

CITY OF WHEAT RIDGE PERMIT TESTING AND INSPECTION REQUIREMENTS

The City will require testing on all excavations and asphalt patches with surface areas of 50 square feet or greater and on all concrete placements of 8 Cubic Yards or greater. The City reserves the right to increase or decrease testing and inspection requirements. The City will **NOT** perform any testing.

No street cuts will be allowed on newly reconstructed streets for a period of **two (2)** years from the completion of the new construction. No street cuts will be allowed on overlay and slurry seal streets for two (2) years from completion of the new overlay/slurry work. Emergency work as described in City Code Section 21-1. Definitions, will be excepted.

CONTRACTOR

All Contractors and Sub-Contractors that perform Work in the Public Right-of-Way shall possess a current license and be bonded to Work within City of Wheat Ridge.

The City may waive the Contractor's license and its requirements for a property owner desiring to repair their own driveway or sidewalk. The property owner must perform the Work personally and provide satisfactory evidence of their competence to perform the Work. The property owner will be required to obtain a permit and pay associated fees. In addition, the property owner shall provide to the City proof of homeowner's liability insurance, a bond, letter of credit or escrow for the value of the Work contemplated under the permit.

In the event that the property owner performs the Work, the words "property owner" shall be regarded as the "Contractor" for the rest of this document.

No permit shall be issued to any Contractor, sub-contractor or person who, as determined by the City, is not qualified to perform Work in the Public Right-of-Way.

The contractor is required to notify the adjacent residents of their work in the area with a door hanger providing the contractor's contact information and duration of the project. A copy of this information shall be provided to the Public Works Department. Variable message boards may be required when impacting traffic on City arterials.

TIME RESTRICTIONS

All Work performed within the traveled way on collector, arterial and high volume local streets shall be limited to the hours of 8:30 a.m. to 3:30 p.m. The determination of which streets are considered high volume rests solely on the City. Work conducted on all other streets shall be restricted to the hours of 7:00 a.m. to 5:00 p.m. The City reserves the right to change these hours as required. The City will not allow night nor weekend Work without prior approval.

TRAFFIC CONTROL PLAN

A Traffic Control Plan (TCP) shall be submitted to the City for review and approval at the time of application for a permit. The TCP shall be in accordance with the requirements as set forth in the Manual on Uniform Traffic Control Devices (MUTCD), Part 6, Temporary Traffic Control. Submission or acknowledgement of a TCP shall not relieve the Contractor of any responsibility or liability in regard to traffic control. Only emergency work may commence without an approved TCP, however, the Contractor shall be required to setup and maintain the traffic control as per the MUTCD. The TCP for

the emergency work and the permit application shall be submitted to the City on the first working day after such work has commenced.

Unless otherwise directed, the Contractor shall keep the street open to all traffic in accordance with the TCP during the progress of the Work. Access to businesses and residences shall be maintained at all times. The Contractor shall schedule the Work so that only one lane is denied to traffic at any time. Street closures are strongly discouraged, however, when absolutely necessary, the City's Public Works Director must pre-approve the detour plan. The City reserves the right to disallow any lane or street closures.

The City may require additions, relocations, removals and/or replacements of Traffic Control Devices, including pavement striping, for construction of a permitted street cut. This Work shall be performed by the permittee at his expense.

The Contractor shall be responsible for maintaining all traffic control devices as long as any portion of its Work interferes with traffic.

UTILITIES

The Contractor must have all utilities properly located and marked prior to any excavation. The Contractor will be solely responsible for repairs and associated costs of all damages. Any boring project will require potholing of all utility lines within the limits of the boring. A plan and profile drawing shall be submitted for approval on all boring projects that cross other utility lines. All boring holes shall be patched within 24 hours with hot mix asphalt.

