatment by allowing retention of runoff water to infiltrate into the ground. The infiltration process cleans the runoff water and provides a natural recharge to the ground water. Drainage swales are highly promoted by the Environmental Protection Agency (EPA). Frequent problems with swales are mainly due to being filled in by residential homeowners and/or landscapers.
- **Easement** - A grant by the owner of the use of a parcel of land by the public, corporation, or persons for a specified use and purpose.
- **Encroachment** - Unauthorized use of public right-of-way such as for signs, fences, buildings, utilities, parking, storage, rocks/boulders, trees, mailboxes, etc.
- **Environmental Laws** - The Comprehensive Environmental Response Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act of 1986 (“CERCLA”); the Resource Conservation and Recovery Act, as amended by the Solid and Hazardous Waste Amendments of 1984 (“RCRA”); the Occupational Safety and Health Act (“OSHA”); the Emergency Planning and Community Right to Know Act of 1986 (“EPCRA”); the Solid Waste Disposal Act (“SWDA”); the Clean Air Act (“CAA”); the Federal Water Pollution Control Act (“FWPCA”); the Safe Drinking Water Act (“SDWA”); the Toxic Substances Control Act (“TSCA”), and any other similar state statutes or regulations (federal or state) promulgated pursuant to such statutes, for the purpose of regulating or preventing the release or threatened release of any Hazardous or Toxic Substance into the environment.
- **Gallery** - An underpass for two or more utility lines.
- **Irrigation Facilities** - Includes canals, laterals, ditches, conduits, gates, wells, pumps, and all equipment necessary for the supply, delivery, and drainage of irrigation water.
- **New Utility Installations** - Initial installations on the public right-of-way and the replacement of existing facilities with those of a different type, capacity, or design, or replacement at a new location on the public right- of-way.
- **Notice to Proceed** – Written notice to the Contractor showing the date to begin work under the Contract.
- **Obstruction** – See Encroachment

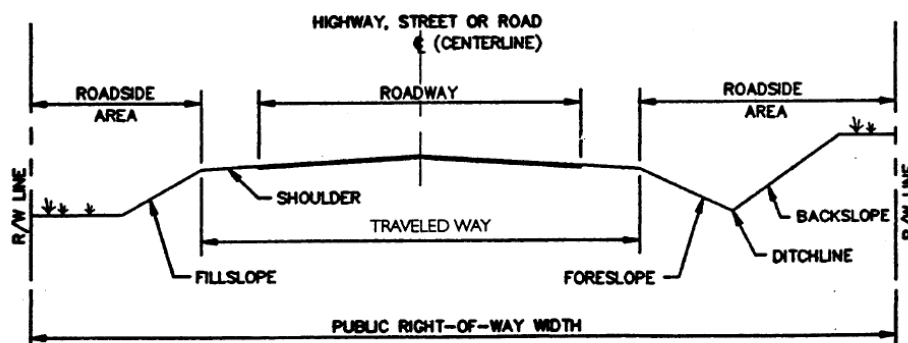
- **Owner** - The person or persons holding title by deed to land or holding title as vendees under a land contract.
- **Person** - Any individual, firm, partnership, corporation, association, company, or other governmental entity or organization of any kind.
- **Plans** - The official improvement/development drawings, profiles, typical sections, standard drawings, or reproductions thereof, designed by the Engineer and approved by Bonneville County Public Works that show location, character, dimension, and details of the work to be performed.
- **Plat** - A map of a subdivision:
  - Preliminary Plat** - A preliminary map, including supporting data, indicating a proposed subdivision development, showing adjacent properties, streets, driveways, etc. prepared in accordance with Bonneville County ordinances and the Idaho Code.
  - Final Plat** - A map of all or part of a subdivision providing substantial conformance to an approved preliminary plat, prepared by a Registered Land Surveyor in accordance with Bonneville County ordinances and the Idaho Code.
  - Recorded Plat** - A final plat bearing all of the certificates of approval required by ordinance and duly recorded.

**Public Right-of-Way** - A right-of-way open to the public and under the jurisdiction of Bonneville County, where the County has no obligation to construct or maintain said right-of-way for vehicular, pedestrian or other public traffic. A term used to define a specific space.

- **Public Trees** – Trees, shrubs, bushes and all other woody vegetation whose critical root zone is located on or encroaches into any public right-of-way or whose branches overhang any public right-of-way owned, managed or maintained by Bonneville County.
- **Reserve Strip** - A strip of land between a dedicated street or partial street and adjacent property, in either case, reserved and held in public ownership for future street extension or widening.
- **Road Classifications:**
  1. **Arterial Route** – Any road designated by the County as part of the arterial system, which is intended to provide for the movement of traffic within, into, out of or through the County, and is not generally intended to provide access to private property.
  2. **Collector Street** – Any road intended to provide for the movement of traffic between local and arterial streets, which may provide access to private property.
  3. **Minor/Local Street** – Any road that is intended to provide access to property and is not intended for the through movement of traffic.
  4. **Frontage Road** - A minor street parallel and adjacent to an arterial route and intercepts local streets and controls access to an arterial route, sometimes referred to as a Marginal Access Street.
  5. **Cul-de-sac** - A local road or street having one end permanently terminated in a vehicular turnaround. Maximum lengths for cul-de-sacs shall be four hundred (400) feet from the point of intersection (PI) to the radius point of the bulb.
  6. **Loop Street** - A minor street with both terminal points on the same street of origin.
  7. **Alley** - A public way of limited use intended only to provide access to the rear or side of lots or buildings in urban districts.
- **Roadside** - A general term denoting the area adjoining the outer edge of the shoulder.
- **Roadway** - That portion of a County road improved, designed or ordinarily used for vehicular travel, exclusive of sidewalks, shoulders, swales, and other portions of the public right-of-way.



- **Shrub** - A woody perennial plant branched at or near the base and which at maturity is generally expected to grow less than fifteen (15) feet in height.
- **Subdivider** – means an individual, firm or group who undertake the subdivision of a lot, tract or parcel of land for the dedication of streets or changes in the street or lot lines
- **Subgrade** – The constructed ground surface within the right-of-way upon which any structure, base aggregate or granular base material is placed.
- **Surfacing** – The uppermost layer of material placed on the travelway.
- **Topping** - The severe cutting back of limbs to stubs larger than three (3) inches in diameter within the tree's crown or the removal of the top part (trunk and limbs) of a coniferous tree, thereby removing the normal canopy and disfiguring the tree.
- **Top Soil** – Surface soil, suitable for the germination of seeds and the support of vegetative growth.
- **Traffic Control Devices** – All signs, signals, barricades, guardrails, pavement markings, channelization, or other equipment used for the purpose of regulating, warning, and guiding traffic.
- **Traveled Way** – The portion of the roadway for the movement of vehicles, exclusive of ditches and roadside areas. (see Figure 1)



**Figure 1 – Traveled Way**

- **Tree** - A woody and perennial plant, usually having one main stem or trunk and many branches and which, at maturity is expected to exceed fifteen (15) feet in height and two (2) inches in diameter. The failure to achieve such height at maturity shall not preclude its consideration as a tree.
- **Utility** - Any person, private or public entity owning and/or operating utility facilities as defined in the following paragraph.
- **Utility Facilities** - All privately, publicly, or cooperatively owned line, facilities and systems for producing, transmitting or distributing: communications; cable television; power; electricity; light; heat; gas; oil crude products; ore; water; steam; waste; storm water not connected with County road drainage; and other similar items, including fire and police signal systems and street lighting systems which directly or indirectly serve the public or comprise part of the distribution systems which directly or indirectly serve the public.
- **Utility Service Connection** - Means a service connection from a utility distribution, or feeder line, or main to the premises served.

### III. DESIGN CRITERIA

#### A. GENERAL DESIGN CRITERIA

1. These guidelines are based upon current additions of the American Association of Highway and Transportation Officials (AASHTO), Policy on Geometric Design of County Highways and Streets, Roadside Design Guide and the Manual of Uniform Traffic Control Devices (MUTCD). Where possible, all design should be based on these guidelines and the applicable design criteria set forth by AASHTO. Any variation from these design guidelines should be done on a detailed basis in conformance with sound engineering judgment and with the safety of the traveling public in mind.

#### B. DRAWING SUBMITTAL/APPROVALS

1. All improvement drawings submitted to the Public Works Department for checking/approval **shall include** a copy of the proposed Final Plat and Development Agreement. Prior to a Public Works Department signature approval, all other agencies, departments, and signatures shall be finalized and in place.
2. Plats shall not be permitted to be signed/recorded until the improvement drawings have been approved and signed by all parties involved, with Bonneville County Public Works being the final signature on the improvement drawings.
3. Prior to Bonneville County Public Works issuing a letter of acceptance for subdivisions, the developer or his engineer shall make a formal request in writing to the department for final acceptance of all said improvements. The request shall include certification from a professional engineer, licensed in the State of Idaho, certifying that said construction has been completed in compliance with these published standards. Along with the request the developer shall also submit one paper (full size copy) and one digital (Adobe .pdf file format) copy of the certified as-built drawings of the completed project (or phase). One copy of all road compaction reports, concrete testing reports, and asphalt analysis report shall also be delivered at the same time. The County will have thirty (30) days from the date the request was received to respond to the developer. If no written action is received by the developer from the Public Works Department within the thirty (30) days, the portion of the development submitted for approval shall be deemed minimally acceptable, but shall not be considered final acceptance.
4. **Final Subdivision Guarantee** – All materials and workmanship shall be warranted by the Developer/Contractor for a minimum period of one (1) year after the date the Letter of Substantial Completion has been entered into the official County Commissioners minutes. If repairs are required, the Developer/Contractor shall promptly upon written notice from the County, and without expense to the County repair said work. If the Contractor fails to proceed with said repair after notice within a period of ten (10) days, the County will require that the Contractor and his Surety

be liable for all costs incurred. If emergency repairs are needed, the County may have to make said repairs and the Contractor/Developer shall pay the cost thereof.

### **C. ROADWAY CLASSIFICATION**

1. All roadways within Bonneville County are classified in accordance with the appropriate FHWA legislation, AASHTO standards, and State of Idaho Standards. All streets and County roads are classified as arterials, collectors, or minor/local roads and streets. It shall be the County's prerogative, having jurisdiction over the area to be developed, to define the roads within subdivisions and their classification as arterials, collectors, or local roads/streets. The system maps showing the classifications are on file with Bonneville County Public Works or with the Idaho Transportation Department District 6 office.
2. PUBLIC COUNTY ROAD AND STREET RIGHT-OF-WAY

The desirable width of the public County roads and street right-of-way for each classification is as follows:

<b>TYPE OF ROADWAY</b>	<b>MINIMUM WIDTH OF PUBLIC RIGHT-OF-WAY</b>
Arterial	100 feet*
Collector	60 - 100 feet
Minor/Local Roads and Streets	60** – 80 feet
Cul-de-sac	65 feet. radius***

\*Additional widths may be required for accommodation of extreme cut/fill sections, intersection enhancements, or other right-of-way needs required by the County.

\*\*50 ft Street width may be allowed in mountainous areas without asphalt surface All other ROW's shall be a minimum of 60'.

\*\*\* Unless otherwise determined by Public Works Department

**Table 1 - Recommended Right-of-Way Widths**

#### **All Developments adjacent to or fronting on arterial (section line or mile) roadways:**

All proposed developments that seek access onto an existing arterial street or that run adjacent to an existing arterial road shall dedicate to the public enough additional right-of-way (ROW) to equal a fifty (50) foot half width from road centerline or section line.

The dedicated right-of-way must be a clear right-of-way and provisions shall be made on the subdivision plat and improvement drawings for the relocation of existing obstructions, encroachments, obstacles, utilities and irrigation canals and structures.

In addition, each development/developer shall do the following:

A) Construct all arterial roadway improvements to comply with Bonneville County Road cross sections for arterial roads (See Std. Drawing 100-11) determined by:

- 1) Information from the BMPO Traffic Demand model – 25 year projection;
- 2) BMPO Long Range Transportation Plan documentation – currently adopted version; or
- 3) A traffic study (25 year projection) contracted for by the County and paid for by the development. Said traffic study shall be completed and accepted by the Board of Commissioners before acceptance and recording of required plat and/or improvement drawings.

B) Provide a clear right-of-way as part of the arterial roadway improvements.

BMPO guidelines for additional arterial ROW widths at the intersection of two arterial streets shall also be followed, specifically an additional ten (10) feet on the adjacent side of the one hundred (100) foot ROW width running approximately four hundred (400) lineal feet on each leg to allow for a total ROW width at the intersection of one hundred twenty (120) feet.

3. **Cul-de-sacs** shall be designed meeting the minimum right-of-way radius as shown on Standard Drawing 100-6, Figure 1A and 1B, with additional road right-of-way as needed to accommodate unusual cut and fill sections. Cul-de-sacs of a temporary nature may be allowed, provided each public right-of-way is shown on the plans and plat and approved by Bonneville County Public Works. If buses are expected to use the cul-de-sac, the County may require the bulb right-of-way to have a seventy (70) foot bulb radius.
4. **Intersections** – Plats shall show right-of-way lines (property lines) at roadway intersections connected by a chord fitting a minimum radius of twenty (20) feet in residential areas and thirty (30) feet in commercial areas. Said radius points used for the plat shall be the same radius point used for the edge of asphalt or curb. Intersections shall have a minimum straight perpendicular distance before other curves are designed. Local roads shall have a minimum of 100', with arterials/collectors minimum distance based on engineering principles and County requirements at time of platting.
5. **Deceleration/Acceleration Lanes** –Deceleration/Acceleration lanes, when proposed by developer or required by the County, shall be based on an engineering study. The design of the deceleration lane or taper shall be part of the subdivision improvement drawings and shall be based on sound engineering principles and such factors as speed limit, right-of-way width, average daily traffic, etc.

## D. ALIGNMENT/CLEAR VIEW AREAS

1. The following table is intended to show the minimum and maximum values for various parameters used in design criteria for the three classes of streets and County roads to be designed. Modification to these Standards by Bonneville County Public Works on an individual project basis will be considered based upon the submittal of supporting data founded on sound engineering judgment.

DESIGN PARAMETER	ARTERIAL	COLLECTOR	MINOR/LOCAL ROADS AND STREETS
<b>Vertical Grades*</b>	Minimum 0.25% Maximum 6%	Minimum 0.25% Maximum 6%	Minimum 0.25% Maximum 10% ****
<b>Horizontal Curvature</b>	420-930 ft.**	420-565 ft.**	205-420 ft.**
<b>Design Speed</b>	35 - 50 mph	35 - 40 mph	25 - 35 mph
<b>Super Elevations</b>	Max 0.06 ft. per foot	Max 0.06 ft. per foot	Max. 0.06 ft. per foot
<b>Min. Runoff Length</b>	150 ft. ***	120 ft.***	110 ft. ***
<b>Angles of Intersection</b>	80 - 90°	80 - 90°	70 - 90°

\* Roadways constructed using curb and gutter may have a minimum grade of 0.30%.

\*\* Radius measured to centerline of roadway – As per AASHTO.

\*\*\* Runoff length dimension from full superelevation to full crown section.

\*\*\*\* Public Works may allow grades greater than 10% with minimal lengths and special attention to maintenance consequences.

**Table 2 – Geometric Design Criteria**

2. **Clear View Area/Sight Distance** - all intersections shall be designed to provide adequate sight distance clear of obstructions within the functional area of the intersection to ensure a driver's view of other vehicles and pedestrians is not blocked.
3. **Intersection Clear View Area** – In all zones which require a front yard, no obstruction to view in excess of three (3) feet in height shall be placed on any corner lot within a triangular area formed by the street property lines and the line connecting them at points forty (40) feet from the intersection of the street lines, except for a reasonable number of trees pruned a minimum of seven (7) feet above curb or grade or twelve (12) feet above any public street/easement to permit unobstructed view, whichever is greater. Property owners shall remove or trim, at their expense, all limbs or foliage which overhang or project into any public street, sidewalk, or easement or which do not satisfy the clear view requirements of the County. See Planning & Zoning regulation 1-407.

4. **Failure to Comply** – Any person who fails to comply with the provisions of this section within ten (10) days after receiving written notice from the County shall be guilty of an infraction as defined in the Bonneville County Zoning Ordinance. Any trees/shrubs not trimmed in accordance with this section may then be trimmed or removed by the County with all expenses being charged to the property owner failing to comply with the provisions of this section.

## E. STOPPING AND PASSING SIGHT DISTANCE

1. The stopping and passing sight distances should be at least the minimum shown in the following table for the design speed used on the roadways.

Design speed MPH	20	25	30	35	40	50
<b>Stopping sight distance:</b> Stopping distance, feet: AASHTO figure 3.1, page 112	115	155	200	250	305	425
<b>K value (Stopping) for: *</b> Crest vertical curve Sag vertical curve	7 17	12 26	19 37	29 49	44 64	84 96
<b>Passing sight distance:</b> Passing distance, ft. 2-lane AASHTO page 124	710	900	1090	1280	1470	1835
<b>K value (Passing) for: *</b> Crest vertical curve	180	289	424	585	772	1203

\*Note: K value is a coefficient by which the algebraic difference in grade may be multiplied to determine the length in feet of the vertical curve which will provide minimum sight distance.

**Table 3 - Minimum Sight Distances**



Height of Eye = 3.50' above road surface  
Object Height = 2.0' (tail light of a passenger car)

**Figure 2 - Sight Distance Measurement**

## F. ROADWAY CROSS-SECTIONS

There are two cross-section standards that are allowed to be used in Subdivisions within Bonneville County. These two cross-sections are either a roadway with a swale in areas where average lot frontages are greater than 200 l.f. (Drawing 100-2) or a curb/gutter and sidewalk cross section in areas where the average lot frontage is 200 l.f. or less (Drawing 100-1).

**Alternative Standards:** The Board of County Commissioners may approve alternative design or construction standards when the applicant can demonstrate that the proposed overall design meets or exceeds the intent of the required standards of this article and shall not be detrimental to the public health, safety, and welfare.

1. **Mountainous/Summer Home areas** - Local public roads in summer home or rural mountainous areas may use the typical residential street cross section shown on Drawing 100-2 without the 2 inch asphalt plant mix, provided that all other requirements are met. This type of road, when approved and accepted, may receive some level of summer-only county maintenance as determined by the department and should be noted on the plat as such.
2. **Swale Cross Section** – if this cross section is shown on the approved Improvement Drawings as complying with standard drawings, and if the Developer/Home Owner landscapes the swale, then the following conditions shall apply:
  - a) **Swales are within the public right-of-way and are critical for proper drainage of storm water. Any landscaping (trees, sprinkler systems, sod, rock, etc.) may be removed and/or cut down at the sole discretion of the County. Utility Companies needing to make repairs, re-establish the swale or install new lines shall first receive permission from Bonneville County to do so. The swale will then be reconstructed to County Standards.**
  - b) The required depth (18” minimum) of the drainage swale as shown on Standard Drawing 100-2 shall be maintained regardless of the type of landscaping installed.
  - c) Landscape materials located within the road right-of-way shall comply with standards in **Section VIII, Public Right-of-Way Landscaping.**
  - d) Engineers/Developers designing subdivisions with swales shall remove the swale dirt in the low areas and replace with good drain rock and cap with top soil (final grade shall meet Standard Drawing 100-2). The minimum longitudinal grade of 0.25 percent will create low areas at various points within a subdivision and at intersections. Calculations would be recommended for this additional storm water in said low areas.

- e) Solid plastic will not be allowed within drainage swales but erosion control fabric may be required by the approved development drainage plan.
  - f) All Subdivisions shall install mailboxes/mailbox cluster boxes in compliance with the US Postal Service and Section VI of these standards.
3. **Curb and Gutter/Sidewalk Cross Section** – Shall be required within new subdivisions with average lot frontages of two hundred (200) feet or less in width.
- a) Landscape materials located within the right-of-way must comply with standards in **Section VIII Public Right-of-Way Landscaping**.
  - b) Approaches shall be in conformance with Bonneville County Planning and Zoning Ordinance, current edition.
  - c) The roadway cross-section outside the paved area and inside the remaining public right-of-way should follow the general guidelines of the Roadside Design Guide, published by AASHTO, current edition. This Guide may be used to determine safety characteristics for any appurtenance such as signing, mailboxes, rock outcrops, or general hazards to the traveling public.
  - d) All Subdivisions shall install mailboxes/mailbox cluster boxes in compliance with the US Postal Service and Section VI of these standards.

## **G. DRAINAGE/STORM-WATER FACILITIES**

1. All drainage/storm-water facilities for the project shall be designed by a professional engineer licensed in the State of Idaho and shall be approved by Bonneville County in conjunction with the improvement drawings/road plans. These standards are intended to provide assistance and minimum values generally found in Bonneville County, and do not substitute for complete design by a professional engineer.
2. Stormwater management plans shall be submitted for all commercial, industrial, residential, and subdivision developments. Storm water management plans shall contain:
  - a) Topographic survey of the development showing existing drainage and conveyance systems.
  - b) Peak flow rate calculations for all outlets and drainage works including runoff volume calculations for all proposed facilities.
  - c) Plan of new or modified drainage systems, including dimensions and volume calculations including a landscaping plan.
  - d) Grades of all impervious surfaces.
  - e) **Flood routing calculations**, flow and volume computations – for properties located within the Flood Hazard Area the 1-percent annual chance discharge (Q100) shall be calculated. Properties outside of the Flood Hazard Area shall



calculate for the 4-percent annual chance discharge (Q25) (**includes all contributing areas**).

