

General Notes

Attachment A - 472-85156

Bench and Shelter Installation, West Side Service, Wichita, KS

02/12/2014

1. **Utilities.** The Contractor is to ensure all utilities are clear, prior to the start of work and additionally, shall alert all utilities 72 hours in advance of performing any work. The Contractor shall alert the Engineer in case of a conflict with any utilities. Costs are subsidiary to site clearing bid item.
2. **Traffic Control.** The Contractor is responsible to maintain the two-way flow of traffic at all times and shall provide traffic control in accordance with the latest edition of the Manual of Uniform Traffic Control Devices. Costs are subsidiary to the traffic control bid item.
3. **Erosion Control.** The Contractor must stabilize disturbed ground to the satisfaction of the Engineer, and/or use City-approved best management practices (BMPs) for erosion control (EC) to mitigate sediment transport. The Contractor must clean up any sediment on pavement or sidewalk at the end of each day. No sediment is to enter the storm water system or leave the site. It is anticipated that the Contractor should be able to stabilize the site with sod before most BMPs are necessary. However, if undue weather conditions, time constraints, or other conditions warrant it, the Contractor shall install and remove EC BMPs as necessary. Costs are subsidiary to the sod bid item.
4. **Grading.** The Contractor shall remove earth or add fertile topsoil and grade away from the top of curb at a maximum steepness of 5:1 (unless otherwise directed in the plans or by the Engineer to accommodate limitations in right-of-way, existing grade, or other issues) until grade improvements tie into surrounding, existing grade. Positive drainage to the street or storm system must be maintained with improvements with no ponding or pooling of water. The Contractor is responsible for any settling. The grading should accommodate sod for all of the disturbed areas and allow for desired drainage. No sharp change in grade is acceptable as a result of installing sod or grade work. Costs are subsidiary to the site clearing and sod bid items.
5. **Protect Trees.** Contractor is to protect existing trees. The Contractor will be responsible to replace damaged trees at their expense.
6. **Trip Hazards.** The Contractor shall grind down any rebar, bolts, or other items that are not part of the intended improvements which are protruding from the surface of the concrete pad, sidewalk, curb, or curb and gutter, so that the paved surface is smooth, flat, and free of trip hazards. No sharp, protruding edges are to remain from said work in the area of improvement, regardless of whether or not new concrete was installed in the bus stop area. All concrete, new or old, is to be protected from damage while performing such work. The Contractor shall remove such items and as outlined at the sites where benches or shelters are removed. Costs are subsidiary to the site clearing bid item.
7. **Irrigation Systems.** The Contractor shall repair any sprinklers or lawn irrigation system damaged with construction with the same or better materials. Said repairs and relocations are to be free

of any leaks. Costs are subsidiary to the nearby, related concrete bid item or site clearing in the absence of a concrete bid item.