All utility markings shall be fully and completely removed or camouflaged from public rights-of-way utilizing a method that is least destructive to the existing improvements, and which method has been approved by the City. The removal shall occur no later than forty-five (45) days after completion of work. The right-of-way permittee or other person(s) (not under a city permit) that originally caused the utility markings to be placed shall be solely responsible for removal of the utility marking.

INSPECTIONS

Pursuant to Ordinance No. 987, Sec 21-53, the Contractor is responsible for notifying the City a minimum of twenty-four (24) hours prior to any street cut permit inspections. Work performed without inspection by the City may be ordered uncovered, removed or restored at the Contractor's expense. The presence or absence of a City Inspector does not relieve the Contractor from any specifications and/or requirements. The Contractor shall be charged for all additional costs incurred by the City for inspections when the Work is not ready for such inspection at the time specified by the Contractor or when rejection makes reinspection necessary. Call (303) 235-2861 to schedule inspections. There will be a \$65 fee for each re-inspection.

TESTING and TECHNICIANS

The Contractor, at his expense, shall provide an independent Testing Agency that is acceptable to the City to perform all the required testing and retesting. The use of this Testing Agency shall not relieve the Contractor of the responsibility to furnish the required material and to perform the required construction in full compliance with the specifications. Passing test results do not constitute acceptance

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of the Work or of material represented by the test. All test result shall be submitted to the City within two (2) working days of completion and prior to the next phase of construction. The Contractor is responsible for all quality control of his Work.

The Contractor shall allow the Testing Agency access to the job site at all times; furnish any labor required to assist the Testing Agency in obtaining and handling samples at the source of material and at the project; provide and maintain, for the sole use of the Testing Agency, adequate facilities for safe storage and proper curing of concrete test specimens on the project site as required by AASHTO T23.

The person responsible for the Quality Control testing shall be a Registered Professional Engineer licensed in the State of Colorado and practicing in this field. The technician taking samples and conducting compaction tests on asphalt must have a Level II A certification from LabCAT or approved equivalent. The technician taking samples and conducting compaction tests on soils must be Troxler certified and NICET Level II or higher in soils or approved equivalences. The technician taking samples and conducting field tests on concrete must have a field certification from ACI or an approved equivalent. All licenses and certifications must be current.

The City reserves the right to add and/or increase the testing and frequency as deemed necessary to ensure the Work is to City's standards.

EROSION CONTROL AND STREET MAINTENANCE

Erosion and Sediment Control

The Contractor shall utilize erosion and sediment control Best Management Practices (BMPs) that have proven successful in preventing sediment erosion and degradation of water quality as required by City of Wheat Ridge Code, "Stormwater Quality and Control", Chapter 20. The Stormwater ordinance can be found on the City of Wheat Ridge's web site www.ci.wheatridge.co.us, under the Departments tab on the Public Works web page.

The contractor shall, at a minimum, provide the following:

- 1. All materials that are stored overnight must be protected from the elements (covered).**
- 2. Stockpiles of loose material on impervious surfaces require BMPs (rock socks) at the down slope side of the pile and covered to protect from precipitation.**
- 3. Dewatering of any excavation will require, at a minimum, the following BMPs: filter sock at the discharge, pump intake protection, discharge water to pervious areas when possible.**
- 4. If dewatering activities are due to high groundwater, then a State dewatering permit is required.**
- 5. Inlets that are in proximity of the construction activity and/or materials require inlet protection.**

For more information on construction best management practices (BMPs), visit the City's web site at www.ci.wheatridge.co.us/stormwater and click on Erosion Control under Quick Links. If further assistance is required, you may contact the City's Stormwater Coordinator by phone at (303) 235-2871 or by email at stormwater@ci.wheatridge.co.us.