- f) Drainage report which includes basis for design, narration for the design, and operation of the drainage system. For multi-phase developments, the drainage report must include pertinent data from all phases.
  - g) Copies of any easements, permits, or discharge agreements.
  - h) Operation and maintenance plan (O&M Plan), with the name of the responsible contact, as well as company specifications and recommended maintenance for equipment or systems used in the drainage system.
  - i) All calculations are to be computed in a tabular format acceptable to the Bonneville County Public Works Department. The computations shall be submitted in paper and electronic (Microsoft excel or equal) formats.
3. **Determining Peak Discharge, Peak Volume, and the Water Quality Volume**

The Rational Method shall be used for basins less than 100 acres. Alternate methods may be permitted for basins greater than 100 acres.

**Reference:** State of Idaho Catalog of Storm Water Best Management Practices for Idaho Cities and Counties. Prepared by Storm Water Program, Watershed and Aquifer Protection Bureau, Idaho Division of Environmental Quality

4. **Rational Method – Calculating Peak Discharge/Pipe Sizing**  
Show design calculations to justify the size of subsurface piping, storm sewer inlets, and downstream capacity if the proposed drainage works reroute the pre-development flow path. Storm drains installed in streets with curb and gutter shall be designed to provide the required capacity without surcharging the line. Storm sewers including materials, construction, and testing shall meet the latest ISPWC, current edition. The rational computations outlined in the State of Idaho Catalog of Storm Water Best Management Practices for Idaho Cities and Counties shall be followed and provided to the Public Works Department for review.
5. Storm Water Piping/Culverts across the roadways shall be a minimum of twelve (12) inches diameter in flat terrain and eighteen (18) inches in rolling or mountainous terrain. Culverts under approach roads or driveways shall have a minimum diameter of twelve (12) inches and a minimum length of thirty (30) feet or one (1) foot beyond the toe of slope, whichever is greater.
6. Culverts used for storm drainage purposes should be of corrugated steel, aluminum, or concrete with the thickness and cover over the top of the pipe being in conformance with the following table:

Diameter Inches	Steel Thickness Inches ***	Aluminum Thickness Inches	Concrete Class**	Cover Required *
12" through 36"	0.064	0.060	V	12" minimum

\* Cover may be reduced to six (6) inches on residential driveways, if written approval is provided by Bonneville County Public Works.

\*\* Other classes of concrete pipe may be used if proper cover is provided in accordance with manufacturer's recommendations.

\*\*\* Using corrugated metal pipe with 2 2/3"x 1/2" corrugations. Culverts or multiplate installations larger than 36" in diameter or any structure under extreme fills shall have special consideration.

**Table 4 – Culvert Requirements**

Other types of piping will be considered if specifications are submitted to Bonneville County Public Works for review including loading conditions, bedding, i.e. pipe design. The following list includes but not limited to:

- a. Advanced Drainage System (ADS N 12 Series 65)
- b. Ribbed PVC meeting ASTM F 794
- c. HDPE meeting ASTM F 667 and AASHTO M 294 Type S

7. All necessary drainage easements for accommodating drainage structures and/or easements necessary for draining storm water across private property shall be shown on the recorded plat and shown on the improvement drawings. If necessary by a recorded deed from the Applicant describing the areas containing the easements.
8. Disruption of natural drainage ditches and subsequent use of the roadway ditch to convey the natural drainage shall not be acceptable.
9. Drainage systems such as an excavated hole filled with drain rock (dry well) may be used in special circumstances where all other possibilities of taking care of storm water drainage have been explored and there is no feasible alternate to said dry well installation. If drywells are used they shall be designed by a registered professional engineer licensed in Idaho.
10. **Cul-de-sacs designed utilizing drainage swales** – to allow for better drainage within the swale, the dirt shall be removed and replaced with good drain rock to a minimum depth of three (3) feet and capped with approximately six (6) inches of top soil. The final depth shall be in accordance with Standard Drawing 100-2.
11. When a **curb and gutter** roadway section is proposed, a complete storm drainage system must be designed and constructed including: Storm drain system master plans, along with calculations shall be submitted to the Bonneville County Public Works Department for approval. All storm pond designs shall include a master plan, piping, pond design, energy dissipation, grading, landscaping, etc., and shall be designed and stamped by an Engineer licensed in the State of Idaho.
12. An inlet box shall be required for a maximum of 1000 lineal feet of standard curb and gutter (including cross drains, alley curb, etc.).
13. All inlet boxes shall be in conformance with the current ISPWC, current edition, unless otherwise approved by Bonneville County Public Works.

14. Cross drains shall be allowed only with written approval from Bonneville County Public Works, and shall comply with Standard Drawing 100-4. Approved cross drains shall have a minimum slope of one (1) percent.
15. All storm drain pipe and inlet boxes shall be designed to provide capacity as follows:  
**Flood Hazard Area-100 year storm frequency – Rural Area outside of the Flood Hazard Area-25 year Storm frequency.**
16. Minimum pipe velocity is 2 feet per second at 80% full (See Table 5).
17. Minimum size pipe diameter is twelve (12) inches.
18. Maximum spacing between manholes is 400 feet.
19. Minimum and maximum grades for storm sewer mainlines shall be as defined in the following table:

Pipe Size	Minimum Grade	
	ft/ft	%
12	0.0022	0.22
15	0.0015	0.15
18	0.0012	0.12
21	0.001	0.10
24	0.0008	0.08
27	0.0007	0.07
30	0.0006	0.06
36 and Larger	0.0005	0.05

**Table 5 – Storm Drainage Pipe and Slope**

## **H STORM RETENTION POND**

Storm water disposal and maintenance of the storm pond shall be the responsibility of the developer and/or homeowner's association. The Development Agreement shall contain the language indicating how the costs and maintenance of said pond will be set up, and a proposed maintenance schedule shall be submitted.

All construction shall be in accordance with Bonneville County Standard Specifications, current edition.

Storm drainage ponds shall be constructed and designed as directed and in accordance with the following criteria:

1. The volume of the storm pond shall be sized according to the Q100 Storm Event.
2. The pond is to be designed to be capable of draining the entire pond within approximately four (4) days. The bottom of the pond shall be sloped at a minimum of one (1) percent grade.

3. The sides of the pond shall have a maximum slope of four (4) feet horizontal to one (1) foot vertical (4:1). In areas that are intended to provide public access, slopes may be required to be up to twelve (12) feet horizontal to one (1) foot vertical (12:1).
4. No trees shall be planted within the bottom three (3) feet of depth.
5. Pond inlets shall have a properly designed energy dissipater systems that eliminates erosion at each location where water introduced to the pond.
6. Pond outlets shall be located the greatest feasible distance possible from the inlet.

## I STRUCTURES

1. **Bridge structures** shall be designed by a professional engineer, licensed in the state of Idaho, in accordance with AASHTO Standard Specifications for Highway Bridges, latest edition.

The design loading for bridge design shall be a minimum HS-20 for subdivisions and HS-25 for arterials. Public Works may require bridges to be constructed to the AASHTO Load and Resistance Factor Design Manual (LRFD) HL-93 loading. The minimum width of a bridge structure from the face-to-face of curb or face-to-face of the guardrail or bridge rail shall be the full width of the approach roadway including pavement width and shoulder width plus five feet zero inches (5'-0") for sidewalks on each side. Bonneville County reserves the right to determine the width of bridges under each separate circumstance.

The vertical clearance above uncontrolled waterways i.e. rivers, streams shall be two (2) feet above the  $Q_{50}$  (50 year flood) and in addition the  $Q_{100}$  must also pass beneath the bridge, bridge structure, and any attachments allowed on bridge. Controlled waterways i.e. canals, shall maintain a minimum of eighteen (18) inches above the  $Q_{25}$  flow. Public Works will require a hydraulic analysis and drawings including slope and cross section of the waterway prior to approval.

The vertical clearance above other roadway surfaces shall be a minimum of sixteen (16) feet.

Only structures of steel, or concrete and steel, shall be used.

2. **Culverts** - box culverts, pipes, and pipe arches with a clear span of twelve (12) feet or more and all stiff leg culverts and open bottom pipes for uncontrolled flow shall have a minimum of one (1) foot clearance above the  $Q_{50}$  high water flow (Flood Hazard Area use  $Q_{100}$ ). Public Works shall require a hydraulic analysis and drawings including slope and cross section of the waterway prior to approval. For controlled flow, clearance shall be a minimum of one (1) foot above high water and will require a hydraulic analysis and drawings including slope and cross section of the waterway prior to approval.

3. **Retaining walls** shall either be reinforced concrete, bin walls, reinforced earth, concrete crib walls or equivalent. All retaining wall structures shall be designed by a registered professional engineer and shall be approved by Bonneville County prior to their construction.

## **J STREET SIGN(S) AND SIGNING**

1. The Bonneville County Public Works Department accepts the Manual on Uniform Traffic Control Devices (MUTCD), current edition as the standard for design. The following material and placement shall be used in all traffic signing within the County.
2. All signs shall be installed by the Applicant prior to acceptance of the project by Bonneville County, unless approved otherwise by the County. All sheeting material shall meet MUTCD current standard for Type IX microprismatic sheeting (Diamond Grade by 3M or equal).
3. All temporary traffic control shall conform to the MUTCD, latest edition.
4. All STOP and Yield signs used in any subdivision shall be a minimum of thirty by thirty (30" x 30") inches. Sheeting grade shall meet MUTCD current standard for Type IX microprismatic sheeting (Diamond Grade by 3M or equal).
5. All road names and street signs shall have a minimum four (4) inch legend – six (6) inch legend when the intersecting street speeds are posted greater than 35 mph. Lettering shall be "Series C". Both background and legend shall be reflective. Standard colors are white legend on green background, Except: Private roads, which shall be white legend on blue background.
6. Substrate material shall be aluminum. No fiberglass or plastic will be accepted.
7. No speed limit signs shall be installed unless directed by the Bonneville County Public Works Department. The minimum size of speed limit signs shall be 24" W X 30" L. (Black/White when required).
8. Posts shall be metal and shall be anchored with a "Soil Type" anchor. No concrete shall be used as an anchor. Posts shall be minimum two (2) inch square and meet break-away standards of the State of Idaho. No U-Channel posts shall be permitted.
9. Minimum height of signs shall be six (6) feet from the road surface to bottom of the sign in rural areas without curb/gutters. In areas with curb/gutter and sidewalks, the minimum height shall be seven (7) feet from top back of curb to bottom of sign.
10. Maintenance of all street and traffic signs shall be the responsibility of the developer until the streets are officially accepted for maintenance by Bonneville County.
11. All road and street name signs are to be made in pairs (single sided) and bolted to the

sign post (receiver caps will not be permitted).

12. Developers and Contractors can be furnished copies of proposed signing, including offsets and set-backs by notifying the Bonneville County Sign Department prior to commencing work.

## **K STRIPING OR PAVEMENT MARKINGS**

1. Bonneville County shall determine pavement marking requirements subject to MUTCD requirements. The color, pattern and dimensions of marking shall be in conformance with the MUTCD, latest edition. Paint quality shall be the same as that used by the Idaho Transportation Department for their pavement markings.

## **L GUARDRAIL**

1. Guardrail may be necessary in certain areas depending upon the need for protection of the traveling public. Bonneville County reserves the right to determine the need for guardrail under each separate circumstance. The guidelines of the AASHTO Roadside Design Guide, latest edition may be used on developing appropriate and cost effective roadside safety provisions.
2. The type of guardrail to be installed shall be determined by the County based on need, location and maintenance considerations.

## **M CATTLE GUARDS**

1. Cattle guards shall be constructed in conformance with the Standard Drawing 100-10. Other types of guards may be approved by Public Works on a case by case basis.
2. Idaho Code, Section 40-2310 regulates the installation of cattle guards on local County roads and Idaho Code Section 40-2319 regulates encroachments in the public right-of-way and the misdemeanor offense involved and should be referenced prior to installation.

# **IV. CONSTRUCTION SPECIFICATIONS**

## **SECTION 100 EARTHWORK & BASES**

### **A. CLEARING AND GRUBBING**

1. Clearing and grubbing shall consist of the removal and disposal of all organic and other deleterious material from the public right-of-way. All material removed under clearing/grubbing shall be disposed of in an area outside of any public right-of-way.
2. All clearing and grubbing work shall be performed sufficiently in advance of construction operations so as to permit a well-planned schedule of work. Clearing and grubbing shall cover all areas within the limits of the construction zone or as called for in the Plans, Drawings or Special Provisions.
3. Wet Material – If excavated material is unsatisfactory for the specified use on the project solely due to high moisture content, the developer/contractor may be directed to either process the material to reduce the moisture content to an optimum condition or remove the material and replace it with suitable material. If soils encountered are soft at a depth of two (2) feet below subgrade elevation, a geotextile fabric shall be placed in the excavated area as directed.
4. Protection of Existing Improvements – If existing improvements are within the ROW, steps shall be taken to remove or relocate such improvements. If existing improvements exist outside of the ROW, developer/contractor shall take precautions to prevent disturbance, or, in the case of disturbance, shall repair or replace any item in original condition or as otherwise directed. This shall apply to fencing, trees, shrubbery, flower beds, foundations, structures, bridges, culverts, irrigation facilities, asphalt, concrete, and all others items that are encountered.

#### **B. SUBGRADE MATERIAL**

1. The subgrade shall consist of the natural materials remaining after all topsoil and duff, (organic material) have been removed and good construction material is remaining. Excavation to subgrade including slopes (swales) shall be in conformance with the lines and grades as shown on the approved plans.
2. In solid rock excavation, the solid rock shall be excavated to six (6) inches below the finished subgrade elevation and back-filled with approved granular materials.
3. Unstable subgrade conditions shall be remedied by sub-excavation to a minimum of two (2) feet below the initial elevation of the subgrade. Installation of a woven Geotextile fabric and back-filling with approved granular material under the direction of the Public Works representative shall be performed before work continues.
4. All construction shall be controlled by slope stakes or grade stakes that have been placed by a professional engineer or professional surveyor licensed in the State of Idaho prior to the construction operations.
5. Moisture content of the subgrade shall be adjusted to within plus or minus 2% of Optimum Moisture Content and shall be compacted to a density no less than ninety-

five percent, (95%) of the AASHTO T-99 Proctor Density. Copies of Proctors performed shall be included in the final acceptance submittal.

**C. SUB-BASE OR PIT RUN GRAVEL (BALLAST)**

1. The County shall be given notice at least twenty-four (24) hours prior to the placement of pit run material over the subgrade.
2. Approved pit run material shall be used for the sub-base course which shall be placed at a depth according to the road section shown on Standard Drawings 100-1 and 100-2 or as approved by the Public Works. The material shall be durable, have a sand equivalent not less than 30, and shall meet the following gradations:

SIEVE SIZE	% PASSING
6"	100
3"	98-100
2"	75-100
1"	40-80
#4	25-60
#200	5-12

**Table 6 - Sub-base/Pit Run Gravel Gradations**

3. The sub-base material shall be constructed in layers not to exceed six (6) inches in thickness and shall be compacted using mechanical methods to at least ninety-five percent, (95%) of the AASHTO T-99 Proctor Density.
4. **Testing-** Compaction Testing shall be performed in accordance with WAQTC TM-7. The contractor shall subcontract with an approved testing firm to perform all testing needed to ensure standards are met. Compaction testing of the ballast shall consist of a minimum of one (1) test per two hundred (200) lineal feet of road/street surface at random locations. The testing firm shall perform additional testing as they deem necessary to certify compaction has been met.

**NOTE: All culvert installations crossing any County road or street shall be installed before any base material is placed.**

**D. BASE MATERIAL**

1. The County must be given notice at least twenty-four (24) hours prior to the placement of the base material.
2. The depth of crushed aggregate for the base course shall be according to the road section shown on Standard Drawings 100-1 and 100-2 or as approved by the Public



Works Department after it has been compacted, and shall comply with the following gradations:

SIEVE SIZE	% PASSING
1 "	100
¾"	90-100
#4	40-65
#8	30-50
#200	3-9

**Table 7 - Base Material Gradation**

The crushed aggregate base shall not show more than a loss of thirty- five percent (35%) under the Los Angeles Abrasion Test and the sand equivalent shall not be less than thirty (30) if five percent (5%) or more of the material passes the number two hundred (#200) sieve. Sand equivalent will not be required if less than five percent (5%) passes the number two hundred (#200) sieve.

The aggregate portion retained on the #4 screen shall have at least fifty (50%) percent by weight of particles with 2 or more fractured faces.

3. The material shall be laid in one or more layers to develop the compacted depth of three (3) inches minimum. Care shall be taken to see that the aggregate is placed in such a manner that it will have uniform mixture throughout.
4. OBSERVATION AND TESTING OF BASE MATERIAL
  - a. Compaction Testing shall be performed in accordance with WAQTC TM-7. The contractor shall subcontract with an approved testing firm to perform all testing needed to ensure standards are met. Compaction testing of the base shall consist of a minimum of one (1) test per one hundred (100) feet at random locations. The testing firm shall perform additional testing as they deem necessary to certify compaction has been met. Material shall be mechanically compacted by rolling to a minimum of ninety-five percent (95%) of the AASHTO T-99 Proctor Density.
  - b. The surface of any base course, when finished, shall be such that when tested with a ten (10) foot straightedge placed on the surface with its centerline parallel to and perpendicular to the centerline of the street, the maximum deviation from the surface of the edge of the straight edge shall nowhere exceed 0.04 of a foot (0.48 inch). In addition, the finished grade shall not deviate more that 0.05 of a foot (0.6 inch) at any point from the staked elevation.

- c. If asphalt concrete surfacing is to be placed on the base course, no portion of the complete surface of the base course shall be more than 0.04 of a foot (0.48 in) below the edge of a straight ten (10) feet in length laid parallel to and perpendicular to the centerline of the roadway. In addition, the finished grade shall not deviate more than 0.03 of a foot (0.36 in) at any point from the staked elevation.
- d. Should patching of the base course be necessary in order to meet the above tolerances, it shall be performed using methods and aggregates approved by the County or designated representative.

## SECTION 200 SURFACE COURSES AND PAVEMENT

The County must be given notice at least twenty-four (24) hours prior to the placement of any surface material listed in Section 200.

Asphalt of the grade specified shall fully comply with all of the requirements hereinafter set forth. Asphalt furnished under these specifications shall not have been distilled at a temperature high enough to injure by burning or to produce flecks of carbonaceous matter and upon arrival at the work shall show no signs of separation into lighter and heavier components. Lots placed in storage for subsequent shipment shall be thoroughly mixed so there will be no appreciable difference in properties between individual shipments.

**A** **EMULSIFIED ASPHALTS** shall conform to the following requirements:

<b>Anionic emulsified asphalt</b>	<b>AASHTO M 140</b>
<b>Cationic emulsified asphalt</b>	<b>AASHTO M208*</b>
*Except saybolt viscosity of CRS-2 shall be in the range from 150 minimum to 400 maximum	

**Table 8 – Emulsified Asphalt Standards**

1. **Weather Limitations** - Asphalt Emulsion shall not be applied when surface or weather conditions would prevent proper construction. Application is prohibited when the ground temperature is lower than fifty (50°F) degrees Fahrenheit. Asphalt may be applied to damp, not wet material. Asphalt shall not be placed when a storm threatens damage to the construction.

2. **Prime Coat** application shall only be used when traffic has driven on the base for extended periods of time or in the case of the base becoming wet prior to paving. Application rates for base gravel shall consist of twenty five hundredths to five tenths (0.25-0.50) of a gallon per square yard. COUNTY ROAD & BRIDGE OPERATIONS ONLY FOR PRIME COAT APPLICATION.
3. **Tack Coat** application shall be applied to an existing clean surface if the surface is such that a satisfactory bond can't be obtained between it and the new course. Existing surfaces include cold pavement, joints, etc. Concrete faces including curb and gutter, manhole and water valve collars do not require tack. Emulsified asphalt SS-1 shall be uniformly applied at an approximate rate of five hundredths to one tenth (0.05-0.10) of a gallon per square yard
4. This Specification shall be modified to include a CRS-2h grade having the same properties as CRS-2 except the penetration test on residue shall be fifty to one hundred (50-100) and all grades of Rapid-Setting emulsion shall be homogeneous after thorough mixing within 15 days after delivery.

CRS-2R shall be emulsified blend of asphalt, rubber, water, and emulsifiers. The asphalt cement shall be thoroughly blended with a minimum of one-point-five (1.5) percent total rubber solids. The emulsified blend shall conform to the following requirements:

PROPERTY	SPECIFIC ATION	TEST METHOD
Viscosity, Saybolt Furol at 122°F ,Seconds	150-400	AASHTO T 59
Storage stability test, 24 hours, percent	1.0 Max.	AASHTO T 59
Demulsibility test percent	40 Min.	AASHTO T 59
Particle charge test	Positive	AASHTO T 59
Sieve test	0.10 Max.	AASHTO T 59
Oil distillate by distillation: Oil distillate by volume of emulsion, percent	3.0 Max.	AASHTO T 59
Residue by evaporation, percent	65 Min.	AASHTO T 59 (Method B)
Test on residue: Penetration, 77°F, 3.5 oz, 5 seconds	80-150	AASHTO T 59, AASHTO T 49

**Table 9 – Emulsified Asphalt Properties**

Temperatures shall conform to the following limits prior to application to the roadway.

