

Scope of Work

SOLICITATION NO. IFB 2200 JXP0117

Part One: Fence Projects for Various Austin Water Lands

1.0 Purpose

This specification establishes the minimum requirements for the purchase and installation and maintenance of barbed wire, high game fencing, and removal and replacement of game fencing, barbed wire fencing and related products. The fences provide security for and keep wildlife out of the Balcones Canyonlands Preserve and the Water Quality Protection Lands in Travis, Hays, and Williamson Counties. Fencing installation, removal, maintenance and replacement shall be provided on an as needed basis.

2.0 Background

2.1 The fencing services described herein are for various locations of Austin Water facilities. Most of the fencing shall be installed in a rural setting, and some shall be installed next to a suburban and/or rural neighborhood.

2.2 New Fencing Installation – Contractor shall provide materials and services for new installation of game (woven wire) and barbed wire fencing. Wire shall be double wrapped at terminal locations. All splices shall be Western-Union type.

2.3 Fencing Scheduled Maintenance and Repair Services – There are two designated types of fence repair: Scheduled Maintenance and Emergency Repair. Austin Water retains the right to designate which type of fence repair all fence repair projects fall under. Contractor shall provide materials and services needed for the repair of existing net wire/barbed wire fences to match existing.

2.3.1 Scheduled Maintenance – For maintenance the City designates as Scheduled Maintenance, prior to beginning work, the Contractor and Contract Manager shall agree upon a schedule of work at a kick off meeting.

2.3.1.1 Fence and Gate(s) repair due to wear and tear and climate.

2.3.1.2 Replacement of existing fencing that has become dilapidated or other new installations not associated with another project.

2.3.2 Emergency Repair - For a repair the City designates as an Emergency Repair, Contractor shall complete repairs within 72 hours upon written notification from the Contract Manager. Common occurrences requiring emergency repair status include, but are not limited to:

2.3.2.1 Vehicle collision into fences and gates with damage ranging between 10' to 100' of fencing.

2.3.2.2 Vandals cutting holes in fences.

2.3.2.3 Weather/Flood related events damaging fences/gates.

2.3.2.4 Issues on fences and gates; particularly automated gates, such as electronic failure, hinge failing, or cantilevered gate wheels failing.

2.3.2.5 If the extent of damage is such that repairs cannot be completed in 72 hours and shall require additional time, the Contractor shall communicate in writing (e-mail) to the Contract Manager the reason(s) repair is delayed. A shortage of labor shall not be an acceptable reason to delay repairs. Common acceptable reasons for repair delay(s) would be:

2.3.2.5.1 Additional time required to custom build a gate that has been damaged or requires special order materials.

2.3.2.5.2 Weather conditions, inclement weather, very wet weather.

3.0 **Tasks/Requirements**

3.1 ***Contractor's General Responsibilities***

- 3.1.1 Contractor shall operate, on a full time basis, a fence installation and repair company, have a permanent business address, telephone, adequate equipment and materials to execute fully the requirements of this scope of work.
- 3.1.2 Contractor shall provide qualified supervisors and workers who are certified and/or skilled to operate equipment needed to perform these services. When requested by Contract Manager, Contractor shall provide copies of employee certifications to the Contract Manager.
- 3.1.3 Contractor shall designate a responsible, English speaking, representative in charge of work, who shall be at the work site during work hours and who shall serve as the Contractor's official representative, having the authority to act for the Contractor.
- 3.1.4 Contractor's designated official representative shall be responsible for all written and verbal correspondence between the City and the Contractor.
- 3.1.5 Contractor shall perform the scheduled work within a time frame agreed upon by the City and the Contractor.
- 3.1.6 Contractor shall restrict work hours to 8 AM to 5 PM local time, when in close proximity of a neighborhood as determined by City Contract Manager.
- 3.1.7 Contractor shall be responsible for instructing its own employees on appropriate safety measures and ensuring that safety equipment is available and in working order.
- 3.1.8 Contractor shall be responsible for locating, marking and avoiding buried underground pipelines and other underground utilities.
- 3.1.9 Contractor shall preserve and clearly mark all iron rods, pipe, nails, and other permanent boundary survey markings for future reference by City of Austin staff.
- 3.1.10 Contractor shall not negatively impact neighborhood property in any way including, but not limited to:
 - 3.1.10.1 Littering
 - 3.1.10.2 Damaging lawns, trees, or other plants
 - 3.1.10.3 Harming or endangering pets