8. **Existing Curb and Gutter, Pavement.** The Contractor, at the Contractor's expense, shall repair and replace any damaged sidewalk or curb and gutter to City standards or as necessary to match the dimensions of surrounding sidewalk or curb and gutter.
9. **Abutting Concrete Grades.** All new concrete surfaces shall match the elevations of existing concrete surfaces at every point where the two surfaces, new and old, abut. Generally, the slopes of the adjacent surfaces shall match or be nearly similar, unless otherwise directed by the Engineer or as necessary to meet ADA requirements, or in such obvious cases as where a curb is installed next to sidewalk. The Contractor shall notify the Engineer and await direction when the slopes of adjacent, new and old concrete slabs will not be able to match and be continuous.
10. **Fill.** If the existing grade creates a pad exceeding a 2% slope, and fill is required, then the Contractor shall do the following: excavate at least a 12" depth and scarify the ground and install in flat (no slope) lifts of 6" and compact each lift to 95% density, select fill, as necessary to install a pad at a maximum of 1% slope. The dimension of excavation shall be such that, earth that is graded away at 4:1, (H:V – horizontal to vertical) slope from the top of the concrete pad, will be resting upon scarified ground at the point where it ties back into the surrounding, existing ground surface. The top of the fill shall have 6" of fertile topsoil for all areas not covered with concrete, and all disturbed areas shall have sod. The sod surface shall match the concrete pad surface and allow for positive drainage. The vertical edges of the concrete pad shall not be exposed, while at the same time, it should allow positive drainage and no water is to pond on the concrete pad. The grading away from the concrete pad is preferred to be 5:1, but 4:1 is allowable, depending upon site requirements. Costs are subsidiary to site clearing, concrete, and sod bid items.
11. **Damage & Existing Conditions.** The Contractor is responsible for any damage to existing or new structures, shelters, benches, concrete, pavement, sidewalk, curb and gutter, landscaping, signage, utilities (private and public), or other items of value at all sites and shall notify the Engineer and Philip Zevenbergen (phone: 316-352-4816, email: pzevenbergen@wichita.gov) with Transit of any existing damage to structures or sites, prior to performing any work. The Contractor shall also notify said parties in the event damage is incurred by the Contractor at any of the sites and shall expect to be responsible to correct, at their expense, such damage.
12. **ROW.** In some instances the depicted, approximate property line may be in error as images for property lines were not surveyed. Generally, if a property line is near a public sidewalk, it is assumed that the sidewalk is in public right-of-way (ROW) and is adjacent to the property line. The Contractor is expected to perform all work within public ROW and easements.
13. **Parts.** The Contractor will be responsible to replace any parts damaged in the process of removal of a shelter, rack, or other item with a new, appropriate part from the manufacturer, or to the satisfaction of the Engineer.
14. **Pickup.** The Contractor shall verify with Transit at the time of picking up shelters or benches that all parts and pieces from the manufacturer, intended to be furnished by them to assemble the shelter or bench, are included with the package for each shelter. Failure to do so will result in the expectation that the Contractor will acquire any missing parts at their expense, if

necessary. At the time of picking up the bench or shelter, the Contractor shall accommodate changes in their schedule to construct the improvements so that Transit may acquire the missing items, if such items are discovered to be missing. The Contractor shall coordinate said activity as necessary with Philip Zevenbergen (phone: 316-352-4816, email: pzevenbergen). Work shall be performed per City details, the manufacturer's specifications, to City standards, or as directed by the Engineer or Zevenbergen. The costs to pick up the bench or shelter, transport, assemble and install, are subsidiary to the shelter and bench items.

15. **Installation, Assembly, and Relocation.** The Contractor is to visit the sites and look at the specifications to familiarize themselves with the parts and pieces included from the manufacturer for benches, racks, trash receptacles (if applicable), and shelters and will not be paid additional sums in cases where additional items (such as tools, anchor bolts, or other items and materials) are needed for proper installation, relocation, or assembly when such items can be reasonably expected to fulfill a successful assembly and installation.

Assembly shall be considered incidental to the work of installation or relocation of the respective item (rack, shelter, bench, etc.), and items attached to a shelter such as a trash receptacle, bench, gutter, etc. are considered part of the shelter, and as such, do not have separate bid items. Even if the specifications do not show an amenity that is attached to the existing shelter, for the cases of relocation, the Contractor shall relocate and protect such amenity from damage and ensure it is part of the final installation unless otherwise directed by the Engineer. If such existing items are damaged and not practical for reuse, the Contractor shall notify the Engineer prior to disassembly and shall await direction, with the likely outcome being that the Contractor will dispose of the item and replace and install a new one at their expense. Structures must be sturdy, rigid, stiff, square, without undue gaps, and to the Engineer's satisfaction after assembly or relocation and installation. Costs for said work and incidental, additional parts or tools are subsidiary to the related bid items.

16. **Rivets and Relocation.** The Contractor shall consider the necessity of lifting and moving the bus shelter as a single piece due to the use of rivets in its construction. Regardless of whether the Contractor disassembles or moves the structure as a whole, the Contractor will be expected to replace damaged parts, including structure members with holes warped, widened, or damaged due to a careless removal of rivets, or for parts dented, twisted or damaged in lifting and setting the structure. Rivets will be replaced as necessary with the same specifications as the original. Structures must be sturdy, rigid, stiff, square, and without undue gaps after relocation and installation. Costs are subsidiary to the relocation and installation bid items.
17. **Field Adjustments.** Precise locations of pads and sidewalk improvements shall be adjusted as necessary to accommodate water meters, valves, manholes, access panels and other, similar utility appurtenances. The Contractor must protect utilities during construction and shall alert the Engineer in case of a conflict. The Contractor shall alert the Engineer of any existing damage to such items prior to the start of construction. Costs are subsidiary to the concrete-related bid item.