Emulsified Asphalt	Minimum	Maximum
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	Spraying Temperatures °F	Spraying Temperatures °F
SS-1	50	140
CRS-2R	140	175
CHR-3P	140	175

**Table 10 – Emulsified Asphalt Distributor Spraying Temperatures**

**B** **LIQUID ASPHALTS** shall conform to the following:

Rapid Curing	AASHTO M 81
Medium Curing	AASHTO M 82
Slow Curing	ASTM D 2026

**Table 11 – Liquid Asphalt Standards**

Liquid Asphalt Rubberized				
Property	RC-800R	RC-3000R	Test Method	
Flash Point, T.O.C.. °F	80 Min	80 Min	ASTM D 1310	
Visc. @ 140°F, cst	800-1600	3000-6000	ASTM D 2170	
Distillation: 30 in Hg % of Total Dist. To 680°F			ASTM D 402	
To 437°F		15 Min.		
	Type and Grade of Asphalt	Temperature °F		
Res., Vol. % by difference	Liquid Asphalts	75 Min.	80 Min.	
	(SC, MC, RC)	Minimum	Maximum	
Viscosity @ 140°F Poise	1600-2400	120	1600-2400	180
Duct @ 77°F (5cm/min) cm	150 Min.	120	150 Min.	180
Duct @ 39°F (5cm/min) cm	35 Min.	165	35 Min.	220
Toughness, inch pounds	75 Min.	200	75 Min.	255
Tenacity, inch pounds	50 Min.	200	50 Min.	255
*Benson Method of Toughness and Tenacity, 250	3000R		300	
Scott Tester, inch-pounds @ 77°F, twenty (20) inches per minute pull.				
Tension head seven-eighths (7/8) inch diameter.				

**Table 12 – Liquid Asphalt Properties**

**Table 13 – Liquid Asphalt Spraying Temperatures**

Sampling – Rubberized Base Asphalt samples taken at point of manufacture of the liquid asphalt shall be the material tested for compliance of Rubberized Base Asphalt. Liquid asphalt samples taken at point of delivery will be tested for compliance for properties other than rubberized base asphalt requirements.

**C ASPHALT CEMENTS/PLANTMIX**

1. The asphalt cements shall conform to AASHTO MP-1 Standard Specification for Performance Graded Asphalt Binder. The Grade of Asphalt shall be PG 58–28 unless otherwise specified. When directed Anti-Stripping Additive shall be added as per Section C-2 of these Standards to the Asphalt Cement at no additional cost to the County.

Unless otherwise permitted, the product of only one supplier, or source and grade of asphalt cement shall be used at any one time. Field blends of asphalt will require new mix design and approval.

**Testing** - Testing shall be performed in accordance with the appropriate AASHTO and ASTM test methods. The contractor shall subcontract with an approved testing firm to perform all testing needed to ensure standards are met. Plantmix testing shall be in accordance with the ISPWC, current Edition. Compaction testing shall consist of a minimum of one (1) test per three hundred (300) feet of the paver pass width.

2. **Anti Stripping Additive** - If Immersion Compression test (AASHTO T-165) results on the plantmix show less than eight-five (85) percent retained strength, the asphalt shall be treated with an approved heat stable antistripping additive in the amount of one half (0.5) percent or one (1) percent by weight of asphalt cement. The exact amount of antistripping additive shall be the percentage that yields the greatest retained strength. Samples of the treated asphalt shall be tested in accordance with Idaho T-99.

3. **Fly Ash** – Shall conform to Section 714 of the Idaho Transportation department current Standard Specifications for Highway Construction, current edition.
4. **Aggregate** - Unless otherwise specified, the gradation of the aggregate used in the asphalt plantmix shall be within the limits of the table below when tested with AASHTO T11 and T27:

SIEVE SIZE	% PASSING
3/4"	100
1/2"	80-100
#4	48-70
#8	30-55
#50	10-23
#200	4-10

**Table 14 - Plantmix Aggregate Gradation**

5. **Weather Limitations/Conditions** – Plantmix shall not be applied when surface or weather conditions would prevent proper construction. The application of any asphalt is prohibited when the ground temperature is below Forty (40°F) degrees Fahrenheit or when the air temperature is below thirty five (35°F) degrees Fahrenheit. Asphalt may be applied to damp, but not wet, material subject to the determination of the County. Asphalt shall not be applied during rainfall or when an imminent storm threatens damage to the construction.
6. Both density and thickness shall be carefully controlled during construction and shall be in full compliance with plans and specifications. The pavement shall be compacted to a minimum of ninety two (92) percent of Maximum Theoretical Density, in accordance with AASHTO T166. Pavement density testing shall be done using a nuclear gage with the readings corrected in accordance with WAQTC TM-8.
7. For the purpose of testing the surface on all courses, a ten (10) foot straightedge shall be used.

The straightedge shall be held in successive positions parallel and perpendicular to the street centerline in contact with the surface, and the entire areas checked from one side to the other. Advances along the pavement shall be in successive stages of not more than half the length of the straightedge.

Irregularities which may develop before the completion of rolling shall be remedied by loosening the surface mix and removing or adding materials as may be required.

Any irregularities or defects which are found after the final rolling, which vary more than 0.02 of a foot (0.24 inches) in ten feet for surface courses, shall be corrected. All minor surface projections, joints, and minor honey-combed surfaces shall be repaired smooth to grade, as may be directed by Bonneville County Public Works.

Type and Grade of Asphalt	Application Temperatures °F	
	Minimum	Maximum
Asphalt Cement	250	350

**Table 15- Plantmix Temperatures**

8. **Rolling** - After lay-down by a paving machine, the mixture shall be thoroughly and uniformly compacted with power rollers. Rolling shall be as per the ISPWC, current Edition.

The final surface shall be of a uniform texture and shall conform to line and grade as shown on the plans. The final mat thickness after compaction shall be no less than the depth as shown on the approved drawings.

All unsatisfactory work shall be repaired, replaced, or corrected. If required, core samples of the completed asphalt will be provided by the applicant or contractor at no cost to the County.

#### **D SEAL COAT/COVER COAT**

1. Asphalt Emulsion used for Chip Seal is shown in Table 9. The aggregate for the cover coat material shall meet the following gradation:

Sieve Size	Percent Passing
1/2"	100
3/8"	40-70
4	0-6
8	0-3
200	0-2

**Table 16 – Cover Coat Aggregate Gradation**

2. Cover coat material shall have a cleanness value of not less than seventy five (75) when tested in accordance with Idaho T-72 and seventy (70) percent by weight of the particles retained on the #4 screen and shall have at least one fractured face when tested in accordance with AASHTO TP-61, Method 1.

3. **Application** – Cover coat material shall be completed immediately following the application of the asphalt. The cover coat material shall be spread at a coverage rate of approximately thirty (30) pounds per square yard. Rolling shall begin immediately behind the spreader and shall be continued until four complete coverages are obtained. Turning of equipment which displaces the material shall not be permitted.

Unless otherwise specified, all asphalt for seal coating shall be CRS-2R. Application rates shall be determined at time of application with guidance by the Bonneville County Public Works Department. Written application rates shall be submitted with other testing data. At a minimum, plan to cover 60 – 70% of chip surface with the cover coat material.

4. **Brooming** – Excess material shall be swept from the roadway surface by means of rotary brooms when directed. The Contractor shall remove all excess cover coat material from lawns, walks, driveways, etc. After traffic has been routed back on the roadway, a second brooming may be required, as determined by the Bonneville County Public Works representative.
5. In all new subdivisions, developers are required to chip seal the road before final acceptance by Bonneville County. This first chip seal on a road shall be followed by a fog coat. Chip seals after this first application shall not be required to have the fog coat applied.
6. Unless otherwise specified all asphalt for fog coat shall be emulsified CSS-1h diluted by 50%, which is equal parts of asphalt and potable water. The rate at which the fog seal shall be applied is ten hundredths (0.10) to fifteen hundredths (0.15) of a gallon per square yard.
7. **Weather Limitations** - Seal coating shall not be undertaken during damp or wet weather or after sundown. The pavement temperature shall be above eighty (80) degrees Fahrenheit and the air temperature at least sixty (60) degrees Fahrenheit and rising. Seal coating will not be done when the wind velocity exceeds fifteen (15) MPH, without specific approval from the County. If the asphalt plantmix is completed too late in the year to construct the conventional seal coat, a fog coat may be required with the conventional seal coating to be completed during the prescribed period the following year.



## SECTION 300 CONCRETE

### A PORTLAND CEMENT

1. The following Specifications cover the furnishing of Portland Cement Concrete and the placement thereof. All materials, workmanship and installation of the Portland Cement Concrete shall be in accordance with these Specifications and the ISPWC, current edition.

Specification references made herein for manufactured materials and installation procedures shall refer to designations of the American Association of State County road and Transportation Officials (AASHTO), American Concrete Institute (ACI) and American Society for Testing and Materials (ASTM) as referenced in the latest edition.

All Portland Cement Concrete shall be Class 4 with a compressive strength of four thousand (4,000) PSI in twenty-eight (28) days with the exception of Non-Shrink designs used only in areas specifically calling for Non-Shrink mix. The mix design for this Portland cement concrete shall be approved by the Public Works Department. All concrete shall be cured by a LIQUID MEMBRANE-FORMING CURING COMPOUND method, unless otherwise specified herein and as directed.

Portland Cement shall conform to AASHTO M 85 and ASTM C 150, Type I, II, or III and shall not contain more than six-tenths (0.6) percent total alkali, unless otherwise specified.

2. **Aggregates for concrete** shall conform to the requirements and gradations prescribed herein. Aggregates shall be reasonably free from wood, roots, bark, soft or disintegrated pieces or other detrimental matter. Blend sand may be approved for use to correct deficiencies in the grading sizes provided the combination meets the specification requirements for the class of material being produced. A two (2) percent tolerance will be given for the percentage retained on the maximum size sieve for screen wear provided that one hundred (100) percent of the material passes the next larger sieve size. For specification requirements, the percent passing gradations shall be rounded to the nearest whole number.
3. **Fine Aggregate** used in the manufacture of concrete shall conform to ASTM C33 with the following gradation:

Sieve Size	Percent Passing
3/8"	100
No. 4	95-100
No. 16	50-85
No. 50	10-30
No. 100	2-10
No. 200	0-3
Sand Equivalent shall be a minimum of 70	

**Table 17 – Fine Aggregate Gradation**

For concrete pavements and concrete bridge decks, the percent passing the number two hundred (No. 200) sieve size shall be zero - two (0-2) except that a maximum of three (3) percent passing will be accepted if the sand equivalent is at least eighty (80).

4. **Coarse Aggregate** used in the manufacture of concrete shall conform to ASTM C33 with the following gradations:

Sieve Size	Percent Passing Aggregate Size No.	
	<b>57</b>	<b>67</b>
1.5"	100	
1"	95-100	100
3/4"		90-100
1/2"	25-60	
3/8"		20-55
No. 4	0-10	0-10
No. 8	0-5	0-5

**Table 18 – Coarse Aggregate Gradation**

Whenever possible the Aggregate Size Number 57 gradation shall be used to minimize shrinkage. An Aggregate Size larger than Number 57 may be used for structures and foundation bases (manholes or inlet boxes) with approval from the County.

The aggregate shall not show a loss of more than thirty-five (35) in the Los Angeles Abrasion Test.

5. **Water** for washing aggregates and for mixing concrete shall be clear and free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious materials.
6. **Admixtures** may be used only upon prior written approval of the Public Works Department. No admixture of any type shall be used without this authorization. Tests by an independent laboratory may be required to demonstrate the properties that an admixture will produce. Some of the normally expected properties which admixtures may be expected to produce are entrained air, water reduction, acceleration of time of

set, retardation of time of set and reduction of plastic shrinkage cracking. Any test required to demonstrate these or any other properties shall also show the strength producing characteristics of the admixture. It shall be the Contractor's responsibility to have the independent laboratory tests conducted, and the cost of such tests shall be borne solely by the Contractor.

7. **Curing Materials** - The method of cure shall be by a Liquid Membrane-Forming Curing Compound Method, unless otherwise designated. If required by Bonneville County Public Works, a manufacturer's Certificate of Compliance shall accompany membrane-forming curing compounds.

Liquid Membrane-Forming Curing Compound for **Horizontal Surfaces** Liquid membrane-forming curing compound for horizontal surfaces shall conform to ASTM C 1315, Type II, Class A or B (white pigmented), as outlined in section 03390 of the American Public Works Association (APWA) Standard Specifications. Water-based (emulsified) liquid membrane-forming curing compound, shall be kept from freezing. Solvent based compounds shall not be mixed with emulsified compounds. It shall be applied to all horizontal or nearly horizontal concrete surfaces unless otherwise directed by Bonneville County Public Works.

Liquid Membrane-Forming Curing Compound for **Vertical Surfaces** Liquid membrane-forming curing compound for vertical surfaces shall conform to ASTM C 1315, Type I, Class A. Water-based (emulsified) liquid membrane-forming curing compound shall be kept from freezing. Solvent based compounds shall not be mixed with emulsified compounds. It shall be applied to all vertical or nearly vertical concrete surfaces unless otherwise directed by Bonneville County Public Works.

## 8. **Metal Reinforcement Materials/Reinforcing Steel**

Welded Wire Fabric for Reinforcement shall conform with the requirements of AASHTO M 55. Unless otherwise specified, other reinforcing steel shall conform with the requirements of ASTM A 615, Grade 40 or 60. Epoxy coated metal reinforcement shall conform to AASHTO M 284. **Dowel bars** shall conform to AASHTO M 254, except the steel material may conform to AASHTO M 31 as an alternative. Dowel bars shall be smooth.

Tie bars shall conform to AASHTO M 31, Grade 40 or 60. Tie bars shall be deformed.

## B CONCRETE CLASSIFICATION

1. The following concrete classes shall be used where required in the plans/drawings:

Concrete Class 1000 psi (28 Day)	Minimum Cement Content LB/CY	Maximum Water/Cement Ratio LB/LB	Slump Inches	Air Content %
Class 4A*	560	0.44	2.5±1.0	5.5±1.5
Class 4	610	0.45	5 Max	6.5±1.5
Non-Shrink**	50	0.80	10 Max	0-10

\* This class of concrete shall only be placed by the extrusion method.

\*\*Non-Shrink concrete shall have a maximum compressive strength 125 psi.

**Table 19 – Classes of Concrete**

## C TESTING

1. Aggregate for Concrete tests shall be performed in accordance with the following Standard Test Methods:

Normal-weight Aggregates	ASTM C 33
Amount of material finer than the 0.075mm sieve in aggregate	AASHTO T 11
Sieve analysis of fine and coarse aggregates	AASHTO T 27
Plastic fines in graded aggregates and soils by use of the sand equivalent test	AASHTO T 176

**Table 20 – Aggregate for Concrete Standards**

Testing and evaluation of concrete shall be in accordance with the applicable standards and accepted practices of ACI and AASHTO. Acceptance of strength will be determined from the results of the twenty-eight (28) day compressive strength tests performed on cylinders. Average strength from two companion cylinders will be considered as one test.

Should the twenty-eight (28) day strength for any test for conventionally reinforced concrete fall below the intended minimum strength, the concrete of that class represented by the test shall be subject to rejection or price adjustment if allowed to remain. No concrete which falls below 90% of intended minimum strength will be allowed to remain, and shall be removed and replaced without cost to Bonneville County.

The price adjustment for conventionally reinforced concrete which fails to meet the intended strength, but is allowed to remain in place, shall be in accordance with the following table:

Percent of Specified Strength	Pay Factor
95 and above	1.0
90-94	0.80

**Table 21 – Price Adjustment Pay Factor**

The quantity of acceptable concrete will be paid for at the contract unit price multiplied by the pay factor as determined above.

Precast, prestressed and cast-in-place post-tensioned concrete shall meet the release strength and twenty-eight (28) day strength as shown on the Plans. Concrete which fails to meet these strengths, shall be cause for rejection of the member in which it is placed. The member may be core drilled to determine acceptance. Cost of obtaining and testing such core samples shall be borne by the Contractor when done at his request. Such cores shall be obtained and tested in accordance with AASHTO T 24.

## **D CONSTRUCTION**

### **1. Placing Concrete**

Immediately prior to the placing of concrete, forms and metal reinforcement shall be carefully inspected for proper grade or elevation, alignment, and rigid construction. Adjustments and repairs shall be completed as needed before the placing of concrete.

Concrete shall be placed in a continuous operation between construction joints and shall be terminated with square ends and level tops unless otherwise shown on the Plans. The rate of concrete placement shall not exceed the rate at which the various placing, floating, and finishing operations can be performed in accordance with these Specifications.

The concrete for sidewalk, driveways, and alley approaches and other such concrete flatwork shall be spread uniformly between the forms and thoroughly compacted with an approved type of strike board. JITTER-BUG TYPE TAMPERS SHALL NOT BE ALLOWED.

2. **Cold Weather Concreting** - If the Contractor desires to place concrete at any time the mean temperature is expected to fall below forty (40) degrees Fahrenheit, placement shall conform to ACI 306R and the following provisions. The Contractor must give written notification to Bonneville County Public Works of his intentions to place concrete, giving nature of work, time and locations. The Contractor shall assume all responsibility for any damage to the concrete that may be caused by freezing, or any other cause, even though permission to proceed with said work may have been given by the County. Failure to comply with this will be cause for rejection of any or all of said work.

3. **Heating and Placing Concrete** - The Contractor shall make all provisions necessary at the job site to protect his work from the elements. Before any concrete is placed, all ice, snow and frost shall be completely removed. Concrete operations shall meet the following requirements when the ambient temperature falls below forty (40) degrees Fahrenheit:

The Contractor shall furnish concrete that will have a temperature of at least fifty (50) degrees Fahrenheit and not more than eighty (80) degrees Fahrenheit at the time of placing.

4. **Protection of Concrete** - The temperature of the concrete shall be maintained at a minimum of fifty (50) degrees Fahrenheit for seven (7) days or seventy (70) degrees Fahrenheit for three (3) days after placement.

Where unformed surfaces of concrete such as sidewalks are involved, the temperature at the surface shall be maintained at the temperatures and times as set forth above.

On small quantities of concrete used in minor structures, sidewalks, hand formed curb/gutter, etc., the Contractor shall protect the concrete from freezing damage by covering the concrete with a material approved by Bonneville County Public Works, and shall maintain such protective covering for a minimum of three (3) days.

5. **Hot Weather Concreting** - The temperature of concrete shall not exceed eighty (80) degrees Fahrenheit at time of placement and shall be in accordance with ACI 305.
6. **Curing Concrete** - All concrete shall be cured by a LIQUID MEMBRANE-FORMING CURING COMPOUND method. All concrete surfaces shall be kept completely and continuously moist until a curing method is applied. On exposed unformed concrete surfaces, such as slabs or sidewalks, windbreakers or covers may be required to protect the concrete from the drying effect of wind.
7. **Finishing** – The vertical alignment or grade of the finished concrete shall not deviate more than one-eighth (1/8) inch in ten (10) feet from the established profile. The horizontal alignment of the finished concrete work shall not deviate more than one-quarter (1/4) inch in ten (10) feet from the alignment shown on the approved plans.

## **E METAL REINFORCEMENT**

1. This work shall consist of furnishing and placing reinforcing steel in accordance with these Specifications and in reasonably close conformity with the Plans or as directed.
2. **Support** - During the placing of concrete, reinforcing steel shall be firmly held in position as shown on the Plans. Placing bars on layers of fresh concrete, as the work progresses and/or adjusting bars during the placing of concrete will not be permitted. No concrete shall be deposited until the placement of the reinforcement steel has been

inspected and approved. Reinforcement positions shall be maintained by means of stays, blocks, ties, hangers, or other supports. The supports for metal reinforcement shall not be spaced more than four (4) feet apart transversely or longitudinally.

3. **Ties and Welding** - Reinforcing bars shall be tied at all intersections except where spacing is less than one (1) foot in each direction, when every other intersection shall be tied. Welding of stressed reinforcing steel may be permitted only if such welding conforms with AWS D-12.1, "Recommended Practices for Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction."
4. **Splices** - Reinforcement shall be furnished in the full length as shown on the Plans. No splicing of bars, except where shown on the Plans, will be permitted without written approval from Public Works. Where bars are spliced, they shall be lapped at least thirty (30) bar diameters unless otherwise shown on the Plans. The bars shall be rigidly clamped or wired at all splices in a manner as approved. Welded wire fabric shall be spliced not less than two (2) mesh widths distance.

#### **F CURBS, GUTTERS, WALKS, APPROACHES AND MISC.**

1. **Curb and Gutter** - shall be constructed in uniform sections ten (10) feet in length except where shorter sections are necessary for closures or on curves, but no section shall be less than four (4) feet long. Where a curb and gutter section must be constructed on a curve, straight lengths of the section shall be short enough that the middle ordinate to the curve from the face of the section does not exceed one-quarter (1/4) inch or the section shall be continuously curved. Curb and gutter shall conform to the Standard Drawings shown herein. Construction of Curb not contained herein shall adhere to the ISPWC, current Edition.

The Contractor shall construct depressed curb and sidewalk areas at the corners of all intersections to accommodate all pedestrians and travelling public, including those covered by the Americans With Disabilities Act (ADA). All detectable warning devices shall comply with the latest version of the ADA guidelines.

