## General Miscellaneous Items

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CHAPTER 1

GENERAL MISCELLANEOUS ITEMS

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CHAPTER 1
GENERAL MISCELLANEOUS ITEMS

This chapter will cover items of a general and/or miscellaneous nature. The items may be related to multiple chapters or multiple types of Work.

1.00 MOBILIZATION

A. GENERAL

This Work shall consist of preparatory Work and operations, associated with the necessary movement of personnel, equipment, supplies and incidentals to the project site and for all the Work and operations which must be performed or costs that are necessarily incurred prior to commencing the Work. The Contractor shall include all expected costs for movement of his and any Subcontractors’ equipment and material necessary to prosecute the Work to completion, including any demobilization. Additional payments will not be made for interruptions in the prosecution of the Project if the Contractor fails to adequately assess the actual costs of mobilization.

B. BASIS OF PAYMENT

No measurement is required. 50% of the bid item for mobilization will be paid with the initial pay estimate. The balance of the bid item for mobilization will be paid when 20% of the value of the Work has been completed. The bid amount for mobilization cannot exceed 10% of the total bid amount (including mobilization).

1.01 CONSTRUCTION STAKING

A. GENERAL

The City will provide horizontal and vertical control points as shown on the plans for the Contractor’s use in establishing the exact location and elevations for the project. The Contractor shall be responsible for preserving (or re-establishing) these control points if necessary. The Contractor shall use this control to provide all construction staking that is required for the project. This shall include staking for grading, pavement construction, utility construction, retaining walls, establishment of temporary easement limits and right-of-way lines, and all other survey Work to complete the project in conformance with the details shown on the plans. The Contractor shall follow the current Lincoln Standard Plans for staking information.

The Contractor shall be responsible for the placement and preservation of adequate ties and references necessary to complete the Work. Any additional stakes, templates and other materials necessary for marking and maintaining all reference points and lines shall be the responsibility of the Contractor. The Contractor shall be solely and completely responsible for the accuracy of the line and grade for all features of the Work. All Work shall be completed to the lines, grades, and elevations indicated on the plans. The Contractor shall remove and reconstruct, at his expense, Work that is improperly located.

Construction staking shall be certified by a Registered Land Surveyor in the State of Nebraska. Staking records shall be recorded in a format approved by the City and submitted to the City at the completion of the project. This Work shall be considered subsidiary to “CONSTRUCTION STAKING.”
1.01 CONSTRUCTION STAKING (Continued)

B. BASIS OF PAYMENT

Construction staking shall not be measured, but shall be paid at the Contract price bid for Lump Sum for the pay item “CONSTRUCTION STAKING.” The amount of the lump sum to be included in each partial payment shall be in proportion to the value of the Work completed with respect to the total amount of the original bid. Such payment shall be full compensation for furnishing all labor, equipment, tools, materials, recording and incidental items necessary to complete the Work.

1.02 SURVEY MONUMENTS AND MONUMENTS BOXES

A. GENERAL

This section includes preservation of existing survey monuments and benchmarks, as well as the installation of new survey monuments and benchmarks. In the case of any existing permanent monuments or bench marks which out of necessity must be removed or disturbed in the construction of the Work, the Contractor shall carefully protect and preserve the same until they can be properly referenced for relocation under the direction of a Registered Land Surveyor in the State of Nebraska, and in case of damage or destruction, Contractor will be charged with the expense of their replacement.

B. MATERIALS

All materials used in the fabrication of Monument Boxes shall meet the requirements of “Specifications for Gray Iron Castings,” ASTM Designation A-48, Class 30. They shall conform in all respects to the designs for such castings as shown on the Standard Plans. All frames and covers shall be machined so that each cover will fit properly in its frame with no rocking. No casting will be accepted that is warped, cracked, that has welds, or that has been plugged or filled. Monument pins shall be 3/4” round steel bars at least 2’ in length.

When the monument location falls outside of pavement, the monument box may be omitted at the City’s Project Manager’s discretion.

C. INSTALLATION

The Contractor shall install survey monument boxes and monuments at all points shown on the plans. In general, new monuments shall be located for the centerline of right-of-way at every intersection, not centerline of street pavement, including placing point-of-curvature and point-of-tangency where there is a curve in the right-of-way. All monument boxes shall be placed after the paving is complete. Monument boxes installed in paving shall be placed by use of a concrete coring machine equipped with a 7” O.D. bit.