STOP WORK ORDERS

Whenever the City determines that any activity is occurring, which is not in compliance with an accepted permit and/or the requirements of Chapter 20 of the City Municipal Code, the City can order such activity stopped upon service of written notice upon the person responsible for or conducting such

activity. Such person shall immediately stop all activity until authorized in writing by the City to proceed. If the appropriate person cannot be located, the notice to stop work shall be posted in a conspicuous place upon the area where the activity is occurring. The notice shall state the nature of the violation. The notice shall not be removed until the violation has been cured or authorization to remove the notice has been issued by the City. It shall be unlawful for any person to fail to comply with a stop work order.

SURVEY MONUMENTS

The Contractor shall not disturb any surface monuments, property markers, survey hubs and/or point unless prior approval is obtained from the City. A Colorado Registered Land Surveyor at the Contractor's sole expense shall replace any monument, marker, hub or point, which is disturbed in the performance of the Work.

STREET CUTS

Pavement surfaces shall be saw cut and removed to neat vertical lines two (2) feet beyond each side of the excavation, however, the saw cut shall not extend into an adjacent undisturbed lane. All street cuts shall be in straight lines. Irregular shaped cuts with more than four (4) sides or cuts within existing patches shall not be allowed. Street cuts shall have no longitudinal joints within the wheel track.

On collectors and arterials streets, no more that three (3) patches shall be allowed in any given 250 linear feet of pavement. Should a fourth patch be necessary, the Contractor performing the fourth patch shall be required to roto-mill two (2) inches and replace with the specified asphalt. The roto-milled area shall be from outside to outside of all patches within the 250-foot section and extend from edge of pavement to the crown of the street. Should the patches go beyond the crown, the Contractor may be required to roto-mill the entire patch back area section from edge of pavement to edge of pavement. The City reserves the right to waive this requirement in specific locations or to expand this requirement to include local streets.

EXCAVATIONS

The Contractor shall furnish, place and maintain all supports and shoring required for the sides of the excavation to prevent damage to the Work or adjoining property. The size of the excavation shall be limited to the amount of Work that can be properly placed and backfilled in a single day. Open excavation length shall not exceed one hundred (100) feet during construction. A maximum of two (2) excavations shall be allowed open at a time. All open excavations shall be properly barricaded to protect vehicles and pedestrians. In no case shall an open excavation be left unprotected.

No excavation will be allowed to be left open overnight without prior approval. All excavations left open overnight will require a steel plate adequate to hold traffic. The street shall be milled down to accommodate the steel plate to set flush with the pavement surface. The plate will be secured by some acceptable means.

BACKFILLING

All excavations within the roadway pavement shall be backfilled with flow fill unless otherwise approved by the City. **Air entrained flash fill will be allowed by submitting a mix design that meets the**

MGPEC specifications for air entrained flash fill. Compaction of the flowable backfills will not be required

The maximum layer thickness of the flowable backfills shall be three (3) feet. Additional layers shall not be placed until the material has lost sufficient moisture to be walked on without indenting more than two (2) inches. Damage resulting from placing flowable backfills in layers that are too thick or from not allowing sufficient time between placements of layers shall be repaired at the Contractor's sole expense.

FLOW FILL

Flow Fill

Material	lbs/CY
Cement	40-50
Fly Ash	100MIN
Coarse Agg (size 57)	1700
Sand (ASTM C-33)	1800
Water	As Needed

In areas where flowable backfill is not required, the backfill material shall meet CDOT's specifications for Class 1 or Class 2 Structural Backfill. The material shall be placed in maximum eight-inch (8") loose lifts, moisture conditioned and compacted to the specifications stated in Table 1.

Backfill operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, snow, sleet, freezing or any other unsatisfactory conditions occur. In no instance shall debris, frozen soils, snow, or ice be allowed in any backfill material.

BASE COURSE: Class 6

Aggregate Base Course (ABC) shall meet CDOT's Class 6 specifications. The Contractor shall submit to the City a Certificate of Compliance for this material.

The maximum compacted thickness of any one layer shall not exceed six (6) inches. The surface of each layer shall be maintained during the compaction operations so that a uniform texture is produced and the aggregate are firmly keyed together. Water shall be uniformly applied during compaction in the quantity necessary for specified compaction.