**Finishing** - The face form of cast-in-place concrete curb and gutter shall be stripped as soon as the concrete has set sufficiently and the curb face and top smoothed free of all form marks and irregularities. All other exposed portions of any gutter shall also be smoothed free of all form marks or irregularities while the concrete is still green. The back edge of the curb and the formed edge(s) of the various types of gutter shall be rounded with an edge of one-quarter (1/4) inch radius. The face and top of the curb shall have a smooth trowel finish. The gutter surface and the gutter flowline shall be carefully worked or trowelled to a true and even grade (both transversely and longitudinally) conforming to the established typical cross section and then finished to a smooth, even texture with a trowel. The surface of the curb and gutter shall then be finished with a fine hair broom applied parallel to the line of the work.

When checked with water, any gutter whose flowline has water ponds or puddles therein of a depth equal to or greater than one-quarter (1/4) inch after the water has stopped flowing down said gutter line, shall be deemed unacceptable without further checking. The use of water for checking the flowline of the concrete work shall be considered as a preliminary check only. Any concrete work so tested shall still be subject to further testing to determine its compliance with the various other dimensional and quality requirements set forth herein.

2. **Sidewalks** shall be at least four (4) inches thick and a minimum of five (5) feet wide unless otherwise shown on the Plans. Widths in excess of the five (5) foot minimum may be required on arterials roads. See the Standard Drawings following the Standard Specifications for placement of walk, if required, with drainage swales or with curb and gutter design.

**Finishing** - Following its proper placement and consolidation, the concrete shall be screeded and worked to a true, even grade free from all waves and irregularities. The surface shall be floated and trowelled as required to provide a smooth, flat, uniform surface. All formed edges shall be rounded to a radius of one-quarter (1/4) inch. All exposed surfaces shall be finished with a fine hair broom, said finish shall be rough enough to provide a “non slippery” surface for pedestrian usage, but not so rough that it is hard to clean or uncomfortable to walk on.

All edge lines shall be remarked with a marking tool having a width of at least one and one-half (1-1/2) inches after completion of the final finish and brooming to assure neat, uniform edge lines.

3. **Residential driveways** shall have a concrete thickness of not less than four (4) inches and need not be reinforced with reinforcing steel. In addition to concrete, two (2) inches of asphalt plantmix may be accepted in special conditions, and shall be approved in writing by Bonneville County Public Works prior to any work on the driveway.
4. **Commercial driveways** shall have a concrete thickness of not less than six (6) inches and shall be reinforced with reinforcing steel (four (4) inches of asphalt plantmix is also accepted in special conditions, and shall be approved in writing by Bonneville County Public Works prior to any work on the driveway). Driveway layout, concrete depths, amount of reinforcing steel, etc. shall be in accordance with the ISPWC, current Edition
5. **Expansion joints** shall be constructed and located as per the ISPWC, current edition
6. **Curing** - Immediately after the finishing operations on any new concrete work are complete, a curing compound meeting the requirements of Section 300-A-7 shall be applied to any of the exposed surfaces of the concrete work



## Section 400 TRENCH EXCAVATION AND BACKFILL

### A. GENERAL PROVISIONS

1. Prior to any excavation work within the right-of-way, the Contractor/Utility Company shall contact Bonneville County Public Works and submit a completed permit to work within said right-of-way. The Contractor shall notify Dig Line and/or all utility companies and request said companies mark the location of their underground lines. The permit shall also include the Contractor to inform Emergency Services of said work. If detours are needed for said work the Contractor shall also contact the Local Newspaper and insert a closure notice.

The Contractor shall be solely responsible for the safety of personnel in below grade excavations. The slope of the trench banks and sidewalls shall be constructed within the guidelines of the Occupational Safety and Health Act (OSHA) requirements for trench safety.

2. **Common Backfill material** shall be clean sand, soil, gravel, or combination thereof or any mixture approved by Public Works, reasonably free from organic material or debris. Granular borrow or crushed gravel shall be reasonably well graded from coarse to fine with a maximum diameter of three quarter (3/4) inch. Primary use of this material shall be in and above the pipe zone.
3. **Base Stabilization Gravel** shall be clean, granular borrow or crushed gravel, reasonably well graded from coarse to fine with a maximum diameter of two (2) inches. Primary use of this material shall be below the pipe or pipe zone.
4. **Select Backfill Material** shall consist of bank-run sand and gravel, aggregate, stone screenings or any mixture as approved or combination thereof, reasonably graded from coarse to fine with a maximum diameter of three-quarter (3/4) inch. The sand equivalent shall not be less than thirty (30). Primary use of this material shall be below the pipe through rock excavation.
5. **Special Pipe Zone Material** shall consist of crushed gravel reasonably graded from coarse to fine with a maximum diameter of three-quarters (3/4) inch and meeting the requirements of Aggregate Base Course in the Standard Specifications for Street Construction. Primary use of this material shall be in the pipe zone.
6. **Dewatering Material** shall consist of clean crushed gravel with a maximum diameter of three-eighths (3/8) inch and meeting the requirements of Cover Coat Material in the Standard Specifications for Street Construction. Primary use of this material shall be below the pipe to a maximum depth of six (6) inches when water is encountered in this area during pipe installation work.

7. **Bentonite Soil Material** shall consist of a uniform mixture of eighty (80) percent parent soil and twenty (20) percent bentonite sealing clay. Primary use of this material shall be for the trench seal used in repair of waterways.

Construction of utilities, water, and sewer shall adhere to the Standard Specifications of the jurisdiction in charge of the maintenance of said utility. Bonneville County requires the proper depth be maintained throughout including drainage swales within the subdivisions.

8. **Road Crossing Excavation and Backfill** - when backfilling any trench that cuts across or along any arterial roadway, state highway, or any road/street as determined by Bonneville County Public Works, backfill shall meet the Class "Non-Shrink" Concrete backfill material of Section VI-B-1, unless otherwise directed by Bonneville County Public Works on the ROW permit.

After the Contractor has excavated and disposed of all material from the trench area and upon completion of the installation and testing of the installed line, the Contractor shall install proper backfill material, compact around the pipe zone, and backfill to one (1) foot above the pipe with proper backfill material. The Contractor shall then place non-shrink backfill (Class "Non-Shrink" Concrete) material in the trench using a method that fills all voids to the top of the existing subgrade elevation (compaction shall be required in lifts). Class "Non-Shrink" concrete shall not come in contact with any utility pipes, conduits, or other underground structures. Plastic sheeting (minimum of four (4) mil) shall be used to protect any utility pipes, conduits, or other underground structures from Class "Non-Shrink" Concrete. After sufficient time for the non-shrink backfill material to cure in order to carry the traffic loads, the Contractor shall then replace the complete road section, including asphalt plantmix surfacing and aggregate base in accordance with the County typical section. The asphalt thickness shall either match the asphalt being replaced or meet the County Typical whichever is greater.

9. **Repair of Asphalt Plantmix Surfacing and Bases** - The Contractor shall replace all removed asphalt plantmix surfacing and aggregate base material to the minimum depth of the County Typical Section. However, if either the existing asphalt plantmix surfacing or aggregate base material has a greater thickness than that hereinbefore stated, the thickness of the new asphalt plantmix and aggregate base material shall be equal to the existing thickness of asphalt plantmix surfacing and aggregate base material, respectively. The replaced material shall be placed throughout the entire width and length of the trench and/or adjacent areas where it is necessary to remove any existing asphalt surface.

10. **Replacing Asphalt Plantmix Surfacing** - The Contractor shall saw or wheel cut, however, the County Public Works Department may require saw cutting only, the existing asphalt surface back a minimum of twelve (12) inches from the edge of the excavated trench in a neat, straight line prior to patching. Any fractured, heaved or otherwise damaged asphalt surface beyond the twelve (12) inch offset cut shall be

“squared out”, as directed. If the total compacted depth or thickness is greater than three (3) inches it shall be placed and compacted in two (2) or more lifts of equal thickness.

Immediately prior to placing any asphalt plantmix, the Contractor shall apply to all vertical edges of the old asphalt surface and any existing concrete edges an approved emulsified tack coat, such as CSS-1h diluted to equal parts potable water and asphalt. The asphalt plantmix shall be spread uniformly and without segregation across the entire width of the area where the surfacing has been removed. It shall be spread to such a depth that when compacted to the required density, the patched surface shall match the existing adjacent surfaces.

When tested with a ten (10) foot straightedge laid on the finished surface, perpendicular to the trench, the repaired surface shall vary in no place more than one-quarter (1/4) inch from the lower edge of the straightedge. The approved patched surface shall then be sealed for the entire width of the trench plus one (1) foot. Trench patch seal may be either “Gilsabind” (or approved equal) or seal coat meeting the requirements in the Standard Specifications.

11. **Public Access** - During all construction operations, the Contractor, at his/her expense, shall provide access for all property owners to their property. No person shall be denied access to his/her residence or place of business unless the Contractor has made a special arrangement with the affected person covering loss of access.

Access for fire and emergency equipment for the protection of buildings, life and property shall be maintained at all times.

12. **Streets and Driveways (Closures)** - The Contractor shall promptly reopen streets, roads and driveways to the public after the utility has been installed past these points. No traffic way shall be closed while work is suspended over weekends or holidays and closure during workdays shall be as brief as practicable. Traffic must be kept open on those roads and streets where no detour is possible. The Contractor shall obey all rules, laws, ordinances and regulations of the State, County and City authorities as to the closing and barricading of public roads and streets. All such barricading and signing shall be in accordance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) for Streets and County roads, published by the U.S. Department of Transportation, Federal Highway Administration.

13. **Protection of Property** - All existing structures encountered within the course of construction shall be protected and not damaged insofar as possible unless the Plans call for the abandonment of said structure. Any damage to existing structures that could have been prevented by the Contractor shall be repaired at the expense of the Contractor to a condition equivalent to the original condition of the structure.

14. **Irrigation Channels** – Construction operations through irrigated lands shall be scheduled during the nonirrigation season, generally between November 1<sup>st</sup> and April 1<sup>st</sup>. However, construction may proceed during the irrigation season, provided that the Contractor constructs, at his own expense, such temporary irrigation facilities as may be required, so that the lands can be irrigated by others during the construction work. The Contractor shall be responsible to contact the appropriate irrigation company and schedule his work to minimize any conflicts.

## **Section 500 WATER LINES**

### **A. GENERAL PROVISIONS**

All “WATER” line installations within Bonneville County right-of-way shall meet the Standards of the jurisdiction serving the utility. Bonneville County Public Works shall require the waterline be installed at a minimum depth of six (6) feet from final grade of the trench to the top of pipe and adhere to the Standard Specifications herein including obtaining permits, trenching, and backfilling.

## **Section 600 SANITARY/STORM SEWERS**

### **A. GENERAL PROVISIONS**

All “Sanitary Sewer” or “Storm Sewer” line installations within Bonneville County right-of-way shall meet the Standards of the jurisdiction serving the utility, and the most recent edition of the ISPWC, current edition.

## **Section 700 GRAVITY IRRIGATION/CANALS**

### **A. GENERAL PROVISIONS**

All “Irrigation relocations” or “Canal Piping” projects with underground or surface installations within Bonneville County right-of-way shall meet the current Bonneville County Standards, and the most recent edition of the ISPWC, current edition. This includes:

1. Materials:
  - a. Pipe Size, Type, Strength
    - i. Type and strength requirements shall meet HS-25 loading under areas with current or projected future hard surfacing. All other areas with piping shall meet or exceed the area in which the pipeline is installed as defined by other Bonneville County standards.
    - ii. All pipe materials shall meet minimum standards outlined in ISPWC Section 600 except as noted below.
    - iii. Follow manufacturer’s guidelines for minimum and maximum bury specifications. Provide documentation of requirements as part of improvement drawing approval process.
    - iv. Sizing of Canal piping shall be based on 125% of Maximum Daily Flow during Irrigation Season. Documentation of expected flows shall be provided during the improvement drawing approval process.

- v. Notify the County if soil conditions differ from anticipated design
- b. Pipe Types/Sizes Excepted from ISPWC Section 600: These sizes/type will be allowed in Bonneville County ROW only in the following conditions:
- i. Ribbed PVC – 24” Maximum pipe diameter
  - ii. Corrugated Polyethylene Pipe – 24” Maximum pipe diameter
  - iii. Non-reinforced Concrete Pipe – 18” Maximum pipe diameter
  - iv. Polypropylene Pipe – 24” Maximum pipe diameter for double wall pipe and 36” Maximum pipe diameter for triple wall pipe
  - v. ABS or PVC Composite Sewer Pipe – Not Allowed
  - vi. Steel Reinforced Ribbed PE Pipe – 42” Maximum pipe diameter
- c. Structures
- i. All road crossings or projected road crossings will have headwalls either cast-in-place or precast. All headwalls shall provide the width of the roadway area plus 5’-0” “shoulders” on each side of the crossing. Structures should generally comply with ISPWC Section 602, MUTCD, and ITD Drawing 609-2 (both sheets) and other Bonneville County standards. All headwalls shall have adequate armoring/rip-rap to prevent erosion.
  - ii. Structures placed at locations other than road crossings shall be placed at approximately 400’ spacing. This spacing may be adjusted at time of improvement drawing approval at the sole discretion of Bonneville County Public Works. Intermediate structures are intended to provide maintenance opportunities for responsible parties and do not replace road crossing structures or specifications. These types of structures shall be similar to ISPWC SD-619 or SD-620.
  - iii. Road Crossings shall be perpendicular to the travel lanes whenever possible to minimize the crossing distance.
  - iv. Grates/Trash Racks that allow irrigation canals to be cleaned of debris shall be located on the upstream side of each road crossing, and shall have adequate room for material to be placed temporarily should the grate become blocked. Grates shall conform to all requirements of canal companies and prevent unauthorized access to the piped system by individuals.
  - v. All structures placed along the ROW for use by Canal Company personnel or Bonneville County personnel shall be located out of pedestrian pathways and shall not hinder the travelling public or pedestrian/bicycle movement.

## V. PUBLIC RIGHT-OF-WAY CONSTRUCTION

### A. GENERAL PROVISIONS

The following general conditions will control ordinary conduct or procedures of all public or private entities performing work in, upon, above, or under roads, streets, alleys, sidewalks, bridges, roadways, or other public rights-of-way within the County.

1. Said entity shall use proper equipment and qualified personnel in the performance of the work authorized and permitted to be done.
2. All construction or repair of the roadway shall conform to the Public Works Department specifications and standard drawings in effect at the time of issuance of the right-of-way permit, and including any requirements expressed uniquely on the right-of-way permit, its attachments and construction details approved by the Department.
3. All utilities shall be laid in as straight a line vertically and horizontally as possible, parallel to adjacent property lines, so the future work in the right-of-way will not endanger any utility.
4. **WORK ZONES** - All public and private entities performing construction work in the public right-of-way will establish a work zone that complies with the latest edition of the Manual on Uniform Traffic Control Devices, or as directed by the Department.
5. Except when street closures are permitted, all public or private entities performing work in the public right-of-way shall keep all areas within the project clear for public travel and shall keep private property free of work debris. When the work is completed any of said permit holders doing the work shall be responsible to clean the project area to a condition as good or better than that prior to the work and to the satisfaction of the Department.
6. No road, street, alley, sidewalk, bridge, roadway, or other public right-of-way shall be closed to public use by any person, except by the express permission of the Public Works Department and with at least twenty-four (24) hours prior notification of the need for such closure. During the period of such closure, the permit holder shall be responsible to provide such access as is necessary for the conveyance of any emergency vehicle, equipment or personnel.
7. **NOTIFICATIONS** - Prior to the period of time of any street closure, construction or activity of any nature by the permit holder that may hinder or delay the function of any emergency vehicle, equipment, or personnel, it shall be the permit holder's responsibility to notify any applicable emergency organization of the nature of such activity and to make any adjustments in the activity as is deemed necessary by the emergency organization or the Public Works Department.

8. **PROTECTION OF ADJOINING PROPERTY** - The permit holder shall at all times, at his or her own expense, preserve and protect any adjoining property from injury due to construction within the right-of-way. Where, in the protection of such property, it is necessary to enter upon private property for that purpose of taking appropriate protecting measures, the permit holder shall obtain permission of such private property for such purpose solely for making the property safe. The permit holder shall, at his own expense, shore up and protect all buildings, walls, fences, or other property likely to be damaged during the progress of the construction work and shall be responsible for all damage to public or private property or rights-of-way resulting from its failure to protect and carry out said work.

Whenever it may be necessary for the permit holder to trench through any lawn area in the right-of-way, said area shall be reseeded or the sod shall be carefully cut and rolled and replaced after trenches have been backfilled as required in this ordinance. All construction and maintenance work shall be done in a manner calculated to leave the lawn area clean of earth and debris and in conformance with the typical road section as shown in the standard drawings. The permit holder shall not remove, even temporarily, any trees or shrubs which exist in the work area without first obtaining the consent to the person or agency having control over such property.

9. **PROTECTION OF WATER COURSES** - The permit holder shall maintain all gutters or barrow ditches free and unobstructed for the full depth of same and for at least one foot in width from the face of such gutter/barrow ditch. Whenever a gutter crosses at intersecting street, an adequate waterway shall be provided and at all times maintained. When no gutter exists, the flow line for natural drainage at the street or road edge shall be maintained and restored in conformance with the typical road section as shown in the standard drawings. The permit holder shall make provisions to take care of all surplus water, muck, silt, or other runoff pumped from excavations or resulting from sluicing or other operations and shall be responsible for any damage resulting from its failure to so provide. The permit holder, while pumping water from an excavation and discharging any of the above listed materials into the road right-of-way, shall provide a settling basin or box with adequate capacity to entrap all silt, sand or other above mentioned materials. No individual, entity or other will be permitted to allow water from sprinklers, irrigation or private drainage system to flood or spray onto the road surface that will cause road surface deterioration. Water trucks will be allowed to control dust in a construction area and at the discretion of the Public Works Department.
10. **CLEANUP** - As the work progresses in the right-of-way, all roads, alleys, sidewalk, curb, gutter, structure, culvert, bridges or any other improvements within the right-of-way shall be thoroughly cleaned of all rubbish, excess earth, rock and other debris resulting from such work. All clean up operations at the location of such excavation shall be performed at the expense of the permit holder, and shall be completed to the satisfaction of the Public Works Department. From time to time, as may be ordered by the Public Works Department, and in any event immediately after completion of said work, the permit holder shall at his or her expense, clean up and remove all



refuse and unused materials of any kind resulting from said work, and upon failure to do so within 24 hours after having been notified to do so by the Public Works Department, said work may be done or contracted by the County and the cost of said clean up to be charged to said permit holder. Permit holder shall also be liable for said cost incurred by the County or the Public Works Department under the deposit/bond as herein provided. Permit holder is hereby held responsible for notifying the Public Works Department upon completion of said construction for final inspection to be performed.

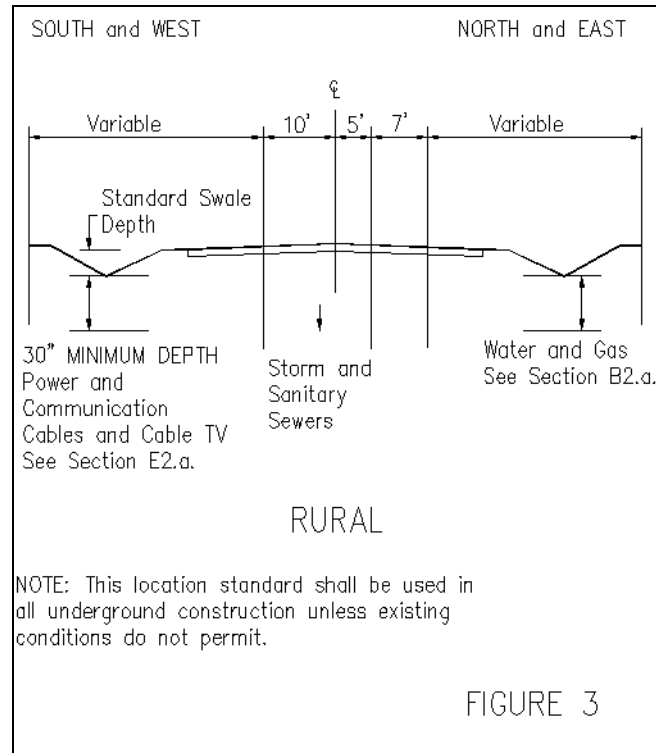
11. **NOISE, DUST & DEBRIS** - Each permit holder shall conduct and carry out excavation work in such manner as to avoid unnecessary inconvenience and annoyance to the general public and occupants of neighboring property. The permit holder, in the performance of the excavation work, shall take appropriate measures to reduce noise, dust and unsightly debris. Between the hours of 10:00 p.m. and 7:00 a.m. the permit holder shall not use, except with the express written permission of the Public Works Department or in case of an emergency as herein otherwise provided, any tool, appliance or equipment producing noise of sufficient volume to disturb the sleep or repose of occupants of the neighboring property.

Where any activity results in the depositing of debris, upon the public right-of-way, in such a way as to constitute a hazard or annoyance to the public or cause damage, potentially or otherwise to any Bonneville County structure, the person, firm, organization or otherwise responsible party shall immediately remove such debris and desist from any further action which would cause depositing of debris to continue, unless otherwise authorized by the Public Works Department.