- 3.1.10.4 The City reserves the right to add to this list in the event of a public complaint.
- 3.1.11 Contractor shall be responsible for providing toilet facilities at all jobsites, and for providing cleaning and maintenance for the toilet facilities. Contractor shall ensure toilets are cleaned at least once per week.
- 3.1.12 Contractor shall be responsible for disposing of fencing debris in accordance with all applicable federal, state and local laws.
- 3.1.13 Contractor shall be responsible for containing trash within the work site during working hours, and disposing of all trash by the end of working hours on a daily basis.
- 3.1.14 Contractor shall be responsible for removing from the work site any fuel, lubricants, hydraulic oils or solvent spills by excavating contaminated soil and disposing in an approved facility in accordance with state and local regulations. In the event of any spill, Contractor shall immediately notify via phone the City Contract Manager.
- 3.1.15 Contractor's access shall be strictly limited to the construction site, and Contractor shall not be present on any other part of the property.
- 3.1.16 Contractor shall ensure no employees are onsite outside of work hours without the permission of the City. Contractor employees found in violation shall be considered trespassing and be subject to penalty.
- 3.1.17 Contractor shall not collect any materials including but not limited to plants, animals, cultural materials (such as arrowheads).
- 3.1.18 Contractor shall be responsible for damage to the sites or facilities caused by the Contractor's employees. Contractor shall replace/repair damage to the satisfaction of the Contract Manager, at no additional cost to the City. Contractor shall notify the City of any damage, and complete repair/replacement of the damage within 24 hours of when the damage occurred. Contractor may request from the City additional time to complete repair/replacement.
- 3.1.19 Contractor shall install fencing on the side of post nearest the property line or as otherwise requested by the Contract Manager. Existing fence line and property line do not coincide in all locations. New fence shall be inset no more than 6 inches from the property line (on City property) unless otherwise specified by Contract Manager.
- 3.1.20 Contractor shall recognize that existing fence may serve as livestock containment for adjacent tracts of land. Therefore, Contractor shall coordinate with adjacent property owners/lessors to maintain integrity of livestock containment until the new fence is installed. Contract Manager shall provide the Contractor with adjacent property owner information for necessary coordination, if available.
- 3.1.21 Contractor shall only use wheeled equipment such as ATVs, tractors, or skid steers for removing, transporting, or loading of material.
- 3.1.22 Contractor may use tracked equipment if Contractor demonstrates that the equipment can be operated in a manner that creates little to no soil disturbance, and it is reviewed and approved for use by Contract Manager prior to project commencement.
- 3.1.23 Contractor shall provide all necessary material meeting the following American Society for Testing and Materials (ASTM) Standards, to include:

- 3.1.23.1 Fittings, fasteners, wire, stay, etc. - ASTM Design A-90

- 3.1.23.2 Electroplated zinc coatings - ASTM Design A-219
- 3.1.23.3 Galvanized steel wire - ASTM A116, Class 3
- 3.1.23.4 Galvanized steel pipe - ASTM A120
- 3.1.23.5 Schedule 40 Pipe Fittings, bolts, hardware - ASTM A153
- 3.1.23.6 Tension wire - ASTM A116
- 3.1.23.7 Barbed wire - ASTM A121, Class 1

3.2 **Fence Installation and Removal Requirements**

3.2.1 Installation – Barbed Wire

- 3.2.1.1 Contractor shall install five strand barbed wire (12 ½ gage) fence with the top wire set at a height of approximately 52 inches and the bottom wire set no less than 6 inches from the ground. Contractor shall ensure wire is double wrapped at terminal locations. Contractor shall ensure all splices are Western-Union type.
- 3.2.1.2 Contractor shall comply with additional specifications included in the fence construction data sheet and general construction criteria (Exhibit A).
- 3.2.1.3 Contractor shall ensure line posts and corner braces are galvanized or painted steel minimum 2 7/8 inch pipe (Schedule 40 minimum). Contractor shall fit the tops of the braces and line posts with watertight, malleable, galvanized/iron caps.
- 3.2.1.4 Contractor shall install line posts every 100 feet along the fence (2 7/8 inch minimum, set to a depth of 3 feet, with an above ground height of 5 feet). Contractor shall install painted T posts every 20 feet (set to a depth of 16 inches) and galvanized steel fence stays every 10 feet.
- 3.2.1.5 Contractor shall install double “H” braces at all gates, corners, angle changes greater than 20 degrees, end of length of wire (1320 feet) and pulling points. Each H Brace shall be 8 feet in width. Posts shall be the same size (2 7/8”) as line posts and set to the same depth (3 feet). Cross members shall be the same size (2 7/8”) as posts, be saddle cut to fit posts (8 feet), and welded to posts. Contractor shall paint all welds to prevent corrosion.
- 3.2.1.6 Contractor shall ensure new gates are 16 foot galvanized 7-tube gates. Contractor shall install with the top hinge facing down and the bottom hinge facing up.
- 3.2.1.7 Contractor shall install two types of water gaps along barbed wire fence: suspended cable type and welded swing panel type.
 - 3.2.1.7.1 Suspended cable type shall be site specific. The pipe shall be a minimum of schedule 40, galvanized steel pipe, 4 inches in diameter. The diameter of the pipe shall be determined by the Contract Manager.
 - 3.2.1.7.1.1 Contractor shall ensure water gap consists of two 6 feet tall (above grade, but can vary with depth of gully), variable inch diameter galvanized steel pipe H-Braces on either side of the creek and one (or