18. **Joint Placement.** Generally, the concrete pad and ramp for bus stops shall be positioned so that joints within the improvements line up and continue the expansion and construction joint patterns within the sidewalk and follow the general intent of the plans, details, and City standards. Exceptions to this desired positioning of the improvements are allowed, as needed to avoid utilities or address other considerations and with the direction of the Engineer, and in such cases, the joint lines between existing and new concrete will be offset, but the improvements shall still follow the details and City standards for the construction and placement of joints. Costs are subsidiary to the concrete-related bid item.
19. **Additional Removal & Replacement.** The Contractor shall remove and replace existing sidewalk and curb and gutter when so directed by the Engineer and shall be paid per the respective measured quantity, unit bid items for each item of work. Work shall be to City standards and details, to the dimensions necessary to match existing amenities or as directed by the Engineer.
20. **Damage to Existing Curb & Gutter, Pavement.** The Contractor will not be paid for damage incurred to existing sidewalk and curb and gutter while performing work and will remove and repair any damage at their expense, to City standards, and as necessary to match existing dimensions of the amenities. If the Contractor does not believe such work can be completed without damaging existing concrete or pavement, then the Contractor should include such costs in their lump sum bid items for site clearing and site restoration. The Contractor is expected to minimize their site footprint and shall not expect to run up quantities.
21. **Pad Field Adjustment.** Construction of concrete ramps in conjunction with bus stop pads is considered inclusive with construction of the concrete pads for bidding purposes. In cases where the bench pad can maintain a maximum slope of 2%, or less, uniformly, if it is practical and with the direction of the Engineer, the Contractor may extend the pad to the back of curb without constructing a separate ramp to the curb. The Contractor shall be prepared to adjust concrete quantities for each site and will be paid per the measured quantity unit bid item for what is constructed with respect to concrete items, minus the exception for items damaged by the Contractor.
22. **Sodding & Site Restoration.** Sodding is a lump sum item, and the inevitable changes in concrete quantities shall be minor and will marginally affect the comprehensive work to sod and restore the sites in their entirety. Any incidental site restoration necessary to create a visually pleasing, stabilized site is subsidiary to the sod bid item. Sod installation at all sites shall match surrounding grass. The Contractor shall not expect additional pay for site restoration, site clearing, or sod.
23. **Advance Notice, Property Owners and Tenants.** Unless otherwise directed in the plans, the Contractor shall provide written notification to all nearby businesses or property owners within 200' of the bus stop improvement, that are located on the same side of the street as the improvement, 10 (ten) days in advance of performing any such work. Copies of the notices and tracking of the properties notified shall be supplied to the Engineer. Any concerns or questions from the owners or tenants shall be relayed to the Engineer. Costs are subsidiary to the site clearing bid item.

24. **Property Irons.** The Contractor shall reset, with a land surveyor, licensed in the state of Kansas, any disturbed benchmarks or property irons per applicable statutes. Costs are subsidiary to the site restoration bid item.
25. **Excavation and Waste.** Unless otherwise directed in the plans or by the Engineer, all excess excavated material, debris, and waste from the sites shall be dumped at a site approved by the Kansas Department of Health and Environment (KDHE). No items shall be stored or placed within the floodplain. Costs to remove such items shall be subsidiary to the site clearing and concrete bid items.
26. **Electrical Conduit.** Pads to have shelters shall be installed with PVC Cantex (or approved equivalent) pipe, bends, flexible conduit, and connectors, suitable and intended for use as outdoor electrical conduit. The bottom portion of the electrical conduit shall be 1.5" Schedule 40 PVC, below grade, with a bend and a vertical riser of 1.5" PVC to go 8" above the surface of the concrete pad (the riser is to prevent water from entering the conduit and provide an alternative connecting point). 1" Cantex EZ-Flex conduit (or approved equivalent) shall be run through the below grade 1.5" PVC, and the flexible conduit shall run up the inside of a post and out of a hole near the top and into an aluminum junction box on the exterior of the post, placed on the interior of the shelter.