## **12. UTILITY LOCATION WITHIN R-O-W**

General -Facilities shall be located to minimize the need for adjustment for future road improvements, avoid interference with road maintenance, signing, and permit access to the facilities for their maintenance with minimum interference to traffic. In all locations where sanitary sewers, water lines, storm sewers and other utilities are installed, a uniform location is established for those facilities. See Figure 3.

- a. Longitudinal - Facilities shall be located on uniform alignment as near as practical to the right-of-way line.
- b. Crossings - Facilities crossing the County road should be placed approximately at a right angle to the roadway alignment whenever feasible and preferably under the roadway.



### 13. UNDERGROUND UTILITY CROSSINGS

- a. Utilities crossing underground below any County road, shall be of durable materials and so installed as to virtually preclude any necessity for disturbing the roadways to perform maintenance or expansion operations. The design and types of materials shall conform with appropriate governmental codes and specifications.
- b. It is the intent and desire of the County to prevent utility cuts in new pavements for a period of five (5) years after placement of the pavement. Coordination between the utility and the Public Works Department about paving schedules and utility modifications is important.

### 14. IRRIGATION DITCHES AND WATER CANALS

Except for necessary crossings in accordance with §40-2321, Idaho Code, water canals and irrigation ditches shall be excluded from the public right-of-way. Crossings may be made by underground inverted siphon, or through culverts or bridges as appropriate to the size of canal, topographic conditions, and County road safety aspects. In general, locations and structures are to be designed in the same manner as are facilities for natural transverse drainage.

### 15. PROVISION FOR EXPANSION OF UTILITIES

When existing utilities are relocated or adjusted in conjunction with construction of a County road, provision may be made for known and planned expansion of the utility facilities, particularly those underground. They should be planned to avoid

interference with traffic at some future date, when additional or new overhead or underground lines are installed.

#### **16. RETENTION OF EXISTING FACILITIES**

Existing utility facilities encountered during road construction may remain in place when the conditions of this policy have been met. Facilities containing minor deviations from this policy when otherwise would not require adjustment may be retained on the public right-of-way when such retention is in the public interest and will not adversely affect the County road or its users. Any such retention will be with the understanding that compliance will be obtained when the facility is reconstructed. Existing facilities on public right-of-way which after comprehensive accident history or safety studies are declared by the County to be a hazard to road users are to be relocated or shielded regardless of the provisions of prior agreements between the County and utility companies. Any addition to, or change in operating conditions of existing facilities other than for routine maintenance shall require application for an issuance of a new permit, prior to the initiation of such work or change.

#### **17. EXCEPTIONS**

Exceptions to any provisions contained in this manual may be authorized by the Public Works Department in any instance where there is evidence showing that unusual hardship and/or unusual conditions provide justifications and where alternate measures can be prescribed in keeping with the intent of these standards. All requests for such exceptions shall be documented in writing with design data, cost comparison, and other information which may be pertinent. Exceptions, when approved, will be approved in writing by the Public Works Department.

#### **18. AESTHETIC CONTROLS**

Overhead facilities should be placed underground except where it is not economically feasible. Aerial facilities should be designed to minimize any adverse visual impact.

#### **19. DESIGN**

- a. Responsibility for Design - The applicant is responsible for the design of the facility to be installed within the public right-of-way or attached to a County road structure. The Public Works Department is responsible for review and approval of the applicant's proposal with respect to the location of the facilities to be installed and manner of attachment. This includes the measures to be taken to preserve the safety and free flow of traffic, structural integrity of the road or road structure, ease of road maintenance and appearance of the County road.
- b. Certification – The applicant proposing the installation of the facility shall provide the Department with a letter or certificate signed and sealed by a professional engineer licensed in the State of Idaho that the installation and materials conform to or exceed the following standards or specifications as applicable for the type of installation.

<b>Type of Facility</b>	<b>Applicable Standard or Specification, Current Edition</b>
Electric Power & Communication	National Electric Code
Water & Sewer Lines	American Public Works Association or Idaho Standards for Public Works Construction
Pressure Pipelines	Standard Code for Pressure Piping of the American National Standards Institute, Title 49, Code of Federal Regulations, Part 192 and 105
Liquid Petroleum Pipe	American Petroleum Institute for Pipeline Crossings Under Railroads and Highways
Corrugated Metal Pipe	LHTAC Highway and Street Standards Manual
Casing & Carrier Pipe	Standard Specification for Highway Construction, Idaho Transportation Department

**Table 22. Referenced Standards**

- c. Materials - All facility installations on, over, or under public right-of- way and attachments to County road structures should be of durable materials designed for long service life expectancy and relatively free from routine servicing and maintenance.
- d. Expansion of Facilities - On new installations or adjustments to existing facilities, provisions should be made for known or planned expansion of the facilities, particularly those located underground or attached to bridges. They should be planned so as to minimize hazards and interference with County road traffic when additional overhead or underground utilities are installed at some future date.

## **20. SERVICE CONNECTIONS**

Service connections will not be permitted across public rights-of-way when a distribution line is available within a reasonable distance on the same side of the County road as the premises being served.

## **21. APPROVAL FOR FACILITIES – ROAD GRANT PROCESS**

Facilities located on or across County roads crossing public lands for which deeded right-of- way has not been obtained, (such as through National Forest System Lands, U.S. Bureau of Land Management land, etc.) shall require a grant of public right-of-way for non-County road purposes from the appropriate government agency having administration of the lands. Prior to the granting of an additional public right-of-way, the applicant shall submit to the appropriate government agency a written statement from the County, indicating any objections it may have thereto and such stipulations as it considers desirable for the additional public right-of-way. Right-of-Way granted for non-County road purposes will be subject to the “Road Grant” process.

Facilities located on or across County roads which are located on railroad property will require the approval of the specific railroad company being crossed.

## **22. RESPONSIBILITY FOR DAMAGE**

The utility shall indemnify and hold harmless the County, its officers, and employees from all suits, actions, or claims of any character brought because of any injuries or damages received, or sustained by any person, persons, or property caused by the operations of the permittee or its contractors, or on account of or in consequence of any neglect in safeguarding the work, or through the use of unacceptable materials in constructing the work, or because of any act or omission, neglect, or misconduct of the permittee or its contractors when such injury or damage arises out of the construction, installation, maintenance, repair, removal relocation, operation or use of the facility covered by the permit.

## **23. CONTROL**

- a. Safety Devices - During the initial installation or construction of the facilities authorized by the permit, or during the future repair, removal, relocation, maintenance, or during any miscellaneous operations, all necessary barricades, suitable and sufficient lights, danger signals, signs, and other traffic control devices shall be erected and maintained, and all necessary precautions for the protection of the work and safety of the public shall be taken. Work shall be planned so that closure of intersecting streets, road approaches, and other access points is held to a minimum. All traffic control and safety devices used for the protection of the work areas shall conform to the current Manual on Uniform Traffic Control Devices.
- b. Inspection – To ensure compliance with the terms and conditions of the permit, the Public Works Department reserves the right to inspect the facility during such periods as deemed necessary to check compliance and to require correcting any deviations from the terms and conditions of their permit. If the Department cannot make the inspections in a timely manner, it may need to contract with a private company to inspect the work, the expense for said inspections shall be borne by the permittee. Such inspection by the County shall in no way relieve the permittee of any duty or responsibility to the general public, nor shall any liability for loss, damage, or injury to persons or property as provided in these provisions.
- c. Preservation and Restoration of County Road Right-of-Way - The County road right-of-way shall be left in as good or better condition as it was found before work commenced. In all cases, the right-of-way shall be brought into conformance with the typical road section as shown in the standard drawings. In order to meet this condition, it shall be necessary that:
  - (1) Clearing of trees, brush, and other vegetation shall be held to the minimum required for construction and safety.
  - (2) Vegetation cleared from the County road right-of-way shall be disposed of without undue delay. No burning shall be allowed on the public right-of-way.
  - (3) Soil which has been excavated during construction and not used shall be evenly filled back into the cleared area or removed from the site. The soil should be graded to conform with the terrain and the topsoil replaced and appropriate vegetation shall be planted and fertilized.

- (4) It is strictly forbidden to spray with selective herbicides, cut, trim or remove trees or shrubs growing on the public right- of-way, unless and until written permission and instructions to do so have first been obtained from the Public Works Department. When removal of trees is permitted, stumps shall be removed and holes backfilled.
- (5) Whenever possible, existing drainage and irrigation facilities should be left undisturbed. Where disturbance is unavoidable, provisions shall be made to maintain drainage and irrigation during construction and to restore the permanent facility to a condition satisfactory to the controlling entity as soon as possible.
- (6) The permittee shall be responsible for the preservation of all public and private property and shall protect public and private property corners, public land survey corners, and public and private property monuments, (as defined in §55- 1603, Idaho Code) carefully from disturbance or damage. All land monuments or property marks needing to be moved shall be replaced and reset by a Licensed Professional Land Surveyor.
- (7) Permittee shall not pollute streams, lakes, or reservoirs with fuels, oils, asphalt, silt, or other harmful materials.
- d. Maintenance – The permittee shall maintain at its sole expense the installations and structures occupying the public right-of-way in a condition satisfactory to the Public Works Department. See VI-B-2 of these specifications for additional information.
- e. Removal, Relocation or Repair – Public Works Department reserves the right to require at any time the removal, relocation, or repair of the permittee’s facility or private line authorized by permit.
  - (1) Upon receiving written notice from the Public Works Department to remove, relocate, or repair the installation, the permittee shall make arrangements for the removal, relocation, or repair in accordance with said written notice and instructions.
  - (2) Before commencing work, the permittee shall furnish such deposit or financial guarantee that the Public Works Department may consider necessary to insure compliance with the terms and conditions of the written notice and instructions to remove, relocate, or repair.
  - (3) Should the permittee fail to remove, relocate, or repair the installation as provided in paragraph e.(1), above, the Public Works Department may, with their own forces or by contract, remove, relocate, or repair same and submit a statement of total costs for this work to the permittee for payment.

## **B. R-O-W PERMIT**

### **1. GENERAL**

- a. Each new utility installation or encroachment which is to occupy public right-of-way shall require a permit. Existing utility facilities or encroachments which are to be relocated or adjusted to a position within the public right-of-way of a construction project shall require a permit. A permit is also required for utility facilities not adjusted, but which remain in place within the public right-of-way of a construction project. Utility facilities not adjusted and already covered by permit will not require a new permit. Maintenance projects for seal coats, pavement overlays, pavement rehabilitation's, etc., will not require a permit for utility facilities not adjusted.
- b. All work in connection with the facility authorized by the permit shall be done in a neat and workmanlike manner to the satisfaction of the Public Works Department. The details of construction of the facility shall conform to the established standards currently in effect and listed under Chapter X, Section H, Design. The following information is required:
  - (1) Permit Application

The permit application shall be on the prescribed form (Exhibit 1) and shall include detailed drawings or sketches showing the location of the proposed facility with respect to existing and/or planned County road improvements, the traveled way, horizontal and vertical clearance and the right-of-way lines.

    - (a) When attachment to a County road structure is proposed, details of the attachment method shall be included for approval by the Department prior to installation.
  - (2) Traffic Control Plans

The permit application shall include Traffic Control Plans for any work to be performed within the public right-of-way. Traffic control plans shall be in conformance with the Manual on Uniform Traffic Control Devices, current edition, and subject to approval by the Department.
  - (3) Hazardous Materials
    - (a) When the proposed utility facility involves a pipeline carrying potentially hazardous materials, the following additional data are required.
      - (i) Contents to be transported, with MSDS sheets.
      - (ii) Pipe size, nominal.
      - (iii) Wall thickness.
      - (iv) Location, class of pipe and construction type.
      - (v) Design pressure (maximum operation pressure).
      - (vi) Maximum working pressure (actual).
      - (vii) Certification as to above factors by a professional engineer licensed in the state of Idaho.
    - (b) After the pipeline installation has been completed, any future changes in the contents to be transmitted or any increase in the maximum design pressure specified in the permit shall require the permittee to give the

Public Works Department advance notice and obtain approval for such changes. The notice shall specify the applicable codes to be used.

(4) Insurance

The permittee shall take out and maintain property damage and public liability insurance that will protect him from any and all claims for property damages and/or bodily injury, including accidental death, which may arise from operations under the permit whether such operations be by himself or by any contractor or by anyone directly or indirectly employed by either of them.

(5) Financial Guarantee/Deposit

- (a) The permittee shall furnish a deposit, bond, letter of credit or other acceptable financial guarantee in the amount specified in the permit for operations allowed by the permit. No work shall be commenced under the permit until the said guarantee has been submitted and approved.
- (b) A county-wide blanket bond in the amount of at least twenty thousand dollars (\$20,000) and in effect for at least twelve (12) months shall also be acceptable.

(6) Prior Right of Location

- (a) On new construction where a utility facility originally occupied and/or occupies a portion of the public right-of-way in which the utility has a prior right to the location, the following provisions shall apply:
  - (i) The utility shall release and relinquish to the County all its rights, title, and interest in its easements located within the public right-of-way in exchange for necessary permits to accommodate utility facilities which are relocated, adjusted, or which remain in place. These permits may not be canceled except by mutual agreement between the utility and the County.

(7) Contractor/Subcontractor Identification

Work contracted or subcontracted to other than the permittee shall be subject to the same requirements as the permittee. Prior to the commencement of work, the permittee shall identify and provide to the Public Works Department any contractors or subcontractors, scope of their work, name, address, and phone number of persons responsible for the work. A preconstruction conference may be required by the Public Works Department depending on the size and complexity of the project.

(8) Final Approval

Final approval of the facility or encroachment is completed when the Public Works Department signs the "final permit" approval line on the permit. Approval can only be given if the facility meets or exceeds the requirements of these standards and all plans, fees, and bonds have been provided or paid by the applicant.



## **2. MAINTENANCE**

### **A. GENERAL**

- a. Maintenance of facilities can be described as any work on the facility to keep the facility working, keep it from failing, or to fix it after it has failed. It can also be such simple operations as painting a metal control box. All utility facilities are required to be maintained to prevent damage to the County road or to prevent disruption to the traveling public.
- b. During the design of facilities, consideration should be given to how maintenance of the facility will take place so as to cause as little disruption as possible to the traveling public. This is particularly true near County road structures where clearances need to be maintained to permit maintenance of the facility and the County road structure.

### **B. ACCESS FOR CONSTRUCTION AND/OR SERVICING UTILITIES**

- a. Should any maintenance of the facility take place it shall be done so as not to interfere with traffic operations, if reasonably possible. If traffic interruption or interference is likely, an approved Traffic Control Plan will be required prior to said interruption or interference. Public Works Department shall review for approval the Traffic Control Plan for conformance with the Manual on Uniform Traffic Control Devices.

### **C. PERMIT(S) – Emergency Work**

- a. In general, one permit will cover ongoing routine maintenance of facilities. If the maintenance operation disrupts traffic or can be considered a hazard to the traveling public a separate permit will be required.
- b. In case of an emergency as defined in §55-2201, Idaho Code, a verbal authorization may be given by the Public Works Department to perform to required repair or maintenance. Definition is in 55-2202

## **3. R-O-W PERMIT FORM**

THE CURRENT VERSION OF THE ROW PERMIT FORM FOLLOWS

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## BONNEVILLE COUNTY PUBLIC WORKS APPLICATION AND PERMIT TO USE RIGHT OF WAY

Ph (208) 529-1290, Fax (208) 529-1295

All applicants for a Permit to Use the Right-of-Way shall submit to Bonneville County a sum of money for inspection purposes and to insure against any residual damage that may be sustained to a public roadway as a result of a breach of the roadway surface. The required amounts are set forth in the chart below for road crossings. This chart represents an initial deposit structure and the amounts set forth may be modified or amended from time to time by resolution of the Board of County Commissioners. Longitudinal use of the Public Right-of-Way will require a Financial Guarantee (surety bond, letter of credit, etc.) to assure compliance and a non-refundable fee of \$0.05/linear foot for overhead installations and \$0.10/linear foot for underground installations.

The deposit for road crossings, or a portion thereof, shall be refunded to the applicant based on the time frames set forth in the schedule found in the following chart, which time frames shall begin upon sign-off (Page 6 of Permit) by the Public Works Department that the project has been completed. The amount refunded shall be the deposit amount, less any amounts necessary to return the roadway surface as nearly as practical to its original condition. If the County has to repair the roadway in any way, the expense for said repairs will be deducted from the deposit before any portion of the deposit is refunded. If an oiled roadway is cut, the amount of \$200 will automatically and permanently be withheld from the deposit.

Type of Crossing	Cost	Deposit Retention Time	Amount refunded if project is approved	How refunded
Boring	\$100.00	7 days	\$100.00	Return check
Gravel Road	\$300.00	6 months	\$300.00	Return check
Oil Road	\$800.00	1 year	\$600.00	Payment from County

Should the cost to the County exceed the amount of the applicant's deposit, the applicant shall be responsible to the County for the payment of any additional expense to return the roadway surface as nearly as practical to its original condition. No new permits will be issued to the Grantee until such claim has been settled.

Each utility company and/or contractor will need to get a permit through the Public Works office for any construction work that is within the County road right-of-way. All deposits and fees will apply. Companies that are bonded may submit a bond in lieu of cash or deposits. If an oil road is cut, a non-refundable fee of \$200 in addition to the deposit or financial guarantee will be required for all road crossings. **All permittee's are responsible for all utility locates through the state program Title 55 Chapter 22.**

All individuals, utility companies, and/or contractors extending to third parties are required to follow the latest edition of the Manual on Uniform Traffic Control Devices for signing, traffic control, closing roads, and impeding traffic. Parked equipment and stored materials shall be kept as far away from the travelway as feasible. Items left overnight within County right-of-way shall be marked and/or protected.

The issuance of this permit in no way supersedes the requirement of the Grantee to obtain a right-of-way from each owner of property over which the construction will cross, or any other required permit.



County Road Name \_\_\_\_\_

Owner/Authorized Representative\* \_\_\_\_\_

Date work to begin \_\_\_\_\_

Date work to be completed \_\_\_\_\_

Contact phone number \_\_\_\_\_

Weekend contact phone number \_\_\_\_\_

\*Authorized representative requires a letter from the facility owner.

- 1) \_\_\_\_\_ Method of installation? (Excavation, boring, etc.)
- 2) \_\_\_\_\_ Depth of cover intended over utility.
- 3) \_\_\_\_\_ Has a Traffic Control Plan been provided? (see general provisions note #18)
- 4) \_\_\_\_\_ Has an underground utility line locate been performed?