more) 6-10 feet tall (above grade), variable inch diameter galvanized steel pipe set in the middle of the creek.

- 3.2.1.7.1.2 Contractor shall set all posts to a depth of 4 feet in concrete, filling pipe and crowned on the top. Contractor shall brace all posts associated with watergap with variable inch diameter galvanized steel pipe on the downstream side with the kicker and stand pipe for the brace set 4 feet deep in concrete.
- 3.2.1.7.1.3 Contractor shall connect with a ½ inch stainless steel cable the H-braces and center pipe, Contractor shall install a series of hog panels, attached to the cable with hog rings. Contractor shall ensure hog panels hang down and prevent trespassing while allowing the creek to pass unimpeded.
- 3.2.1.7.1.4 Contractor shall attach corrugated metal roofing material to the bottom 2 feet of the hog panel to help lift the panel during flood events.
- 3.2.1.7.2 Welded swing panel type shall be site specific and the diameter of the pipe determined by Contract Manager but shall always be a minimum of schedule 40 galvanized steel pipe.
 - 3.2.1.7.2.1 Contractor shall set a minimum 2 7/8 inch galvanized steel pipe in concrete approximately every 10 feet. Contractor shall saddle cut and weld a cross pipe to each 2 7/8 inch post at a height of 4 feet until each corner is reached.
 - 3.2.1.7.2.2 Contractor shall install minimum 3 inch ID, 4-6 inch long pipe sections. Contractor shall install sleeves for mounting of swing gates to allow gates to open for flooding events.
 - 3.2.1.7.2.3 Contractor shall ensure gates consist of minimum 1 7/8 inch Schedule 40 galvanized pipe with 10 feet hog panel (2"x4" openings) welded to the gate and connected to the cross pipe allowing the panel to swing to allow flood debris to pass through.
 - 3.2.1.7.2.4 Contractor shall cap all posts with a galvanized steel cap and tack weld the cap in place. Contractor shall place light gauge wire on the post and swing gate to secure it and deter trespassing.
 - 3.2.1.7.2.5 Contractor shall set two strands of 12.5 gauge galvanized barbed wire above the post, holding the horizontal pipe and running the distance of the watergap.

3.2.2 Installation – Game Fence (Woven Wire)

3.2.2.1 Pipe Brace Assembly

- 3.2.2.1.1 Specifications: Pipe for end, corner, tree brace assemblies, gates, and flood gaps: Two brace posts (12' x 3"), two cross members (8' x 2 3/8"), one angle brace (11' x 2 3/8"), and one angle brace foot (4' x 3"). Pipe shall be galvanized Schedule 40. Two assemblages are required for each corner and each tree brace. Brace assemblages on each side of a braced tree shall also include two additional horizontal cross members connecting the two braces together.
- 3.2.2.1.2 Contractor shall weld angle braces to metal posts being braced.
- 3.2.2.1.3 Contractor shall set posts and brace a minimum of three feet deep in concrete.
- 3.2.2.1.4 Contractor shall install braces at the end of every fence line, at corners less than 120 degrees, at each side of water gaps, and at gates.
- 3.2.2.1.5 Contractor shall install braces around trees which the Contract Manager has determined shall not be removed.
- 3.2.2.1.6 Contractor shall set brace posts in concrete. (See Exhibit B, Drawings).
- 3.2.2.2 Concrete: Contractor shall mound concrete above grade to shed water away from posts. Contractor shall allow concrete to harden a minimum of 48 hours prior to exerting any pressure on the post.
- 3.2.2.3 Line Brace Assembly
 - 3.2.2.3.1 Specifications: One brace post (12' x 3'), two angle braces (11' x 2-3/8"), and two angle brace feet (4' x 3"). Pipe shall be galvanized schedule 40.
 - 3.2.2.3.2 Contractor shall set posts a minimum of three feet deep in concrete.
 - 3.2.2.3.3 Contractor shall install line brace assemblies at changes in fence direction of 20 degrees or more and at major changes in grade in the fence line.
- 3.2.2.4 Line Pipe Posts
 - 3.2.2.4.1 Specifications: Posts shall be 12' x 2 3/8". Pipe post shall be located and set on top of hips and in bottom of dips. Hips and dips include changes in topography that require additional bracing, but do not convey significant amounts of storm water and therefore, would not require a water gap.
 - 3.2.2.4.2 Contractor shall set pipe posts every 100 feet on center at a minimum depth of three feet in concrete.
- 3.2.2.5 Line Metal Tee Posts
 - 3.2.2.5.1 Specifications: T-posts shall be 10' 6" or longer, depending on the area, studded T-type with anchor plates, with a