All monument locations shall be established under the direction of a Registered Land Surveyor in the State of Nebraska. The Surveyor is required to prepare and file a Survey Record Drawing in conformance with Nebraska State statutes.
1.02 SURVEY MONUMENTS AND MONUMENTS BOXES (Continued)

D. BASIS OF PAYMENT

Monument boxes and survey monuments placed in conformance with these Specifications and accepted by the City’s Project Manager shall be counted and paid for at the contract unit price bid per each for SURVEY MONUMENT AND BOX. Such payment shall be full compensation for furnishing all labor, equipment, tools, materials, recording and incidental items necessary to complete the Work.

1.03 PROPERTY PIN ESTABLISHMENT

A. GENERAL

The Contractor shall have a Registered Land Surveyor establish property pins for those lots where Right-of-Way boundaries have changed, property pins were removed by the project, or two or more feet of fill was placed over the property pin, as approved by the City’s Project Manager. The property pins shall be established under the direction of a Registered Land Surveyor in the State of Nebraska and the Surveyor is required to prepare and file a Survey Record Drawing in conformance with Nebraska State statutes.

B. BASIS OF PAYMENT

Property pins placed in conformance with these Specifications and accepted by the City’s Project Manager shall be counted and paid for at the contract unit price bid per each for PROPERTY PIN ESTABLISHMENT. Such payment shall be full compensation for furnishing all labor, equipment, tools, materials, recording and incidental items necessary to complete the Work.
1.04 PAVEMENT AND SIDEWALK REMOVAL

This Work shall include the removing of existing pavement, surface and base courses, concrete headers, combination curb and gutter, concrete curb, concrete gutter, concrete driveways, walks, steps, retaining walls, and miscellaneous masonry, as required; and shall also include salvaging and disposing of the resulting material, together with the necessary excavation and backfilling.

A. GENERAL

The City’s Project Manager shall identify all areas of authorized pavement removal. The removal of existing pavement shall extend to an existing joint, or to the limits shown on the plans. When called for on the plans or by the City’s Project Manager, all pavement to be removed shall be isolated from the pavement to remain by cutting a saw joint, as provided below, or by other methods specifically approved by the City’s Project Manager. The pavement to be removed shall be broken into movable sizes and removed from the site. If the pavement to remain is damaged by the Contractor, the City’s Project Manager will order further removal at the Contractor’s expense. Pavement which is removed without authorization by the City’s Project Manager shall be replaced at the Contractor’s expense.

The Contractor shall coordinate with the City’s Project Manager prior to removal of pedestrian ramps at all signalized intersections to ensure that lowering of the pedestrian ramp will not result in excessive exposure of signal pole foundations.

B. BASIS OF PAYMENT

When called for in the proposal, pavement, sidewalk, driveway, curb, steps, retaining wall and miscellaneous masonry items removed in conformance with these Standard Specifications and accepted by the City’s Project Manager shall be measured and paid for at the contract unit price bid per cubic yard for PAVEMENT AND SIDEWALK REMOVAL. The quantity shall be determined based on surface measurement and average depth of the removal. Such payment shall be full compensation for removal, loading, hauling, disposal of all materials, all equipment, tools, labor, and incidentals necessary to completely remove the said items from the job site.
1.05  TYPE ‘A’ SAWING

A. GENERAL

Asphaltic Concrete pavement to be removed shall be isolated from the pavement to remain by cutting a joint with a wheel saw, through the full depth of the pavement. After the pavement base has been replaced, a 4" wide strip of the asphaltic concrete surface course shall be sawed and removed to provide a straight, smooth edge where the new asphaltic surfacing adjoins the existing surfacing.

B. BASIS OF PAYMENT

When called for in the proposal, sawing Asphaltic Concrete with a wheel saw, completed in conformance with these Standard Specifications and accepted by the City’s Project Manager shall be measured and paid for at the contract unit price bid per linear foot for TYPE ‘A’ SAWING. Such payment shall be full compensation for all Work associated with isolating the pavement to be removed and removing the 4" strip of asphalt, including all equipment, tools, labor, and incidentals necessary to complete this type of Work.

1.06  TYPE ‘B’ SAWING

A. GENERAL

Portland Cement Concrete (PCC) pavement to be removed shall be isolated from the paving to remain by cutting a full depth saw cut, using either a wheel saw or diamond blade. If a wheel saw is used, additional sawing shall be required to provide smooth, straight and true vertical faces.

B. CONCRETE SLURRY

The Contractor shall immediately and continuously remove the slurry or residue from the saw cut operation. The Contractor shall not permit slurry to flow across shoulders or lanes occupied by traffic. The Contractor shall not permit slurry or residue into gutters, inlets, or other drainage facilities. The Contractor shall leave slabs clean and dry with no residue remaining upon completion of sawing operations, with the exception of residue or slurry into excavations or subgrade that doesn’t drain to gutters, inlets, or other drainage facilities.