### **TYPE OF UTILITY**

TYPE	Size	Depth	Potential/Pressure	Vertical Clearance	Distance
Telephone					
Cable TV					
Power					
Overhead Utility					
Natural Gas					
Sanitary Sewer					
Domestic Water					
Irrigation Water					
Other (explain)					

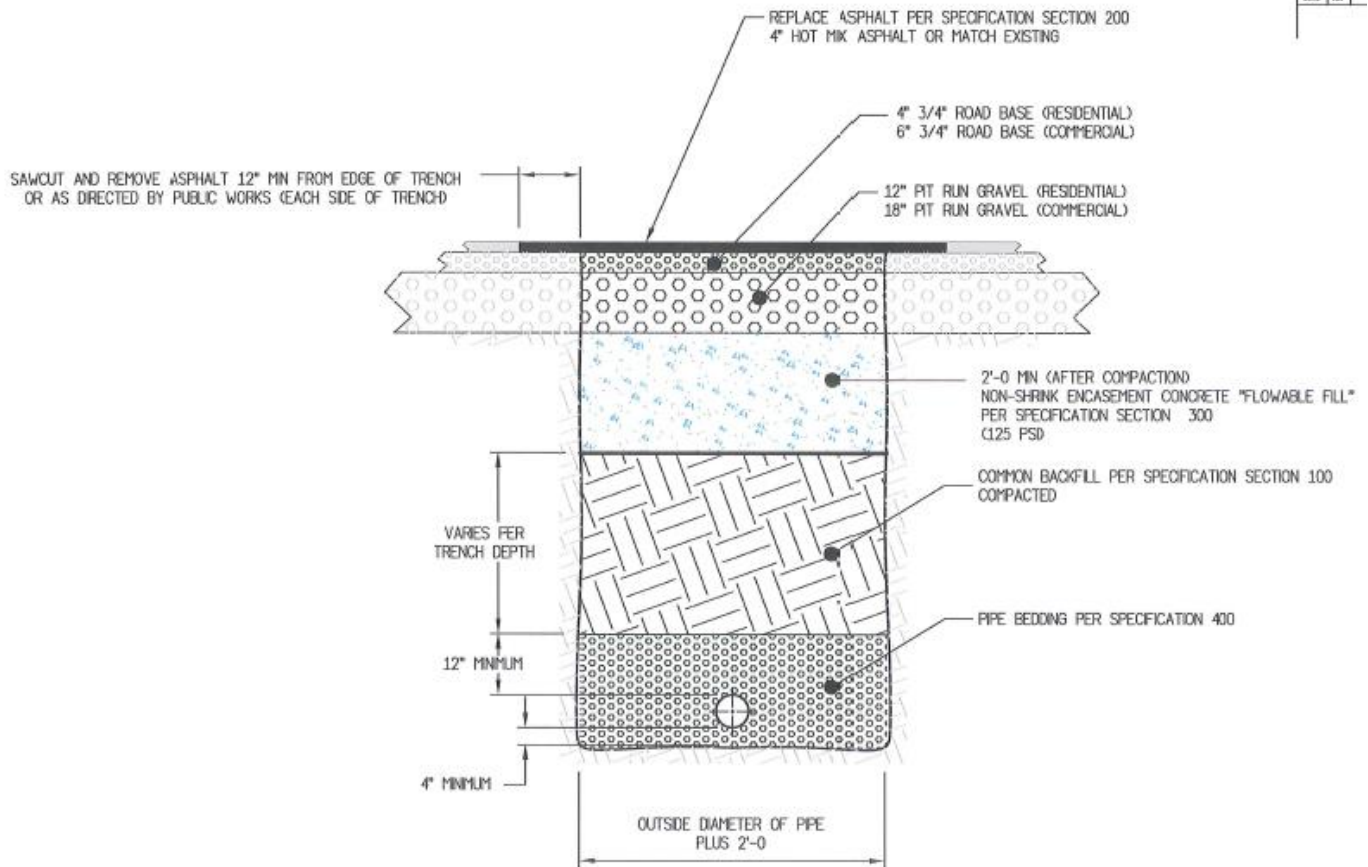
Approved for construction:

By: \_\_\_\_\_  
Bonneville County Public Works Department

Permit # \_\_\_\_\_

Date \_\_\_\_\_  
(permit valid for 14 days from above date)

**Please provide sketch and location of proposed work:**  
**(Longitudinal use will require plan sheets)**



**Figure 1: Standard Trench Repair**

## GENERAL PROVISIONS

1. Permittee shall give at least 24 hours advance notice prior to commencing initial work or any future work, which would restrict the flow of traffic.
2. During construction, barricades, lights, and other traffic control devices shall be erected and maintained for the protection of the traveling public. Said barricades, lights, and other traffic control devices shall conform to the current issue of the Manual on Uniform Traffic Control Devices.
3. In accepting this permit, the Permittee, its successors and assigns, agrees to hold Bonneville County harmless from any and all liability on account of the erection, installation, construction, maintenance, or operation of the facilities located under this permit.
4. Except as herein authorized, no excavation shall be made or obstacle placed within the roadway right of way of Bonneville County in such a manner as to interfere with the travel over said roadway.
5. If the work done under this permit in any manner involves the disturbance of the traveled surface of the road and/or traffic control devices, said items shall be restored to the satisfaction of Bonneville County at the completion of the authorized work either by the Permittee or by Bonneville County at the Permittee's expense.
6. If the work done under this permit involves the disturbance of the traveled surface of the roadway or drainage of the roadway the Permittee shall contact the Bonneville County Public Works Department for final approval prior to any backfill procedures or reconstruction of said drainage areas are to be completed.
7. If the work done under this permit interferes in any way with the drainage of the County roadway, the Permittee shall wholly and at their own expense make such provisions to take care of said drainage as directed by the Bonneville County Public Works Department.
8. On completion of said work herein, all rubbish and debris encountered shall be immediately removed and the roadway and roadside shall be left neat and presentable to the satisfaction of Bonneville County.
9. All construction work herein shall be done to conform to current government and industry standards to the satisfaction of Bonneville County and the entire expense of said construction shall be borne by the Permittee.
10. The Bonneville County Public Works Department hereby reserves the right to order the change of location or the removal of any structure(s) or facility(ies) authorized by this permit, said change or removal is to be made at the sole expense of the Permittee, or its successors and assigns.
11. All such changes, reconstruction or relocation by the Permittee shall be done in such manner as will cause the least interference with the traveling public and/or County's work.
12. This permit or permission granted shall not be deemed or held to be an exclusive one and shall not prohibit the County from granting other permits or franchise rights of like or other nature to other public or private utilities, nor shall it prevent the County from using any of its roads, streets, or public places, or affect its right to full supervision and control over all or any part of them, none of which is hereby surrendered.
13. The Bonneville County Public Works Department may revoke, annul, change, amend, amplify, or terminate this permit or any of the conditions herein enumerated if Permittee fails to comply with any or all of its provisions, requirements, or regulations as herein set forth or through willful or unreasonable neglect, fails to heed or comply with notices given, or if the utility here granted is not installed or operated and maintained in conformity herewith.
14. Neither the acceptance of this permit nor anything herein contained shall be construed as a waiver by the Permittee of any rights given it by the Constitution or laws of the State of Idaho or of Bonneville County or of the United States.
15. Permittee guarantees all work associated with this permit for a period of one year from the date of final approval. If damage occurs within the right of way as a result of the work associated with this permit repairs shall be made by the Permittee as directed by the Bonneville County Public Works Department and all cost associated shall be at the Permittee's expense.
16. **Trench Maintenance** – Trenches shall be paved within 3 working days of the completion of the installation of the utility for which this permit is granted. Prior to paving, the Contractor shall check on and maintain all trenches at their sole expense (including weekends) a minimum of twice per day or upon the request of the County to ensure a smooth ride to the traveling public. Should the Contractor fail to maintain and/or complete the project, Bonneville County will complete the project and require Permittee to pay all costs associated there with.
17. **Maintenance of Traffic** – The Permittee shall keep the roadway open and maintained to traffic at all times. If trained flaggers are used, delays shall be minimized at all times. A complete Traffic control plan will need to be submitted (as required by the Manual of Uniform Traffic Control Devices) and approved by the Bonneville County Public Works Department.
18. **Road Closure** – If a road closure is required, contracting firm will notify the emergency dispatch office @ (208) 529-1200 and advertise said closure via radio, local newspaper, or TV a minimum of 24 hours before work will begin.
19. **Failure to Obtain a Permit** – Should the facility owner fail to obtain and properly fill out a permit prior to working within the right-of-way, Bonneville County Public Works shall suspend the work until such time the permit is approved and possible fines are issued and paid. Failure to comply with the permit process may result in suspension from doing future work within the right-of-way.

20. **Final Inspection** – An inspection by a Bonneville County Public Works representative is required prior to backfill and after the re-surface procedure is complete.

### **SPECIAL PROVISIONS**

SP1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_

**I certify that I am the owner or authorized representative\* of the proposed facility or property to be served and agree to do the work requested hereon in accordance with the GENERAL PROVISIONS and the Bonneville County Public Works Standard Specifications and Drawings manual.**

\*Authorized representative requires a letter from the facility owner

\_\_\_\_\_  
(Please Type or Print)

\_\_\_\_\_  
(Signature)

Date\_\_\_\_\_

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**Bonneville County Public Works Department attests that the work approved on this permit has been completed in compliance with the Bonneville County Public Works Standard Specification and Drawings manual.**

Date\_\_\_\_\_

\_\_\_\_\_  
(Public Works Representative Signature)



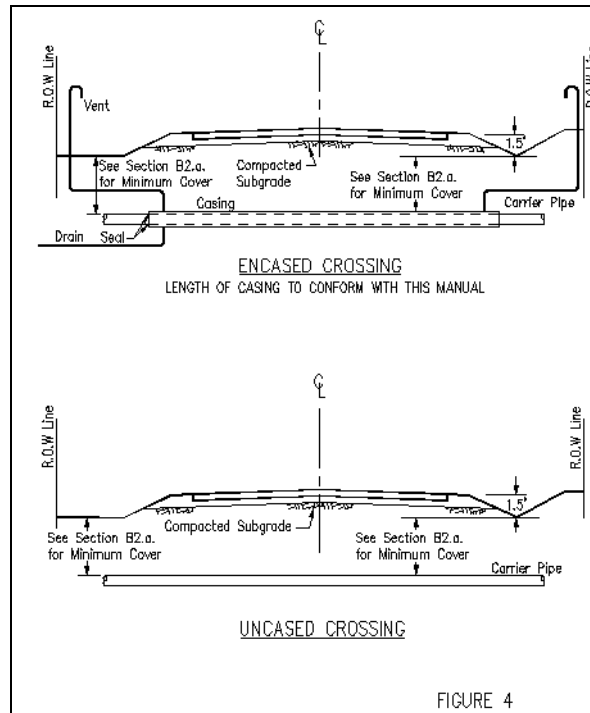
## **C. PIPELINES**

### **1. LOCATION AND ALIGNMENT**

- A. Crossings - All crossings should be located as near to a right angle to the County road alignment as feasible. Conditions which are generally unsuitable or undesirable for pipeline crossings should be avoided. These include locations such as in deep cuts, near footings of bridges and retaining walls, across intersections at- grade, at cross drains where flow of water, drift, or stream bedload may be obstructed, within basins of an underpass drained by a pump if pipeline carries a liquid or liquefied gas, and in wet or rocky terrain where it will be difficult to attain minimum cover.
- B. Longitudinal Installations - Where allowed, longitudinal installations should be located outside the normal maintenance operating area, (beyond drainage swale or curb line) and as near the right-of-way line as terrain and other existing utilities will reasonably allow. See Section V-A2. and Figure 3.
- C. On County roads with narrow right-of-way or where an installation outside the ditch line would be extremely difficult and/or costly, facilities may be allowed in the shoulder area.
- D. Clearance Near Structures - Vertical and horizontal clearance between a pipeline and a structure or other County road or utility facilities must be sufficient to permit maintenance of the pipeline and the other facilities.

### **2. DEPTH OF COVER OVER PIPELINES**

- A. The critical controls for cover on a pipeline crossing are the low points in the County road cross section. (See Figure 4)
  - 1) Cover for pipelines other than storm drainage, sanitary sewer and domestic water will be based on current industry standards for the type of pipeline permitted but shall not be less than 30 inches.
  - 2) Minimum cover for domestic water lines is six (6) feet.
  - 3) Minimum cover for sanitary sewer shall be determined by the controlling agency or district, but may be overridden by Bonneville County Public Works when such cover shall adversely impact the roadway.
  - 4) Additional cover may be required to prevent freezing of any liquids within the pipes, either carrier or casing.
  - 5) Where less than minimum depth of cover is unavoidable, the top of the pipe shall not project above the subgrade. Protection in a manner acceptable to the Public Works Department shall be required.



### 3. OPEN TRENCH CUTS

Applicants requesting open trench placement under pavements may be approved if justified by information showing that installation by jacking, driving or boring is impractical. Justification would only be poor soil conditions such as rock or boulders, inadequate room for a boring pit, or too many conflicts, (gas lines, multiple telephone conduits, etc.). Where gravel or boulders prevent boring or jacking on the first try, at least two other attempts should be made at different locations before contacting the Public Works Department about an alternate installation method.

When special permission is granted to cut the County road, all provisions of these standards shall apply

### 4. JACK/BORE PIPE INSTALLATIONS

A. Installation by jacking, driving or boring shall be in accordance with the following provisions:

- 1) Trenching in connection with any of these methods shall be conducted no nearer than five (5) feet from the edge of pavement.
- 2) Jacking, driving, or boring shall be by approved means which will hold disturbances of surrounding material to a minimum. Sluicing or jetting will not be allowed. Sand or cement grout packed in place shall be required where the hole is greater than five percent (5%) oversize in diameter on pipelines larger than twelve (12) inches in diameter.

## **5. ENCASEMENT OF PIPES**

### **A. Requirements - Casings should be considered for the following conditions:**

- 1) As an expediency in the insertion, removal, replacement, or maintenance of carrier pipe crossings where it is necessary in order to avoid open trenched construction.
- 2) As protection for carrier pipe from external loads or shock, either during or after construction of the County road.
- 3) As a means of conveying leaking fluids, or gases away from the area directly beneath the traveled way to a point of venting at or near the right-of-way line, or to a point of drainage in the road borrow or a natural drainage way.
- 4) Jacked or bored installations of coated carrier pipes should be encased. Exceptions may be made where assurance can be provided against damage to the protective coating.
- 5) Pipelines with less than minimum cover, near footings of bridges or other County road structures or near other areas where there may be a hazard.

### **B. Casing Design**

- 1) Casings shall be designed to support the load of the travel-way and all superimposed loads thereon. As a guide, the design shall meet the structural requirements for County road drainage facilities.
- 2) Casings shall be composed of materials of satisfactory durability for the conditions of loading and soil characteristics.
- 3) Casings shall extend a minimum of five (5) feet beyond the toe of the fill slope or outer edge of the ditch line. On curbed sections, the casing shall extend outside the outer curbs.
- 4) Casing pipe shall be sealed at the ends with a flexible material to prevent flowing water and debris from entering the annular space between the casing and carrier.
- 5) The casing diameter shall provide a minimum of two (2) inches of clearance between the inside of the casing pipe and the outside of the carrier pipe.
- 6) Any casing pipe that is required to be welded shall have such performed by a certified welder.

### **C. Exceptions**

Uncased crossings of welded steel pipelines carrying fluid, gases, or semi-solids which are flammable, corrosive, expansive, energized, or unstable, particularly if carried at high pressure, may be permitted provided additional protective measures are taken as follows:

- 1) Higher factor of safety in design.
- 2) Thicker wall pipe.
- 3) Radiograph testing of welds.
- 4) Hydrostatic testing.

- 5) Adequate coating and wrapping.
- 6) Cathodic protection.
- 7) Certification as to above factors by a professional engineer licensed in the State of Idaho.

D. Appurtenances to pipes

- 1) Vents. Vents are appurtenances by which fluids or gases between carrier and casing may be inspected, samples, exhausted, or evacuated.
  - a. Vents shall be located at the high-end of casings under 150 feet in length and at both ends of casings over 150 feet in length.
  - b. Vent standpipes shall be located and constructed so as not to interfere with the maintenance of the County road, preferable at the right-of-way line.
  - c. Vents shall not be placed in a location that will be hazardous to the public.
- 2) Drains. Drains are appurtenances by which liquids or heavy gases may be evacuated or exhausted.
  - a. Drains shall be provided for casings, tunnels or galleries enclosing carriers of liquid, liquefied gas, or heavy gas.
  - b. Drains may be allowed to out fall into roadside ditches or natural water courses at locations approved by the Public Works Department.
- 3) Natural drainage's and roadside ditches will not be used for draining materials that may be hazardous to the public.
- 4) Markers. The utility company shall be required to place suitable markers at the right-of-way line where it is crossed by pipelines carrying fluid, gases, or semi-solids which are flammable, corrosive, expansive, energized, or unstable, particularly if carried at high pressure, except that vents may serve as markers if suitable located. Markers are also recommended for other pipelines. Markers shall also be provided at customary intervals along longitudinal installations.
- 5) Manholes. Manholes should be located in the pavement of rural County roads. Existing manholes may be allowed to remain in place upon reconstruction provided they do not constitute a hazard. Location and design of manholes shall minimize interference to other utilities and future County road expansion.
- 6) Shut-Off Valves. Shut-off valves shall be installed in lines at, or near ends of structures and near unusual hazards. The type of valve, (manual or automatic) shall be governed by the conditions within the area.

## **D. INSTALLATIONS ON COUNTY ROAD STRUCTURES**

1. Attachments to County road structures should be avoided whenever possible due to the effect on safe traffic operation, efficiency of maintenance, and appearance. In those cases where alternate locations are not feasible due to cost, difficulty of construction, or appearance, the method of attachment should conform to the following requirements:
  - a. Structure design should be checked to insure that it is adequate to support the additional load and accommodate the utility without compromise to County road features including maintenance.
  - b. Manholes in the bridge and culvert decks are prohibited.
  - c. Utility facilities shall be located beneath the deck between outer girders, or beams, or within a cell in such a position that the vertical clearance is not reduced. Attachments to the outside of structures shall be prohibited, excepting an allowance may be granted if all other means have been eliminated and with the express written permission of the Public Works Department.
  - d. Any allowed attachment shall be made by means of support rollers, saddles, or hangers that are padded, or coated to muffle vibration noise. Bolting through the structure floor is prohibited. The design of the attachment device shall be reviewed and approved by the Public Works Department.
  - e. Upon leaving the bridge, the utility will be aligned outside the roadway in as short a distance as is operationally practicable.
  - f. Lineal expansion and contraction due to temperature variation will be provided for by use of line bends or expansion couplings.
  - g. Shut-off valves, either manual or automatic, will be provided at or near ends of structures to provide a means of control in case of emergency.
  - h. Suitable protection shall be provided to prevent corrosion or the occurrence of electrolysis.
  - i. Where a casing is not provided for a pipeline attachment to a structure, additional protective measures shall be taken. Such measures will incorporate a higher factor of safety in the design, construction and testing of the pipeline than would normally be required for cased construction.
  - j. Communication and electric power line attachments should be suitably insulated, grounded, and preferably carried in protective conduit or pipe from the point of exit from the ground to re-entry. Carrier pipe and casing pipe should be suitably insulated from electric power line attachments.

## **E. OVERHEAD POWER AND COMMUNICATION LINES**

### **1. LOCATION**

- a. Above-ground facilities shall be located outside the clear zone as per Table 3.1 of the AASHTO Roadside Design Guide (represented below).

- (1) Variance as required to maintain a reasonably uniform pole alignment may be allowed where irregular shaped portions of the County road right-of-way extend beyond the normal County road right-of-way limits.
- (2) Excepted from these controls are poles or other ground-mounted appurtenances required for County road lighting. However, where feasible, such poles and appurtenances shall be serviced by underground cable and designed to include a breakaway pole.
- (3) Where public right-of-way is not sufficient to allow installation beyond the clear traveled way area, the facilities will be placed in a manner which affords adequate protection to an out-of-control vehicle, such as behind guardrail.
- (4) On sections through urban areas where speed is limited to 35 mph or less, it may not be practical to locate poles and ground-mounted appurtenances very far beyond the curb or protect them with guardrail. Controls will, of necessity, be governed by roadside development; however, facilities should be located as far as practical behind the curb or outside the shoulder and/or parking area if there is no curb.

Clear Zone (ft) - AASHTO Roadside Design Guide Table 3.1

DESIGN SPEED	DESIGN ADT	FORESLOPES			BACKSLOPES		
		1V:6H Or flatter	1V:5H TO 1V:4H	1V:3H	1V:3H	1V:5H TO 1V:4H	1V:6H Or flatter
		CLEAR ZONE (FT)					
40 mph or Less	UNDER 750	7 – 10	7 – 10	*	7 – 10	7 – 10	7 – 10
	750 – 1500	10 – 12	12 – 14	*	12 – 14	12 – 14	12 – 14
	1500 – 6000	12 – 14	14 – 16	*	14 – 16	14 – 16	14 – 16
	OVER 6000	14 – 16	16 – 18	*	16 – 18	16 – 18	16 – 18
45 – 50 MPH	UNDER 750	10 – 12	12 – 14	*	8 – 10	8 – 10	10 – 12
	750 – 1500	14 – 16	16 – 20	*	10 – 12	12 – 14	14 – 16
	1500 – 6000	16 – 18	20 – 26	*	12 – 14	14 – 16	16 – 18
	OVER 6000	20 – 22	24 – 28	*	14 – 16	18 – 20	20 – 22
55 MPH	UNDER 750	12 – 14	14 – 18	*	8 – 10	10 – 12	10 – 12
	750 – 1500	16 – 18	20 – 24	*	10 – 12	14 – 16	16 – 18
	1500 – 6000	20 – 22	24 – 30	*	14 – 16	16 – 18	20 – 22
	OVER 6000	22 – 24	26 – 32	*	16 – 18	20 – 22	22 – 24
60 MPH	UNDER 750	16 – 18	20 – 24	*	10 – 12	12 – 14	14 – 16
	750 – 1500	20 – 24	26 – 32	*	12 – 14	16 – 18	20 – 22
	1500 – 6000	26 – 30	32 – 40	*	14 – 18	18 – 22	24 – 26
	OVER 6000	30 – 32	36 – 44	*	20 – 22	24 – 26	26 – 28
65 – 70 MPH	UNDER 750	18 – 20	20 – 26	*	10 – 12	14 – 16	14 – 16
	750 – 1500	24 – 26	28 – 36	*	12 – 16	18 – 20	20 – 22
	1500 – 6000	28 – 32	34 – 42	*	16 – 20	22 – 24	26 – 28
	OVER 6000	30 – 34	38 – 46	*	22 – 24	26 – 30	28 – 30

- b. In the case of a right-of-way with an existing overhead power line, any new overhead power installation in the same right-of-way will be required to co-locate with the existing line or be placed underground. Exceptions may be granted by the Public Works Department if extraordinary circumstances exist.

## **2. VERTICAL CLEARANCE**

- a. The vertical clearance to overhead utility lines crossing the County road shall not be less than the clearance required by the National Electrical Safety Code, ANSI C2, Institute of Electrical and Electronic Engineers, Inc.

## **3. TYPE OF CONSTRUCTION**

- a. Longitudinal installations of overhead line on the public right-of-way should be limited to single pole type of construction.
- b. All high voltage, high-line crossings shall require supporting towers to be constructed in accordance with the National Electrical Code.
- c. Joint-use single pole construction is encouraged as covered by the National Electrical Code at locations where more than one utility or type of facility is involved. This is particularly important where minimum public right-of-way width is involved.