Operations on ABC shall be suspended at any time when satisfactory results cannot be obtained due to rain, snow, sleet, freezing or any other unsatisfactory conditions occur. In no instance shall debris, frozen soils, snow, or ice be allowed in any ABC placed. In addition, neither geotextile nor ABC shall be placed over any frost or frozen materials.

The surface of the base course shall be subject to testing using the 10 ft straight edge method. The variation between any two contacts with the surface shall not exceed 1/4 inch in 10 feet. The Contractor, upon request by the City, shall provide an approved 10 ft straight edge, depth gauge and operator to assist the City in testing the finished surfaces. Irregularities exceeding the specified tolerance shall be corrected at the Contractor's expense.

PROOFROLLING

Proofrolling shall be performed on the finished subgrade and/or the ABC no more than 48 hours prior to placement of the next construction phase. Should inclement weather (any precipitation) occur between the end of the proofrolling and placement of the bottom lift of asphalt then a second proofrolling shall be required. The Contractor shall notify the City a minimum of 24 hours prior to proofrolling in order to allow the City to observe the proofroll.

Proofrolling of the subgrades shall be performed with a three axle loaded truck with at least 18,000 pounds per axle load on two of the axles and tire pressures of at least 80 psi. Documentation to these specifications shall be submitted to the City on every truck employed for proofrolling. The loaded truck shall make a minimum of three complete passes for each area being tested.

Passing density tests shall not constitute passing proofroll. All areas found to be weak and which have failed, as determined by the City, shall be ripped, scarified, moisture conditioned as required and re-compacted to meet the density specifications. These areas shall be retested for density and re-proofrolled for acceptance. Weak areas shall include, but not be limited to, areas that visually deform under load. All rework and retesting shall be solely at the Contractor's expense. The Contractor shall notify the City a minimum of 24 hours prior to rework or retesting in order to allow the City to observe.

CONCRETE

Concrete for cross-pave and fillet pavement shall be in accordance to CDOT Standard Specifications for Class A, B or D. Concrete pavement shall be in accordance to CDOT Standard Specifications for Class P.

Concrete operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, snow, sleet, freezing or any other unsatisfactory conditions occur. In no instance shall concrete be placed on debris, frozen soils, snow, or ice.

High Early Concrete may be required at specific locations as determined by the City. High Early Concrete may be used at the option and expense of the Contractor.

High Early Concrete shall reach a minimum compressive strength of 3000 psi in three (3) days to allow the new concrete pavement to be opened to traffic. Admixtures to decrease curing time shall be non reactive to steel reinforcement and shall not include calcium chloride, unless approved by the City. All other requirements for the class of concrete specified shall be met.

All Concrete surfaces shall be subject to testing using the 10 ft straight edge method. The variation between any two contacts with the surface shall not exceed 3/16 inch in 10 feet. The Contractor, upon request by the City, shall provide an approved 10 ft straight edge, depth gauge and operator to assist the City in testing the finished surfaces. Irregularities exceeding the specified tolerance shall be corrected at the Contractor's expense.

ASPHALT SUPER PAVE

Mix Design shall be submitted and approved by the City prior to placement. The Mix Design shall be in accordance with CDOT's Standard Specifications for Grades S, SX and SG. The Asphalt Binder shall be PG 64-22, unless otherwise approved by the City.

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Hot bituminous pavement patch back depths shall be as follows:

<u>Class of Street</u>	<u>Composite Section Asphalt</u>	<u>ABC</u>	<u>Full Depth Asphalt</u>
Local	5 "	3"	6 "
Collector	8 "	3"	9"
Arterial	8"	3"	9"

The asphalt lift thickness shall be a minimum of two (2) inches to a maximum of three (3) inches, unless otherwise approved by the City. A City approved tack coat shall be applied to all edges of the existing pavement prior to placing the asphalt. The Asphalt mix shall be CDOT, S mix (3/4 inch) for non-residential street, a Virgin SX mix (1/2 inch) for residential streets and SG at specified locations. In no instance shall asphalt be placed on debris, frozen soils, snow, or ice.