C. BASIS OF PAYMENT

When called for in the proposal, sawing Portland Cement Concrete (PCC) pavement, completed in conformance with these Standard Specifications and accepted by the City’s Project Manager shall be measured and paid for at the contract unit price bid per linear foot for TYPE ‘B’ SAWING. Such payment shall be full compensation for all Work associated with isolating the pavement to be removed, cleaning of slabs and removal of slurry or residue, equipment, tools, labor, materials, and incidentals necessary to complete this item of Work.
1.07  TYPE ‘C’ SAWING

A. GENERAL

Portland Cement Concrete (PCC) driveways and sidewalks to be removed shall be isolated from the driveway and sidewalk to remain by cutting a full depth saw cut.

B. CONCRETE SLURRY

The Contractor shall immediately and continuously remove the slurry or residue from the saw cut operation. The Contractor shall not permit slurry to flow across shoulders or lanes occupied by traffic. The Contractor shall not permit slurry or residue into gutters, inlets, or other drainage facilities. The Contractor shall leave slabs clean and dry with no residue remaining upon completion of sawing operations, with the exception of residue or slurry into excavations or subgrade that doesn’t drain to gutters, inlets, or other drainage facilities.

C. BASIS OF PAYMENT

When called for in the proposal, sawing Portland Cement Concrete (PCC) driveways and sidewalks, completed in conformance with these Standard Specifications and accepted by the City’s Project Manager shall be measured and paid for at the contract unit price bid per linear foot for TYPE ‘C’ SAWING. Such payment shall be full compensation for all Work associated with isolating the pavement to be removed, cleaning of slabs and removal of slurry or residue, equipment, tools, labor, materials, and incidentals necessary to complete this item of Work.

1.08  TYPE ‘D’ SAWING

A. GENERAL

Asphaltic Concrete Surface Course to be removed from concrete base shall be sawed and removed to provide a straight, smooth edge where the new asphaltic surfacing will adjoin the existing.

B. BASIS OF PAYMENT

When called for in the proposal, sawing Asphaltic Concrete Surface Course, completed in conformance with the Standard Specifications and accepted by the City’s Project Manager shall be measured and paid for at the contract unit price bid per linear foot for TYPE ‘D’ SAWING. Such payment shall be full compensation for all Work associated with isolating the surfacing to be removed, including all equipment, tools, labor, materials, and incidentals necessary to complete this item of Work.
1.09 WHEEL SAWING

A. GENERAL

Pavement to be removed shall be isolated from the pavement to remain by cutting a joint with a wheel saw, through the full depth of the pavement.

B. CONCRETE SLURRY

The Contractor shall immediately and continuously remove the slurry or residue from the saw cut operation. The Contractor shall not permit slurry to flow across shoulders or lanes occupied by traffic. The Contractor shall not permit slurry or residue into gutters, inlets, or other drainage facilities. The Contractor shall leave slabs clean and dry with no residue remaining upon completion of sawing operations, with the exception of residue or slurry into excavations or subgrade that doesn’t drain to gutters, inlets, or other drainage facilities.

C. BASIS OF PAYMENT

When called for in the proposal, sawing pavement with a wheel saw, completed in conformance with the Standard Specifications and accepted by the City’s Project Manager shall be measured and paid for at the contract unit price bid per linear foot for WHEEL SAWING. Such payment shall be full compensation for all Work associated with isolating the pavement to be removed, cleaning of slabs and removal of slurry or residue, equipment, tools, labor, materials, and incidentals necessary to complete this item of Work.

1.10 MAIL BOXES

Mail boxes which conflict with construction or are located on a street which is being paved shall be removed by the Contractor and set in a temporary location designated by the City’s Project Manager. At the completion of construction, the Contractor shall reset all mail boxes as nearly as possible to their original locations and in conformance with Postal Regulations. The condition of the mail boxes shall be equal to their original condition or shall be replaced by the Contractor at the Contractor’s expense. Mail boxes which are ornamental in nature or which, in the opinion of the City’s Project Manager, cannot be temporarily relocated shall be delivered to the mailbox owner.

Removal, relocation, and resetting of mail boxes or storage and resetting of mail boxes, completed in conformance with these Standard Specifications and accepted by the City’s Project Manager, shall not be measured and paid for separately. Such cost shall be considered a part of the unit prices for which direct payment is made.
1.11 MANHOLES

A. GENERAL

The adjustment of existing manholes to grade shall include furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the Work of adjusting the manhole cast iron ring and cover to an elevation as determined by the City’s Project Manager.