## **F. UNDERGROUND ELECTRIC POWER, TV, AND COMMUNICATION LINES**

### **1. LOCATION**

- a. Longitudinal installations may be located within the fore-slope limits only if the terrain is such that an installation outside the ditch line would be extremely difficult and costly, or if the County road traverses a scenic area where an aerial installation would detract from the view, or placing buried cable beyond the ditch line would require removal of trees and shrubs.
  - (1) Installations located within the fore-slope shall be placed a uniform distance from the pavement edge as near as practicable to the inside edge of the ditch. Only after all preferred buried cable locations have been found to be impractical it may be permissible to place the buried cable within a two-foot-wide area directly below the ditch line.
  - (2) Installations shall normally be placed as near as practicable to the public right-of-way line while maintaining a generally uniform distance from the roadway centerline.
- b. Crossings shall be located as near to a right angle to the County road alignment as practical.
- c. Crossings in deep cuts, near footings of structures, at grade intersections, at cross drains, and in wet or rocky terrain should be avoided.
- d. Pedestals or service poles installed as part of a buried installation generally are to be located one foot from the public right-of-way line. In no case shall the pedestals be located within the area of the roadside receiving annual maintenance operations such as ditch cleaning or mowing operations. All pedestals will be marked with snow markers for easy location in the winter.

## **2. CONSTRUCTION DETAILS**

- a. Cover - depth of cover shall be based on the typical road sections (Dwg. No. 100-1 and 100-2) as follows:
  - (1) Cover shall be two and one-half (2½) feet minimum from finish grade to top of pipe. Where necessary to clear drainage facilities, etc., this may be reduced to two (2) feet, only after receiving written permission of Bonneville County Public Works. Fiber optic cables shall be buried at least thirty-six (36) inches below finish grade in all locations.
  - (2) Depth of cover shall not be less than two (2) feet unless encasement is provided. In no case, however, shall the top of the encasement extend into the base material. A depth of less than thirty-six (36) inches for all telecommunication conduits or fiber optics will require encasement.
  - (3) Encasement shall conform to the applicable provisions of Section C-5, Encasement of Pipes.
  - (4) Markers - Buried cable locations shall be identified by placing standard warning signs at the public right-of-way lines for crossings. Longitudinal installations shall be identified by placing standard warning signs at intervals agreed to by the permittee and Public Works Department; however, for electric power cables, this interval shall not exceed five hundred (500) feet. The warning signs shall be offset as near the County road right-of-way line as practical.
  - (5) Trenching, jacking boring, or driving shall be accomplished in accordance with the applicable provisions contained in Section C-5, Encasement of Pipes.
  - (6) Buried electrical power, TV, and telecommunication conduit, communication cable, (including fiber optics) placed by the plowing method shall be subject to the following:
    - (a) Longitudinal installations shall be limited to areas outside the travelled roadway unless otherwise approved. All such installations shall not impede upon any Bonneville County ROW purposes/needs.
    - (b) The Public Works Department may permit, in hardship cases such as solid rock, steep cliffs, swampy area, etc. (if ample justification is shown), the placement of the cable within the roadway prism. In such cases, the location shall be as specified in Section C-1, Encasement of Pipes.
    - (c) Any rock or debris brought to the surface by plowing shall be removed from the public right-of-way and the ground surface graded to conform to that of the surrounding terrain.

## **3. INSPECTION**

- a. In order for the Public Works Department to comply with §55-2209, Idaho Code, it may be necessary for the Public Works Department to make various inspections of the installation of the utility facilities. In such case, the permittee shall pay for the inspector fees as approved by County ordinance.



## **G. IRRIGATION DRAINAGE PIPES, DITCHES AND CANALS**

### **1. GENERAL**

- a. Line and pipe inverted siphon crossings shall be buried from right-of-way line to right-of-way line.
- b. Crossings of water canals and irrigation ditches may be made through culverts or bridges as appropriate to the size of the canal, topographic conditions, and County road safety aspects.
- c. Open canals or ditches shall not parallel County roads within the public right-of-way, and in no case shall the County road borrow/drainage swale or curb line be used for conveying irrigation water of any type.

### **2. CONSTRUCTION DETAILS**

- a. Design and construction shall be accomplished in compliance with applicable Public Works Department requirements.
- b. Depth of cover for the type of pipe used shall be based on manufacturer's requirements for expected loading. For special installations, depth may be less than the requirements called for in these standards, if approved by the Public Works Department before work commences.

## VI. MAILBOXES, NEWSPAPER DELIVERY BOXES, PILLARS

### A MAILBOXES AND DELIVERY BOXES

1. No mailbox, mail cluster box unit or newspaper delivery box (hereafter referred to as "mailbox") will be allowed to exist on any highway under the jurisdiction of Bonneville County if it interferes with the safety of the traveling public or the function, maintenance, or operation of the highway system. A mailbox installation that does not conform to the provisions of this regulation is an unauthorized encroachment under *Idaho Code §18-3907* and *§49-221*. The location and construction of mailboxes shall conform to the rules and regulations of the U.S. postal service as well as the standards established by the Bonneville County Public Works Department. **ALL NEW SUBDIVISIONS OVER 6 LOTS WITH ROAD ACCESS SHALL INSTALL CLUSTER MAILBOXES INSTALLED BEFORE SUBDIVISION CONDITIONAL ACCEPTANCE WILL BE GRANTED.**
2. A mailbox installation that conforms to the following criteria will be considered acceptable unless in the judgment of the department the installation interferes with the safety of the traveling public or the function, maintenance, or operation of the highway system.
  - a. No mailbox will be permitted where access is from the lanes or shoulders of limited access or controlled access facilities or where access is otherwise prohibited by law or regulation.
  - b. Mailboxes shall be located on the right-hand side of the roadway in the direction of the delivery route except on one-way streets where they may be placed on the left-hand side. The bottom of the box shall be set at an elevation established by the U.S. postal service, usually between 41" and 45" above the roadway surface as called for on <https://www.usps.com/manage/mailboxes.htm> The roadside face of the box shall be offset from the back of curb 6 to 8 inches or as shown on Drawing 100-7.
  - c. Exceptions to the lateral placement criteria above will exist on residential streets and certain designated rural roads where the department deems it in the public interest to permit lesser clearances or to require greater clearances. On curbed streets, the roadside face of the mailbox shall be set back from the face of curb a distance between 6 and 8 inches. On residential streets without curbs or all-weather shoulders that carry low-traffic volumes operating at low speeds, the roadside face of a mailbox shall be offset between 12 and 24 inches behind the edge of pavement or as directed by the local postmaster.
  - d. Where a mailbox is located at a driveway entrance, it shall be placed on the far side of the driveway in the direction of the delivery route.
  - e. Where a mailbox is located at an intersecting road, it shall be located a minimum of 100 feet beyond the center of the intersecting road in the direction of the delivery route. This distance shall be increased to 200 feet when the average daily traffic on the intersecting road exceeds 400 vehicles per day.
  - f. Mailboxes shall be of light sheet metal or plastic construction conforming to the requirements of the U.S. postal service.

- g. Newspaper delivery boxes shall be of light sheet metal or plastic construction of minimum dimensions suitable for holding a newspaper.
  - h. No more than two mailboxes may be mounted on a support structure unless the support structure and mailbox arrangement have been shown to be safe by crash testing. However, light-weight newspaper boxes may be mounted below the mailbox on the side of the mailbox support.
  - i. Mailbox supports shall not be set in concrete unless the support design has been shown to be safe by crash tests when so installed.
  - j. A single 4-inch x 4-inch or 4 1/2-inch diameter wooden post or a metal post with the strength of no greater than a 2-inch diameter standard strength steel pipe and embedded no more than 24 inches into the ground will be acceptable as a mailbox support. A metal post shall not be fitted with an anchor plate, but it may have an anti-twist device that extends no more than 10 inches below the ground surface.
  - k. The post-to-box attachment details should be of sufficient strength to prevent the box from separating from the post top if the installation is struck by a vehicle. The current edition of the AASHTO (American Association of State Highway and Transportation officials) publication "A Guide for Erecting Mailboxes on Highways" has been used as a guide for this rule and is incorporated by reference.
  - l. The minimum spacing between the centers of support posts shall be three-fourths the height of the posts above grade.
  - m. Mailbox support designs not described in this regulation may be acceptable if specifically approved by the Public Works Department.
3. It will be the responsibility of the postal patron to inform the department of any new or existing mailbox installation where shoulder construction is inadequate to permit all weather vehicular access to the mailbox.

## **B PILLARS**

Pillars and other permanent or semi-permanent structures are prohibited in the right-of-way with the exception of subdivision entryways. Any subdivision entryway structure shall require a right-of-way construction permit and shall meet all of the requirements set forth in the standards of Bonneville County Public Works.

## VII. PRIVATE ROADS

1. General Required Findings: Private streets may be allowed when the Commissioners find that the street can comply with all of the following standards:
  - a. Provide safe and effective movement of both vehicular and pedestrian traffic;
  - b. Does not adversely affect access or good public transportation planning to adjacent property and to the area travel networks;
  - c. Does not land lock adjacent property due to topography or parcel layout;
  - d. Allows all adjacent lands or developments access through all platted roads and to extend those roads through to other adjacent developments. The County retains a right of entry and access over all private streets for purposes of assuring access for required government access and for emergency public services and equipment;
  - e. Does not restrict public access to public lands, places of public attraction, use or interest;
  - f. **Connectivity:** Does not connect one public street to another, encouraging travel through the development unless it forms a loop back to the same street;
  - g. **Alignment:** Use or alignment of the private street does not interfere with the continuity of public streets;
  - h. **Standards:** All private streets shall be constructed in accordance with the current version of the Bonneville County Public Works Standard Specifications and Drawings as approved by the Bonneville County Commissioners;
  - i. **Maintenance Agreement:** A binding maintenance agreement shall be recorded at the time of recording the Final Plat that minimally:
    - (a) creates the formation of a homeowners/property owners association or substantially similar entity obligated for the perpetual maintenance of the street, and
    - (b) provides that said agreement shall run with the land, and
    - (c) provides that said agreement cannot be modified and that the Homeowners/Property Owners Association or other entity cannot be dissolved without the express consent of the Board of Bonneville County Commissioners, and
    - (d) be binding on all successors, heirs, and assigns
  - j. **Duty to Maintain Access:** Any person or group who is responsible for the maintenance of private streets which are necessary for access by residents or for public utility services, vehicles or equipment, or by emergency personnel, vehicles or equipment, shall maintain such streets in an unobstructed condition at all times.
  - k. **Failure to Maintain:** Whenever any person or group who shall own or be responsible for privately maintained streets shall fail, after having been notified by the County to remove obstructions thereon within ten (10) days of having received such notice of noncompliance, then the County may cause such removal to be performed with the cost of such action together with administrative costs assessed to said group or responsible person.
  - l. **Assessment and Collection of Costs:** The costs to the County for repair, maintenance, correction, replacement or encroachment removal as enumerated and permitted above may be assessed against the property benefited and certified

as a tax lien against the said property together with all costs of collection including reasonable attorney's fees.

2. All properties abutting an approved privately maintained road shall meet the same minimum street frontage, set back and other requirements as set forth in the applicable base zone.
3. Private roads shall adhere to the same Standards and Typical Sections as for public roads as shown herein, however plantmix pavement may be eliminated if approved by the Board of County Commissioners. Private roads that intersect with an existing paved public road shall require the Developer to pave the approach of the private road to the right-of-way line of the public road.
4. The applicant shall provide written comments from all public emergency service agencies.
5. Gates on Private Roads: – All gates shall comply with the following conditions:
  - a. Emergency Services must have approved said gate and submitted their letter of approval to Bonneville County PUBLIC WORKS DEPARTMENT;
  - b. Approved gate openings shall be a minimum of twenty feet (20') wide, and shall be located a minimum of fifty feet (50') from the public right-of-way access to the gate. In the gate's open position the travel way, for its entire width, shall be clear and unobstructed;
  - c. Gates located on one-way roads shall open in the same direction that traffic moves. Gates located on two-way roads must open in both of the directions that traffic moves. Gates that open upward shall not be allowed;
  - d. Gates shall have a fail-open lock in the event of a loss of power;
  - e. A common access key pad code shall be provided for access required as mentioned in section 1(d) listed above.
6. Granting approval of the private road shall not cause damage, hazard, nuisance, or other detriment to persons, property, or uses in the vicinity; and the use and location of the private road shall not conflict with the applicable comprehensive plan and/or the regional transportation plan.

## **VIII. PUBLIC RIGHT-OF-WAY LANDSCAPING**

### **A PURPOSE**

The purpose of this Chapter is to promote and protect the public health, safety and general welfare by providing for the regulation of installation, maintenance and removal of landscaping within the road rights-of-way under the jurisdiction of Bonneville County.

### **B GENERAL**

1. Bonneville County shall not be responsible for the maintenance and upkeep of any landscape material placed by property owners in the public road right-of-way.
2. Any landscape materials placed in a public road right-of-way under the jurisdiction of Bonneville County shall become public property.
3. The Public Works Department shall have the right to remove, trim, destroy and control all landscaping which is planted, grown or maintained in violation of the provisions of this Chapter or to ensure public safety or to ensure the integrity of the roadways.
4. Public utility companies shall have the right to install, maintain and repair their facilities within the public right-of-way, including landscaped areas, according to the conditions outlined in these specifications.
5. Landscaping shall not be allowed within arterial and collector road rights-of-way.
6. Landscape materials shall include but are not limited to soil, mulch, organic and inorganic ground cover, vegetation, trees, shrubs, sod, irrigation systems, piping, weed control fabric, tree supports, masonry and concrete.
7. Landscaping materials not allowed shall include rock larger than six (6) inches in diameter, fence posts (metal, wood, etc.) except those used for initial support of trees, fencing, permanent or semi-permanent structures, platforms, benches, light poles, signs, ponds, waterfalls, solid plastic ground cover (weed control fabric is allowed) or any other items the Public Works Department deems to be an obstruction or threat to public safety.
8. All vegetation used in landscaping shall be live and planted in the ground.
9. All landscaping must follow the Clear View restrictions identified in Chapter III Section D of these specifications.
10. Landscaping shall not reduce or eliminate the rate of water percolation into the soil in landscaped areas.

11. The landscape area in a right-of-way shall be the natural ground between 1) the property line and back of sidewalk, 2) the front of sidewalk and back of curb, or 3) property line and edge of oil/asphalt or back of curb (in a right-of-way with drainage swales).

## **C REGULATIONS FOR TREES**

### **1. General Planting Provisions**

- a. Street trees shall be allowed along public roads with a speed limit of 25 MPH or less, unless such trees impacts any ROW use, designed subdivision improvements, or other utilities ability to service the area.
- b. The planting and maintenance of public trees, shrubs and other woody plants shall be at property owners sole cost, and shall not become a burden on other citizens or property owners according to standard maintenance practices as published in ANSI Standard A300 (Part I), as published by the American National Standards Institute, Inc.
- c. Street trees shall be classified in accordance with the three species size classes listed in Section C-2. of this Chapter.
- d. Trees shall not be planted closer together (measured from center of trunk to center of trunk) than:
  - 1) Twenty (20) feet for small trees
  - 2) Thirty (30) feet for medium trees
  - 3) Forty (40) feet for large trees
- e. Trees may not be planted closer to the backside of any curb or the nearest edge of any sidewalk (measured from edge of trunk closest to curb or sidewalk in question) than:
  - 1) Two (2) feet for small trees
  - 2) Three (3) feet for medium trees
  - 3) Four (4) feet for large trees
- f. Trees may not be planted closer than eight (8) feet (measured from edge of trunk closest to the edge of oil/asphalt) to the edge of oil/asphalt in rights-of-way with a drainage swale.

- g. Trees shall not be planted closer than one hundred (100) feet in front of any regulatory, warning or other traffic signs (stop, yield, speed limit, etc.).
- h. All trees planted must follow the Clear View restrictions identified in Section III-D of these specifications. All distances shall be measured from the center of the tree trunk at ground level unless otherwise specified.

## **2. Species of Trees Permitted:**

It shall be unlawful to plant any tree within any public right-of-way or planting median or immediately adjacent to a public tree except the following species of trees:

### ***Small Trees***

Cherry, Canada Red (Chokecherry)	Prunus virginiana 'Shubertii'
Cherry, Sargent	Prunus sargentii
Crabapple, (persistent or fruitless varieties)	Malus spp.'Spring Snow/Thunderchild
Elm, Camperdown	Ulmus glabra 'Camperdownii'
Hawthorne, Black	Crateagus douglasii'
Hawthorne, Snowbird	Crateagus mordenesis
Hawthorne, Washington	Crateagus phaenopyrum
Hornbeam, American	Carpinus, caroliniana
Lilac, Japanese Tree	Syringa reticulata
Maple, Amur	Acer ginnala
Maple, Bigtooth	Acer grandidentatum
Maple, Hedge	Acer campestre
Mayday	Prunus padus
Pear, Callery (varieties)	Pyrus calleryana 'Cleveland/Princess'
Plum, Newport	Prunus cerasifera 'Newport'
Serviceberry, Saskatoon	Amelanchier alnifolia

### ***Medium Trees***

Amur Cork Tree	Phellodendron amurense
Beech, European	Fagus sylvatica
Birch, Heritage	Betula nigra 'Heritage'
Catalpa, Northern	Catalpa speciosa
Elm, Smoothleaf (varieties)	Ulmus carpinifolia 'Homestead/Frontier'
Hackberry	Celtis occidentalis
Honeylocust, (thornless varieties)	Gleditsia triacanthos var. inermis
Linden, American (varieties)	Tilia Americana
Linden, Corinthian	Tilia cordata 'Corinthian
Linden, Littleleaf	Tilia cordata
Maple, Norway (varieties)	Acer platanoides
Oak, Columnar English	Quercus robur Fastigiata
Walnut, English	Juglans regia



Zelkova

Zelkova serrata

***Large Trees***

Coffeetree, Kentucky  
Honeylocust, Thornless (native species)  
Horsechestnut  
Linden, American (native species)  
Maple, Norway (native species)  
Oak, Bur  
Oak, Bur/Gambel Hybrid  
Oak, Bur/English Hybrid

Gymnocladus dioicus  
Gleditsia triacanthos var. inermis  
  
Aesculus hippocastanum  
Tilia americana  
Acer platanoides  
Quercus macrocarpa  
Quercus macrocarpa x gambelii  
Quercus macrocarpa x robur

**3. Utilities**

It shall be unlawful for any person to plant any public tree under or within twenty (20) lateral feet of any overhead utility wire, or over or within five (5) lateral feet of any underground water line, sewer line, storm drain line, irrigation line, electric transmission or distribution line or other utility except the following species of trees:

Cherry, Canada Red  
Crabapple, (persistent or fruitless varieties)  
Elm, Camperdown  
Honeylocust, Imperia  
  
Lilac, Japanese Tree  
Maple, Amur  
Mayday  
Mountain Ash, European  
Plum, Newport  
Serviceberry, Saskatoon  
Sumac, Staghorn

Prunus virginiana 'Shubertii'  
Malus spp.  
  
Ulmus glabra 'Camperdownii'  
Gleditsia triacanthos var. inermis  
'Imperial'  
Syringa reticulata  
Acer ginnala  
Prunus padus  
Sorbus aucuparia  
Prunus cerasifera 'Newport'  
Amelanchier alnifolia  
Rhus typhina

- a. It shall be unlawful to plant any public tree in any location in any manner which does not comply with the safety standards for planting and maintenance of trees in proximity to public utilities, as published in ANSI Z133.1, as published by the American National Standards Institute, Inc.
- b. Damage to any public utility system caused by trees improperly located within the public right-of-way or public utility easement will be repaired at the owner's expense.

#### **4. Trees and Shrubs Overhanging Public Property**

All owners, or persons in control of private real property upon which a public tree or shrub is growing, shall remove or trim, at his or her expense, all limbs or foliage which overhang or project into any public street, sidewalk, alley or easement and which interfere with public travel or use of such public way or easement or which do not satisfy the clear view requirements of Section III-D of these specifications.

If the property owner doesn't trim or remove the offending tree or bush in a reasonable time after being notified by the Public Works Department or if there is an immediate need, Bonneville County shall have the right to prune, maintain and remove public trees as may be necessary to ensure public safety or to maintain the integrity of the roadway.

#### **5. Abuse of Public Trees**

- a. Unless authorized by an appropriate public officer, it shall be unlawful for any person to:
  - 1) Injure, deface, disfigure or destroy any public tree;
  - 2) Permit any animal under his control to injure any public tree or shrub;
  - 3) Cause any fire to injure any portion of any public tree or shrub;
  - 4) Cause any toxic chemical to be applied to, seep, drain or be emptied on or about any public tree or shrub;
  - 5) Attach any device or structure to or on public trees, in a manner which harms or which may potentially harm a public tree;
  - 6) Injure, destroy, cut or pick any flower or ornamental plant growing, standing or being on public property;
  - 7) Make or cause excavations in the soil near roots of public trees unless appropriate measures are taken to prevent exposed soil from drying out;
  - 8) Damage the roots of a public tree by compacting or filling on or around the base of the tree;
  - 9) To top, prune or trim any public tree, except in accordance with the provisions of ANSI A300.
- b. Nothing herein shall prevent or prohibit the pruning, removal, treatment, care or maintenance of any public tree or shrub, provided such work complies with the provisions of ANSI A300.

6. Tree Topping: It shall be unlawful for any person to prune or top any public tree except in accordance with ANSI A300.

#### **D OTHER REGULATIONS**

1. In rights-of-way with drainage swales:
  - a. The standard depth and shape of the drainage swale per these specifications (see Drawing 100-1 or 100-2) or as approved by the Public Works Department must be maintained regardless of the landscape materials used.
  - b. Property owners shall maintain landscaping such that water can drain from the roadway into the swale. Property owners shall be responsible for any damage to the roadway or drainage swale from excess landscape watering or the prevention of drain water from entering the drainage swale.