The Schedule 40 1.5" PVC pipe and bends shall be set in place, solvent sealed, prior to pouring concrete, and the horizontal portion in the ground, shall be below the bottom of the concrete pad (thereby not diminishing the thickness of the concrete or creating an undesirable void within it). All portions of the bend shall also be below the concrete pad. The conduit in the ground shall run parallel with the street and extend 1' (one foot) out and away from the edge of the new concrete pad. The horizontal conduit shall be given a slight slope of 1%, or less, so that water will drain out of it and away from the pad, should water get inside the conduit. The conduit is not to have a deflection, or torque placed upon it, after installation. The point where the horizontal conduit extends from the pad's edge shall be marked on the surface with a trowel when the concrete is poured so that the conduit may be located in the future. The mark should extend 3" (inches) across the top surface, above, parallel, and in the direction of the below grade conduit, from the concrete's vertical edge towards the pad's interior, and the mark should be 1/4" deep and 1/4" wide (the purpose is to make it easy to locate and identify the direction of the conduit for future electrical work by others). Determination of the appropriate side of the pad to extend the conduit shall be based on the nearest, obvious source for electricity and establishing a meter (metering and electrical connection performed by others) such as a power pole. Conduit location shall be coordinated with the Engineer. The placement of the portion of the conduit which is vertical shall be placed so as to run up through the concrete pad and into the interior of a corner post of the shelter.

Near the top of the post, the flexible conduit shall terminate at an aluminum box and an appropriate terminal fitting and/or bend shall be installed to ensure the conduit stays in place, and so the electrical cord is not chafed or damaged when pulled through the conduit. The flexible conduit shall extend through the 1.5" PVC vertical riser, bend, and horizontal pipe and

terminate at the end of the horizontal pipe that is 1' (one foot) away from the concrete pad. Prior to setting the post in place, the Contractor shall use an appropriate sealant and seal the space between the vertical riser and flexible conduit so that it is watertight. The purpose of running the flexible conduit through the below grade PVC is to allow more flexibility in installing the electrical cord in the future, such as adjusting the location of the aluminum box; in theory, a watertight connection could be made between the bottom end of the flexible conduit and extension of horizontal conduit.

At 64" above the surface of the concrete pad, at the location of the relevant post, a NEMA, weatherproof, aluminum electrical box with a cover and seal shall be installed (the top of the box shall be at the 64" mark). The aluminum box shall be between 2" to 2.5" wide, and the body (without the cover) shall be 2" to 3" deep. The aluminum box shall be placed next to the plexiglass, its back against the post, and oriented so as to minimize its overhang on the post's edge. The box shall be on the side of the post that is facing the street (but within the interior of the shelter). An appropriately sized hole shall be drilled on the interior side of the shelter, where it will create a uniform, aligned hole for the post and aluminum junction box. The hole must be the appropriate size for the 1" flexible conduit and its terminal fixture. The placement of the hole shall be at the midpoint of the aluminum box cover, vertically, but the midpoint (or nearly the midpoint) of the post, horizontally (this means that the hole will likely be off-center of the horizontal (width) dimension of the aluminum box). The hole shall not damage the walls or sides of the aluminum box or post. The Contractor shall drill smaller holes in the aluminum box or post as necessary to secure the box to the post and shall use screws of the same material and diameter (or approved equivalent) as used to connect other parts of the shelter to itself. The screws are to be located so as not to interfere with conduit, pulling electric cord or cable and are to be only as long as necessary to make a secure connection to the post. If the box lacks holes to secure the box to the post, or the box overhangs or is too close to the edge of the wall of the post to use the manufactured holes, then the Contractor shall use 3 screws to secure the aluminum box (or as approved by the Engineer) to the post. The screw-hole locations must be at least 1" from each other, at least a 1/2" from the conduit holes or edges of the aluminum box or post, and shall not create a conflict or cause damage to the electrical cord when it is being pulled and the screws are in place. The Contractor shall use an approved sealant or gasket to create a watertight seal for the electric cord, suitable for the outdoors and materials involved, between the aluminum box and post.