When adjusting manholes in streets, the ring and cover shall be no lower than 3/8” below finish street elevation. If it is determined a manhole does not meet this requirement, the Contractor will be required to use the City’s Typical Utility Adjustment Detail as shown in LSP 61 at no cost to the City.

B. BASIS OF PAYMENT

Manholes adjusted to grade in conformance with these Standard Specifications and accepted by the City’s Project Manager, shall be counted and paid for at the contract unit price bid per each for ADJUST MANHOLE TO GRADE. Such payment shall be full compensation for all materials, equipment, tools, labor, and incidentals necessary to complete the Work.

1.12 INLETS

A. GENERAL

The adjustment of existing inlets to grade shall include furnishing all materials, labor, equipment, tools and incidentals necessary to complete the Work of adjusting the inlet top including the ring and cover to an elevation as directed by the City’s Project Manager.

B. BASIS OF PAYMENT

Inlets adjusted to grade in conformance with these Standard Specifications and accepted by the City’s Project Manager, shall be counted and paid for at the contract unit price bid per each for ADJUST INLET TO GRADE or ADJUST GRATE INLET TO GRADE. Such payment shall be full compensation for all materials, equipment, tools, labor, and incidentals necessary to complete the Work.
1.13 WATER VALVE BOXES AND WATER STOP BOXES

A. GENERAL

The adjustment of existing water valve boxes and water stop boxes shall include furnishing all labor, equipment, tools and incidentals necessary to complete the Work of adjusting the water valve box or water stop box to an elevation as determined by the City’s Project Manager.

When adjusting valve boxes in streets, the cover shall be no lower than 3/8" below finish street elevation. If it is determined a valve box does not meet this requirement, the Contractor will be required to use the City’s Typical Utility Adjustment Detail as shown in LSP 61 at no cost to the City.

B. BASIS OF PAYMENT

Water valve and stop boxes adjusted to grade in conformance with these Standard Specifications and accepted by the City’s Project Manager shall be counted and paid for at the contract unit price bid per each for ADJUST WATER VALVE BOX TO GRADE or ADJUST WATER STOP BOX TO GRADE. Such payment shall be full compensation for all equipment, tools, labor, and incidentals necessary to complete the Work. Stop boxes and valve boxes broken by the Contractor’s operations shall be replaced at the Contractor’s expense. Boxes broken by other than the Contractor’s operations or obsolete boxes shall be replaced and paid for as an Extra Work item.

1.14 CONSTRUCTION OVER NEW SEWERS

Where pavements are being constructed over newly constructed sanitary sewers within the thirty (30) day period, the Contractor shall request TV inspection by the Lincoln Wastewater System for the reaches of sewer that may affect subgrade preparation. The Contractor shall notify the Department at least forty-eight (48) hours in advance of any paving operations. Failure to notify the Department will not exempt Contractor from repairing defective pavement which needs to be replaced as a result of sewer repair activities. There will be no TV inspection costs billed to the Contractor for TV inspection that meets these conditions.

1.15 CULVERT REMOVAL

Driveway and street culverts shall be removed and stored at a location on the project site designated by the City’s Project Manager. Culverts which are not claimed by the respective property owners and which have a salvage value, as determined by the City’s Project Manager, shall be loaded onto City trucks. Those culverts which have no salvage value shall be removed from the project site by the Contractor.

Culvert removal, loading, salvage, storage, or disposal shall be considered subsidiary to the cost of Work for which direct payment is made.
1.16 KEYHOLE POTHOLE EXCAVATION AND BACKFILL

A. GENERAL

This specification covers the requirements for keyhole coring, vacuum excavation, backfilling, and reinstatement of the keyhole core in asphalt or concrete pavements to allow for underground utility repairs and underground potholing. Quality control field inspection and testing requirements including frequency shall be in conformance with Contracting Agency requirements.

Keyhole coring is the operation of coring a circular hole through the street pavement using diamond core drilling equipment.

B. MATERIALS

The material and placement requirements in the pipe zone and final backfill area shall be in conformance with Chapter 20 of these Lincoln Standard Specifications. Pavement keyhole cores removed shall either be removed from the work site or stored in a safe and secure on-site location. The cores shall be made readily available for restoring the pavement after backfilling is complete and approved.

The bonding agent shall be a single component cementitious, rapid hardening, high strength waterproof bonding agent conforming to the physical properties shown in Table 1. The bonding material shall be impervious to water penetration at the joint after application. The bonding materials shall securely bond the undamaged keyhole core to the pavement and shall completely fill the annular space at the joint. The bonding materials shall within 30 minutes at an ambient temperature of 70° F. allow the core to support an equivalent traffic load condition of at least 3 times the AASHTO H-25 standard. The bonding material shall be Utilibond, manufactured by Utilicor Technologies Inc., or Engineer approved equal.