Infrared patch repairs shall be required on all streets which have been either overlaid or slurry sealed within the last two (2) years. The City shall indicate on the permit when infrared patch repair shall be required.

All patched surfaces shall be subject to testing using the 10 ft straight edge method. The variation between any two contacts with the surface shall not exceed 3/16 inch in 10 feet. The Contractor, upon request by the City, shall provide an approved 10 ft straight edge, depth gauge and operator to assist the City in testing the finished surfaces. Irregularities exceeding the specified tolerance shall be corrected at the Contractor's expense.

Temporary high performance **cold mix (HPM) or Unique Paving Materials (UPM)** or approved equal must be placed if a hot asphalt patch cannot be placed immediately after placement or compaction of the sub grade materials. The UPM patch must extend from the subgrade to the driving surface level. It is the Contractor's responsibility to ensure that the UPM patch is properly maintained and in a safe condition at all times. The hot patch must be completed within fourteen (14) days from the date the excavation Work has been completed, unless the Asphalt plants are shut down. When that situation arises, the Contractor must complete the hot patch with fourteen (14) days from the re-opening of the plant(s).

SAFETY

All Work performed shall be in strict compliance with applicable Occupational Safety and Health Administration (OSHA) rules and regulations. Proper safety attire shall be worn at all times.

UNACCEPTABLE WORK

"Unacceptable Work" is Work that does not conform to the requirements/specifications of the City of Wheat Ridge

Unacceptable Work, resulting from any cause, shall, upon discovery by either the City or the Contractor, be immediately removed, replaced, or otherwise remedied by the Contractor in a manner acceptable to the City and at the Contractor's sole expense. The fact that the City, including its

inspector, may have overlooked "Unacceptable Work" shall not constitute Acceptance of any part of the "Unacceptable Work."

ACCEPTANCE OF THE WORK

The City shall conduct a final inspection of the Work within five (5) working days after receiving Notice from the Contactor that the Work is completed. If the Work has been completed in a satisfactory manner, the inspection shall constitute the final inspection and the City will notify the Contractor in writing of the City's acceptance indicating the date on which the Work was inspected and accepted by the City.

Inspections that reveal any Unacceptable Work and/or Damage, the City will notify the Contractor in writing of the Unacceptable Work and/or Damage, which requires correction. Upon correction of the Work and/or Damage the City shall re-inspect the Work. When the Work and/or Damage have been completed in a satisfactory manner, the City will notify the Contractor of the date of final inspection.

Contractor's failure to remedy any Work and/or Damage within thirty (30) days after receipt of notice from the City, the City reserves the right to replace, repair, or remedy the Work and/or Damage at the Contractor's sole expense and assess a \$500 penalty against the Contractor. The Contractor shall notify the City a minimum of 24 hours prior to rework or retesting in order to allow the City the opportunity to observe rework or retesting.

LANDSCAPING & IRRIGATION

The contractor shall notify the Parks Department at (303) 205-7553, prior to disturbing any City owned landscaping or park areas to have all irrigation facilities marked. Any disturbed City owned landscaping or irrigation will be repaired by a certified landscaping or irrigation contractor. All irrigation repairs shall be done using commercial grade pipe, fittings and sprinkler heads approved by the City Parks Department. Any irrigation repair will require a parks inspector on site to approve the repair prior to restoration of the sod or landscaping. Any irrigation repair work that fails shall be repaired within 24 hours of notice. Failure to comply will be the basis for suspension of the permit and licenses to work in the City.

WEATHER/TEMPERATURE LIMITATIONS

All materials shall be placed in accordance with the temperature and weather limitations set forth in the most current edition of CDOT's Standard Specifications for Road and Bridge Construction Manual.