At the end of the installation of the conduit and box, and prior to capping the below grade end of the conduit, the Contractor shall air-clean the conduit so it is free of debris, dirt, and shavings. Mason's string shall be run through the length of conduit and box with 4' (four feet) of excess length.

The end of 1.5" PVC pipe conduit in the ground, away from the pad shall be capped with an appropriately sized PVC cap, and a small hole, with a diameter barely larger than the mason's string, shall be drilled through the center of the circle. The Mason's string shall be pulled

through the cap end and tied around an aluminum 1/4" nut with a robust and secure series of knots, not using more than 8" of the excess length of string to do so. The cap shall be placed onto the conduit end without solvent (so when others uncover the conduit to install the electrical cord, the cap may easily be removed), and the string pulled taut at the opposite end. The end of the string at the box shall similarly receive a drilled, 1" PVC cap and an aluminum (1/4") nut that uses no more than 8" of string to create secure knots around it. Thus, the extreme ends of the string shall have aluminum nuts and PVC caps in between. (The intent is to keep the string from falling into the conduit from either end). The excess string and PVC cap at the box end shall be tucked into the aluminum box and its cover shall be placed over them.

The anticipated locations for the vertical portion of the conduit are as follows for the given relocated or installed shelters, but shall be finalized with the Engineer:

- Central and Silver Springs – conduit in the southeast post.
- Tyler and 13th – conduit in the southwest post.
- Taft and Julia – conduit in the southeast post.
- Maize and Central Park – conduit in the northwest post

The Contractor shall adjust the lengths of PVC and conduit and string and direction of conduit and surface marking as necessary to avoid nearby utilities. Such adjustments are anticipated to be minor to the overall project and are subsidiary to the other bid items.

The Contractor is responsible for all additional work and parts as necessary to install a sturdy, watertight conduit system. Additional work could include such items as drilling an appropriately sized hole in the anchor plate/base for the post so that the PVC riser may go through it. The Contractor is to verify that all parts will work as intended, such as checking that the 1" flexible conduit can be pulled through the 1.5" PVC and its bend, or that the 8" riser has enough room to fit inside the post, given the space used by the rivets. Diameters of conduit given are meant to represent the inside diameter of the respective conduit. The Contractor is to notify the Engineer and adjust as necessary, with the Engineer's approval, when conflict arises in the execution of the desired outcome. The Contractor is free to make suggestions for a better, appropriate, outdoor electrical conduit system, but shall not expect additional payment for such changes, and shall only proceed with the approval of the Engineer. Materials to be used shall be appropriate for aluminum and the electrical conduit and shall not accelerate the aging of the aluminum, nor weaken the integrity of the conduit or aluminum.

Costs for the conduit work are subsidiary to the shelter installation or relocation bid items.

27. **Vandalism, Negligence.** The Contractor is responsible for all benches, shelters, racks, conduit, and other such items and their respective parts and assemblies once such items are picked up by the Contractor, or the items are removed, or partially removed, or partially installed from an existing site. The Contractor is not to leave tools or said items at a site, unattended, and shall

replace at their own expense, any missing or damaged parts as a result of theft, vandalism, negligence, inclement weather or wind, accidents caused by the Contractor, accidents by others when the Contractor is away from the site, or other scenarios causing damage or loss which could be averted with proper, reasonable attentive care.

28. **Concrete Washouts, Spoils.** The Contractor shall not mix excess concrete spoils into the soil or spread it around at the site, or other unapproved sites. The washout and cleaning of concrete delivery vehicles, machinery, drums, tools, etc. must comply with local, state, and federal guidelines. The Contractor shall not clean such items in the street or allow drainage from such cleaning activities to go into the street, storm sewer, ditches, or creeks, or other parts of the drainage system.