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<td>Strength, psi</td>
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C. POTHOLE EXCAVATION

The vertical alignment of the keyhole coring shall be perpendicular to the horizon, and the cutting shall extend to the full depth of the existing pavement section. No keyhole cores shall be drilled within 2' of an existing contraction, construction, or control joint. Full depth patches shall be used in these areas. No keyhole cores shall be drilled within the approach pavement of a bridge or box culvert structures. Unless otherwise approved by the City’s Project Manager, keyhole cores shall not be greater than 24" in diameter. Adjacent cores shall not be closer than 3' from each other (edge to edge), shall not contain a joint or any pavement cracks greater than 1/8" wide, and shall not be performed in pavements where the section is less than 6" thick. In the event of a misaligned keyhole with the underground facility, a second overlapping core may be drilled provided there is at least 1/3 overlap and BOTH cores are drilled consecutively. This method is not applicable to existing restored cores that may be present in the surface. If the second keyhole is also misaligned, then a conventional full depth patch will be required for restoration. Coring shall be performed with a keyhole coring saw. The contractor shall place a temporary mark on the keyhole core prior to cutting to ensure that the removed section is replaced in the same orientation as originally found in the pavement. Soils within potholes shall be removed by air/hydro-excavation methods to expose utilities. The zone of soil removal shall remain essentially within a vertical plane extending below the edges of the removed pavement. The Contractor shall remove all unsuitable materials from the site.

D. POTHOLE BACKFILL AND COMPACTION

The backfilling of each zone shall be completed in conformance with Chapter 20 of these Standard Specifications unless otherwise approved by the City’s Project Manager. In lieu of compacted soil backfill the contractor may elect to use, with City’s Project Manager’s approval, Flowable Fill, Coarse Aggregate, Fine Aggregate, or approved equal meeting City of Lincoln Specifications. Pneumatic compaction equipment (pneumatic rammers or equivalent) shall be used for compaction of the backfill material. The size of the compactor shall not exceed 2/3 of the diameter of the cored keyhole. Jetting or hydro-flushing of the backfill shall not be permitted. Care shall be taken to ensure that the utility is properly bedded with material of an approved density or in conformance with these Standard Specifications. The initial 12" of backfill above the top of the pipe shall be carefully placed to protect the pipe bedding from further backfilling operations. Backfill shall be mechanically compacted to a minimum density of 95% of the maximum dry density of the material as determined by AASHTO Method T-99. The moisture content of the soils shall be between 2% below and 4% above the optimum moisture content as determined by the above test.
E. PAVEMENT RESTORATION

The surface cut by keyhole coring restored to its original condition with the reinstated core flush with and in the original orientation as the existing surface matching existing pavement surface appearance. Excess bonding material shall be removed from the restored surface. A patched appearance shall be avoided in surface restoration wherever possible. Unless otherwise approved by the City’s Project Manager, the Contractor shall reinstate the bonded keyhole core within 24 hours of cutting the pavement. Openings within public access or openings allowed to be left open greater than 24 hours shall be covered with a steel street plate capable of supporting traffic loads without movement or racking.

1. Surface Tolerances

The reinstated core shall be flush and level with the adjacent pavement. Gaps attributable to the positioning of the core shall be less than 1/16” between the bottom of a minimum 3’ long straight edge and the surface of the pavement in any direction of the surface of the keyhole core.

F. DEFICIENCIES

Where the keyhole core is found to be fractured or defective upon removal, or becomes damaged after removal and prior to reinstatement, the core shall not be used to restore the pavement. A keyhole core shall be considered unacceptable when the keyhole core contains any vertical cracks wider than 1/8” extending full depth through the core; or any deteriorated piece of the keyhole core is larger than 10% of the overall area of the core; or 2 or more successive layers of pavement in the keyhole core become horizontally delaminated and cannot be re-bonded to each other with the bonding material.

All keyhole cores that are damaged or do not meet the surface tolerances shall be removed and disposed of off-site. The pavement at damaged keyhole core locations shall have a permanent full-depth patch installed by the Contractor in conformance with the City of Lincoln Standard Specifications and Standard Plans including but not limited to: LSP 642 and LSP 670.

G. BASIS OF PAYMENT

Unless otherwise specified, the quantity of Keyhole Pothole Excavation and Backfill will not be measured for payment but shall be considered incidental to other items of work for which direct payment is being made.