AS BUILTS

The Contactor shall, within thirty (30) days of final acceptance, deliver to the City As-Built plans showing all Work performed.



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WARRANTY

The Contractor shall warranty all Work performed for a period of two (2) years, commencing on the date of final acceptance.

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Specifications and/or procedures in this document shall take precedence over the CDOT Standards. Specifications and/or procedures not addressed in this document shall be in accordance with the latest edition of the Colorado Department of Transportation, Department of Highways, Standard Specifications for Road and Bridge Construction and the M & S Standards.

The term "City" shall mean, The Director of Public Works, City of Wheat Ridge, Colorado, or his duly authorized representative(s) who are responsible for public works activities within Wheat Ridge, Colorado.

**Table 1
City of Wheat Ridge Materials Testing Requirements**

City will require testing and inspections on all excavations and asphalt patches with surface areas of 50 square feet or greater and on all concrete placements of 8 Cubic Yards or greater. The City reserves the right to increase or decrease testing and inspection requirements. The City will **NOT** perform any testing.

Type of Test	Frequency	Remarks
Soil Survey (Classification), AASHTO M145	1 per 500 feet of roadway or pipe trench	Surveys for roadway and trench may be combined
Moisture-Density Curve, AASHTO T99	1 per on-site soil type 1 per import material source	AASHTO method determined By soil or materials type
Embankment in-place density, Colorado Procedures	1 per 250 feet per lane per 6-inch loose lift	Minimum density per soil classification, Section 203.07
Roadway subgrade in-place density, Colorado Procedures	1 per 250 feet per lane	Minimum density per soil Classification, Section 203.07
Sidewalk subgrade in-place density, Colorado Procedures	1 per 250 feet of sidewalk	Minimum density per soil Classification, Section 203.07
Pipe trench in-place density, Colorado Procedures	1 per 200 feet of trench per 18 inch vertical interval	Minimum density per soil Classification, Section 203.07
Aggregate base course in-place density, Colorado Procedures	1 per 250 feet per lane	Minimum 95% of maximum Density, T180
Lime treated subgrade in place density, Colorado Procedures	1 per 250 feet per lane	No less than 95% of std. dry density and opt. moisture, T99
Cement treated base in place density, Colorado Procedures	1 per 250 feet per lane	Density in accordance with contract documents, T134
Hot Bituminous Pavement asphalt content and gradation	1 per 1000 tons	Within specifications of Approved mix design, binder PG 64-22
Hot Bituminous Pavement in place density, Colo. Procedures	1 per 100 tons	92-96% of maximum density, T209
Concrete compressive strength AASHTO Procedures	1 set per 50 cubic yards	PCC pavement, structural Concrete, sidewalks and curbing
Concrete air content and slump AASHTO Procedures	1 per 25 cubic yards	PCC pavement, structural Concrete, sidewalks and curbing

LIST OF ITEMS TO OBSERVE FOR LIGHTING CONSTRUCTION

CAISSONS

1. Caisson for Ped lighting 24" X 48"
2. Caisson for Street light 24" X 60"
3. Cage for caisson should be supported and positioned to allow concrete to encase it.
4. Caisson to be proper grade usually even with curb head or sidewalk grade.
5. Grounding wire and conduits in and centered before pour.
6. Anchor bolts should be tall enough to allow for leveling nuts below base plate.

CONDUITS / PULL BOXES

1. Pull boxes should be bedded with 6" of aggregate from ½" – ¾" size
2. Conduits should be 24" minimum depth.
3. Bend for conduit exiting caisson should be 45 not 90
4. Where empty conduits exist a tracer wire and pull tape/string should be installed.

WIRING

1. Wiring splices should be in hand holes in pole not in pull box.

HEADS

1. Photocells should face North when installed on heads.
2. When there are more than 3 ped lights, photocells should be mounted on the meter pedestal or control panel.