## **IX. 129K Route/129K Load Policy**

### **General :**

**129.010** As identified in Idaho Code 49-1004A, Local Highway Jurisdictions such as Bonneville County may designate routes for operation of vehicles in excess of 105,501 lbs. gross vehicle weight and not exceeding 129,000 lbs. gross vehicle weight (i.e. 129K routes). When considering designation of 129K routes Bonneville County shall consider the structural and safety impacts of any proposed 129K route to its transportation facilities. Therefore, a 129K route study will be required if the proposed route is not currently designated or if additional users on a designated route would exceed Bonneville County's established criteria for the existing 129K route. The intent of the study is to identify and evaluate structural capacity of roadways, bridges and other appurtenances, as well as any additional maintenance incurred on the route, and potential public safety concerns.

**129.020.** It is the policy of Bonneville County to have an applicant bear all costs associated with establishing 129K route designations under its jurisdiction, including any and all impacts to the roadway network (i.e. roadway modifications, reduced service life, etc.). Bonneville County is required to review all 129K route applications submitted either directly to Bonneville County, or identified by ITD as an access route to an ITD 129K route affecting roadways under Bonneville County's jurisdiction, or a 129K route application submitted to ITD for a county route. However, Bonneville County is not limited in using its discretion to decline, revoke, modify, or place reasonable limits on a 129K route designation within its jurisdiction. In order for Bonneville County to have enough information to evaluate the designation of a proposed 129K route, the applicant shall request the 129K route designation in writing on the application form provided by the Bonneville County Public Works Department (see Exhibit 1) and complete a 129K route study in accordance with section 129.040 of this policy, as required by Bonneville County. If the application is on a 129K route that is not currently designated, or modifies an existing 129K route, the applicant will be required to provide an engineering study of the proposed route in accordance with this section and other pertinent sections of Bonneville County's Public Works Standard Specifications and Drawings (if the 129K route has already been established, then the applicant will start by submitting a 129K vehicle application in accordance with 129.030.B).

**129.030.** 129K Route Designation Procedures: If the proposed 129K route has not been designated and approved by the Bonneville County Public Works Department (PWD), or if the

applicant requests a modification to an existing 129K route, then the following processes must be completed as part of applying for route designation/modification:

**A. Stage I, 129K Route Designation:**

1. The applicant must submit an application to the PWD on the form provided as Exhibit 1, requesting the 129K route to be considered for designation, or 129K route modification, along with a non-refundable application fee of \$5,000 to cover the PWD's costs for reviewing and processing the application. Any costs incurred by the PWD related to the designation of the 129K route, over and above the application fee, will be paid by the applicant to The PWD prior to issuance of any individual vehicle permits.
2. The PWD will review the application and the study that includes specific documentation indicating the existing condition of the proposed 129K route, in accordance with this policy and the PWD's Highway Standards and Development Procedures Manual.
  - a. If the study shows that the proposed 129K route is not capable of supporting the proposed loads, the PWD will deny the request for designation and provide a list of remediation requirements that the applicant must complete in order for the 129K route to be reconsidered for designation.
  - b. If the study shows that the proposed 129K route is capable of supporting the proposed loads, or if the applicant has committed to addressing any remediation requirements identified by the PWD, the PWD will conduct a public hearing, in accordance with Idaho Code and will complete a findings of fact and conclusion of law either approving the designation or denying the designation of the proposed 129K route.
3. Once a 129K route has been designated by the PWD, it will retain the right, at any time, to modify, revoke and/or decline the designation and may place any limits on the designation that protects Bonneville County infrastructure, in accordance with Idaho Code.
4. In designating a 129K route, the PWD may limit the number of 129K trips, specify the axle configuration, and identify other route or vehicle requirements for 129K vehicles utilizing the 129K route.
5. Prior to issuing any individual 129K vehicle permits on a designated 129K route, the PWD is required to provide the 129K route information to ITD for placement on ITD route maps and confirm that the 129K route has been properly identified on ITD's 129K route maps.

**B. Stage II, Individual 129K Vehicle Permitting:**

1. Once the 129K route has met the requirement of 129.030.A, the PWD may permit individual vehicles, upon submittal of the individual vehicle permit form attached as Exhibit 2, and will include, as a minimum, the following requirements:
  - a. Verification of 129K vehicle turning radius requirements as identified in the 129K route study.
  - b. Verification of Cargo Carrying Unit requirements (IDAPA 39-0322-1301.300.01).
  - c. Verification of Power Unit requirements (IDAPA 39-0322-1301.300.02).
  - d. Verification of Connecting Devices requirements (IDAPA 39-0322-1301.300.03)
  - e. Verification of Tire Limitations (IDAPA 39-0322-1301.300.08).
  - f. Verification of Brake requirements (IDAPA 39-0322-1301.300.09).
  - g. Payment of the \$50 annual permit fee per each permitted 129K vehicle.
  - h. Provide bonds, or other security, identified by the PWD.
  - i. Compliance with Insurance requirements identified by the PWD.
  - j. In addition the 129K vehicle, as part of its permit, will be required to comply with the operating restrictions identified in IDAPA 39-0322-1301.300.04, .05, and .06.

**C. Stage III, Enforcement:**

1. The applicant shall demonstrate compliance with their 129K permit conditions by:
  - a. Providing a monthly usage report (incl. vehicle identification, number of trips, and vehicle gross weights).
  - b. Placement of a 129K vehicle sticker on permitted 129K vehicles in accordance with county requirements.
  - c. Having each 129K permitted vehicle carry a copy of its 129K permit and insurance certificate on board at all times while utilizing the 129K route.
  - d. Complying with any other conditions identified for the 129K route or the individual vehicle permit.
2. The PWD shall suspend an individual vehicle permit for thirty (days) upon the first violation, sixty (60) days for the second violation, and revoke the annual individual vehicle permit upon the third violation of the permit conditions identified in section 129.030.C.
3. The PWD may revoke the 129K route designation when more than three individual 129K vehicle permits are revoked in a single year, as described in section 129.030.C.2.
4. The PWD may revoke the 129K route designation, at any time, if it becomes apparent that the structural integrity or safety of the route is being degraded by the 129K loads utilizing the route. The PWD may also revoke the 129K route designation if there is a significant increase in required maintenance for the roadway.

**129.040.** 129K Study requirements: The requirements for a study of a designated 129K route for 129K route loads shall include, as a minimum, the following analyses:

- Pavement Evaluation, per Section 129.3060.070, of this policy, at a minimum of 5 locations per mile.
- Traffic Impact Study, per Section 129.3120 of this policy.
- Turning Movement Analysis, along the proposed 129K route, per AASHTO “A Policy on Geometric Design of Highways and Streets”, current edition, for the vehicle(s) identified to transport any 129K loads.
- Stopping Sight Distance Evaluation, along the proposed 129K route, per AASHTO “A Policy on Geometric Design of Highways and Streets”, current edition, for the vehicle to transport any 129K loads.
- Level of Service Analysis, in accordance with the Highway Capacity Manual, latest version, indicating that operation of 129K vehicles will not cause the LOS to drop below the criteria established by the PWD in the latest revision of its Standard Specifications and Drawings, or this policy.
- Life Cycle Cost Analysis (in a format acceptable to the PWD Engineer) of the roadway section of the proposed 129K route, based on the pre/post 129K route designation loadings (this analysis shall be used as the basis for establishing bonding or other security requirements 129.030.B.1.e).
- Structural Evaluation, on any bridges and culverts that the proposed 129K route will traverse.
- Adjacent Land Use and Zoning Analysis to determine if the designation of the proposed 129K route could create a public safety concern (e.g. Schools, School Crossings, Churches, Community Centers, Hospitals, High Density Residential Areas, etc.).
- The applicant is responsible for obtaining the services of a competent Professional Engineer(s), licensed to practice in Idaho, to complete all the required studies, analysis, and evaluations associated with the 129K route application. The PWD shall be consulted and approve the use of the Applicant’s Professional Engineer, based on his experience and qualifications, prior to completion of the 129K route study.
- Prior to initiation of the 129K route study the Applicant, and the Applicant’s Engineer, will meet with the PWD’s Engineer to establish the study parameters, discuss the study requirements, and identify any specific areas of concern determined by the PWD.

In addition, the applicant shall be required to provide the following information to support the conclusion and assumptions included in the 129K route study:

- Axle weights and configurations

- ESAL and/or LEF data
- Breaking and acceleration data for the proposed 129K vehicle(s)
- Vehicle and number of trips for proposed vehicle(s)
- Roadway & clear zone widths/requirements
- Other pertinent data identified by the PWD, or its Engineer

**129.3060.070.** The structural section of a Roadway being considered for 129K route designation shall be evaluated based on the soil characteristics as determined in the geotechnical report.

Structural Section Evaluation Calculations shall follow the ITD Method contained in the ITD Materials Manual Section 510, as modified in the following table:

Roadway Classifications	TI*	Minimum Thickness (in)			Maximum R Value		
		Pavement	Base	Subbase**	Base	Subbase	Subgrade***
Collector (over 1,200 ADT)	As determined by TIS	Determined by Local Highway Jurisdiction	Determined by Local Highway Jurisdiction	Determined by Local Highway Jurisdiction	75	60	Determined by Local Highway Jurisdiction
Collector (under 1,200 ADT)	8	3"	6"	21"	75	60	15
Local Road (1,000 – 3,000 ADT)	8	3"	6"	21"	75	60	15
Local Road (under 1,000 ADT)	7	3"	6"	15"	75	60	15
Low Volume Local Road (under 400 ADT)	6	2.5"	6"	12"	75	60	15

\*Twenty year minimum design life - shall be adjusted based on traffic study.

\*\* Or a minimum of 2 times the nominal maximum aggregate size, whichever requires the greatest thickness.

\*\*\* Shall be adjusted by site specific geotechnical report; however in no case shall the R value exceed 45. Additionally, the subbase substitution value shall be 0.75:1 unless documentation is provided demonstrating that the subbase R-value exceeds 60.

Asphalt binder shall meet the following criteria;



The asphalt shall be PG 58-34 in accordance with AASHTO MP-1, Standard Specification for Performance Graded Binder, except as follows:

- a. Use PG 64-34 at intersections with any two approaches having a Traffic Index (TI) of 8.0 or higher, through the intersection and for a distance of 500 feet from the center of the intersection.
- b. Use PG 64-34 on all roadways with a TI over 9.0.
- c. Use PG 70-34 at intersections with any two approaches having a TI over 10.0, through the intersection and for a distance of 500 feet from the center of the intersection.

The classification of pavement for the construction of roadways shall be identifies on the construction plans and based on the following criteria:

Class I - Required on all 129K routes with a TI greater than 10.

Class II – Required on all 129K routes with a TI between 8 and 10.

Class III – Required on all 129K routes with a TI less than 8.

#### **129.3120. Traffic Impact Studies**

**129.3120.010.** Bonneville County shall consider the impacts of 129K vehicles on nearby land uses and transportation facilities. A study will be required on all proposed 129K routes.

**129.3120.020.** Prior to initiation of a traffic impact study, the applicant, and the applicant's engineer shall meet with the PWD to establish study parameters and discuss the requirements of the study, on a case by case basis, but as minimum the Traffic Impact Study shall be meet the following requirements:

Traffic impact studies shall be conducted in conformance with accepted industry standards and shall be sealed by a Registered Idaho Professional Engineer. The Institute of Transportation Engineers' recommended practice, Traffic Access and Impact Studies for Site Development, or other industry-accepted guidelines, may be used as guidance in conducting traffic impact studies. The boundary of the study area and other project-specific study parameter shall be identified jointly by the professional conducting the study and the Local Highway Jurisdiction.

The minimum design Level of Service (LOS) shall be "C" for rural roadways and intersections and "D" for urban roadways and intersections.

Traffic generated by each type of Land Use will be determined using the Institute of Transportation Engineers (ITE) publication, "Trip Generation". The developer shall submit the traffic impact study to the PWD within 90 days of the 129K route application.

The traffic study area shall include all roadways and intersections directly joining the proposed 129K route. It shall include other nearby roadways and intersections that the PWD believes are affected by traffic generated by the proposed 129K route. Each traffic study shall consider the following:

- A. Existing land use, roadways, traffic patterns, roadway volume, and turning movement volume within the study area. The study must consider the route's average daily traffic and traffic during at least the representative peak hour at all intersections.
- B. Existing levels of service within the study area. This will be determined using the latest edition of the HIGHWAY CAPACITY MANUAL (HCM) and existing traffic control devices.
- C. Planned road improvements and major land developments within the study area.
- D. Forecasts of future traffic patterns, roadway capacity and turning movements in the study area without consideration of the proposed 129K route. This establishes "background traffic." Traffic patterns and roadway capacity shall be forecast for the route's service life year and the service life plus 5 years. Contact the PWD for known adjacent developments to be included in study. Turning movements shall be forecasted for the "service life" year. The study shall include a reasonable rate of regional traffic growth. It shall also estimate the additional traffic likely to be generated by vacant land development in, and surrounding the area. The basis of development projections shall be current zoning prepared with advice from Bonneville County staff.
- E. Trip generation and distribution expected for proposed 129K route. This is "route traffic".
- F. Forecast of future traffic patterns, roadway capacity volumes, and turning movements in the study area after the proposed 129K route is fully utilized based on the requested 129K traffic volume(s). These numbers are "route traffic" plus "background traffic."
- G. Future levels of service in the study area, with "route traffic" plus "background traffic". Forecast intersection levels of service at the development service life year and at service life

plus 5 years. Identify all roadway/intersection configurations and traffic control devices necessary to maintain the minimum design LOS.

H. For proposed 129K routes that do not have the structural, or design LOS, capacity to accommodate the proposed 129K vehicle traffic, recommend roadway improvements and mitigation measures. This includes section improvements, passing lanes, intersections and traffic control devices. Include potentially viable non-roadway measures, such as staggered or flexible operation hours.

I. For any 129K route within one (1) mile of an existing or proposed school, analyze all school crossings, safe routes to school, bikeways and all collectors to and from school.

J. Evaluate the effects of the 129K vehicle traffic for the proposed route on existing local roads and the effects of traffic from existing local streets on the proposed route.

K. Evaluate the need for right and left turn-lanes at all intersections.

L. Average Daily Traffic (ADT). Estimate ADT for all roadway segments in the proposed 129K route. These estimates will help select the proper road cross-section for each segment. Each proposed 129K route should be broken into several segments. Base this evaluation on key intersections along the proposed 129K route.

M. Compare projected volumes on streets that provide access to the 129K route with the applicable threshold volumes. Use Bonneville County's design policy and adopted planning thresholds as references.

N. Trip Generation Rates. Trip generation rates used in the impact study shall be supported by appropriate data presented in the latest edition of the ITE publication, "Trip Generation". Other studies recognized by the traffic engineering profession may be used. Those conducting impact studies also should consult ITE's "Traffic Access and Impact Studies for Site Development" (A Recommended Practice, 1991), and the Federal Highway Administration's, "Site Impact Traffic Evaluation (S.I.T.E.) Handbook" (Report No. FHWA/PL/85/004, January 1985), or current revisions and updates of those publications.

O. Preparation of Traffic Impact Study. A qualified Professional Engineer licensed in the state of Idaho shall prepare and seal the traffic impact study.

**“EXHIBIT 1”**

**BONNEVILLE COUNTY PUBLIC WORKS DEPARTMENT  
129K Route Application**

**Application No.:** \_\_\_\_\_

ROAD NAME: \_\_\_\_\_ LOCATION BETWEEN \_\_\_\_\_ RD. & \_\_\_\_\_ RD.

ROUTE DESCRIPTION (attach map or additional sheets if necessary): \_\_\_\_\_

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COMPANY \_\_\_\_\_

APPLICANT NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE NO. \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SIGNATURE OF APPLICANT AND DATE \_\_\_\_\_

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**Information regarding Route Request:**

What are the economic benefits of creating this route? \_\_\_\_\_

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Why is the route being requested? \_\_\_\_\_

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Describe the commodities being proposed to be transported along this route. \_\_\_\_\_

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Will this route create an Interstate by-pass for Interstate carriers through the County or State?

☐ Yes      ☐ No

Provide the proposed number of trips along this route.

☐ Annual Trips \_\_\_\_\_

☐ Daily Trips \_\_\_\_\_

☐ Seasonal Trips \_\_\_\_\_

From \_\_\_\_\_ to \_\_\_\_\_  
date                      date

**“EXHIBIT 2”**

**BONNEVILLE COUNTY PUBLIC WORKS DEPARTMENT  
129K Vehicle Application/Permit**

**Permit No.:** \_\_\_\_\_

ROAD NAME: \_\_\_\_\_ LOCATION BETWEEN \_\_\_\_\_ RD. & \_\_\_\_\_ RD.

ROUTE DESCRIPTION\*: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

\*Submit a clear, complete route map

APPLICATION FEE PAID: YES ☐ NO ☐

COMPANY \_\_\_\_\_

APPLICANT NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE NO. \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SIGNATURE OF APPLICANT AND DATE \_\_\_\_\_

**NOTICE:**

This permit is only valid for routes identified on permit. Permit and all attachments must be with vehicle at all times during operation on permitted route. Issuing Agency 129K vehicle sticker must be placed in lower left corner of windshield of permitted vehicle.

**ANNUAL PERMITS EXPIRE ON DECEMBER 31 OF THE YEAR ISSUED. SINGLE TRIP PERMITS ARE VALID ONLY FOR DATE SPECIFIED IN PERMIT. A MAXIMUM OF 3 SINGLE TRIP PERMITS WILL BE ISSUED TO AN INDIVIDUAL OR COMPANY IN A GIVEN YEAR, AT THE DISCRETION OF THE ISSUING AGENCY.**

TYPE OF PERMIT: ☐ ANNUAL, \$250 PER VEHICLE ☐ SINGLE TRIP, \$50; VALID FOR \_\_\_\_\_ (DATE)

PERMIT FEE PAID: YES ☐ NO ☐ BONDING/SECURITY REQUIREMENT: \_\_\_\_\_

OTHER CONDITIONS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**BONNEVILLE COUNTY PUBLIC WORKS DEPARTMENT AUTHORIZATION**

\_\_\_\_\_  
AUTHORIZED REPRESENTATIVE

ADDRESS \_\_\_\_\_

PHONE NO. \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SIGNATURE OF REPRESENTATIVE / DATE \_\_\_\_\_

**COPY OF PERMIT MUST BE PRESENT IN VEHICLE DURING OPERATION ON A 129K ROUTE**

This form may be reproduced for use in making multiple applications

**129K VEHICLE APPLICATION/PERMIT-GENERAL PROVISIONS**

**1. VEHICLE INFORMATION:**

Make & Model: \_\_\_\_\_

License Numbers: Tractor: \_\_\_\_\_ State: \_\_\_\_\_

Trailer: \_\_\_\_\_ State: \_\_\_\_\_

Engine HP: \_\_\_\_\_ Brake Data: \_\_\_\_\_

Truck Weight (Unloaded): \_\_\_\_\_ (lbs.) Load Weight: \_\_\_\_\_ (lbs.)

GVW: \_\_\_\_\_ (lbs.)

Truck & Load Dimensions: Length: \_\_\_\_\_ Width: \_\_\_\_\_ Height: \_\_\_\_\_

**Axle Configuration**

Axle	Distance from Previous Axle	Axle Weights Unloaded (lbs.)	Axle Weights Loaded (lbs.)	Number of Wheels per Axle
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
<b>TOTALS</b>				

2. INSURANCE REQUIREMENTS: \$500,000 PER PERSON AND \$1,000,000 PER OCCURRENCE FOR BOTH PUBLIC LIABILITY AND PROPERTY DAMAGE. OCCURRENCE BASED (NOT CLAIMS BASED). AGENCY ISSUING 129K PERMIT, AND DESIGNATED REPRESENTATIVES, LISTED AS ADDITIONAL INSURED. INSURANCE CERTIFICATE MUST BE IN VEHICLE WITH 129K PERMIT DURING OPERATION ON 129K ROUTE.

3. MONTHLY UTILIZATION REPORTS DUE, IN FORMAT APPROVED BY PWD, BY 10<sup>TH</sup> OF MONTH FOLLOWING REPORTING PERIOD (I.E. PREVIOUS MONTH).

4. PERMIT IS NOT TRANSFERABLE TO OTHER VEHICLES OR ANY SUCCESSOR OR ASSIGNS.

5. FAILURE TO COMPLY WITH PERMIT CONDITIONS IS GROUNDS FOR REVOCATION OF PERMIT FOR REMAINDER OF PERMIT PERIOD PER SECTION 129.030.C.2.
6. REPEATED VIOLATIONS OF PERMIT CONDITIONS IS GROUNDS FOR REVOCATION OF 129K ROUTE DESIGNATION PER SECTION 129.030.C.3.
7. COST OF 129K ROUTE DESIGNATION MAY BE PRORATED TO SUBSEQUENT PERMITEES AND A PORTION, DETERMINED BY PWD, REFUNDED TO INITIAL APPLICANT GAINING 129K ROUTE DESIGNATION.
8. 129K VEHICLE PERMITS WILL BE ISSUED ON A FIRST COME FIRST SERVED BASIS REGARDLESS OF STATUS IN OBTAINING 129K ROUTE DESIGNATION.