minimum top dimension of 1 3/8" x 1 3/8" and not less than 1.50 pounds per foot.

3.2.2.5.2 Contractor shall set T-posts every 10 feet on center at a depth of 18 inches.

3.2.2.6 Field Wire Game Fence

3.2.2.6.1 Specifications: Material shall be 10-47-6-12 ½ domestic materials.

3.2.2.6.2 Contractor shall use two four-foot sections, one stacked on top of another, and overlapped by approximately four inches.

3.2.2.6.3 Contractor shall connect top and bottom sections with hog-rings every four feet.

3.2.2.6.4 Contractor shall place fabric just above the ground line. In areas of irregular topography, distance of the wire and ground may vary from one to six inches. Water gaps, fence material, gates and other similar structures shall not be more than six inches from the ground.

3.2.2.7 Miscellaneous Metal Parts: Fittings, fasteners, wire, stays, and miscellaneous parts shall have a protective metallic coating conforming to applicable ASTM, Design A-90 for hot-dipped galvanizing and A-219 for electroplated zinc coatings. Metal line, corner, gate and brace structure posts shall be new and of galvanized material.

3.2.2.8 Barbed Wire

3.2.2.8.1 Specifications: Shall be Class 1, 12 ½-gauge, two flat barbs of 14-gauge spaced at four inches, galvanized medium carbon steel wire. Barbed wire shall conform to applicable ASTM, Design ASTM A121 for zinc-coated (galvanized) steel barbed wire.

3.2.2.8.2 Contractor shall ensure the finished fence includes a single strand of barbed wire at the top and a single strand of barbed wire at the bottom, to serve as tension wires. The top wire shall be located four to six inches above the top of the field wire and attached to each T-post and steel pipe. The bottom wire shall be attached to the bottom of the fence with hog rings at intervals no more than four feet apart.

3.2.2.9 Wire Cable/Rope Specifications: Wire cable/rope shall be a twisted-strand, 5/16" minimum outside diameter with a breaking strength not less than four tons; or 3/8" minimum outside diameter, seven wire common grade wire strand.

3.2.2.10 Tie Wire Specifications: Tie wire shall be a minimum 15-gauge galvanized steel wire.

3.2.2.11 Gate Posts and Bracing

3.2.2.11.1 Specifications: Gate Posts shall be three inch OD tubular Schedule 40 pipe. Minimum gate width shall be 16 feet or two 8-foot gates for double vehicle gates. Gates shall be constructed of 1 5/8" OD frame minimum.

- 3.2.2.11.2 Contractor shall weld 2" x 4" welded wire panels to frame with the rectangle oriented vertically to inhibit climbing, with lockable latch and 180° capable Pintle and Post style hinges.
- 3.2.2.11.3 Contractor shall ensure that at a minimum, gate structure shall consist of two vertical posts and one horizontal brace at each end of a gate and shall be braced in the same manner as corner brace structures.
- 3.2.2.11.4 Contractor may be required to install additional bracing depending on topography and at the request of the Contract Manager.
- 3.2.2.11.5 Contractor shall ensure that the gate hinge bolts are turned inward so the gate cannot be removed once installed.
- 3.2.2.11.6 Contractor shall ensure that gate panels are continuous across the top and conform to the topography in such a way as to leave a consistent 4"-6" gap (max.) at the bottom when closed.
- 3.2.2.11.7 Contractor may be required to provide some ground forming or excavation at the request of the Contract Manger.

3.2.2.12 Water Gap Structures

- 3.2.2.12.1 Contractor shall install water gap structures on creeks and gullies using at a minimum, two vertical pipe posts and two horizontal cross members, and one angle brace and brace foot, comparable to Exhibit B on page 4 of 5, on each side of a depression and above highest noted flood debris to ensure post stability from erosion or flooding.
- 3.2.2.12.2 Contractor shall determine at each site and in coordination with the Contract Manager the location of water gap bracing and any special construction considerations/ modifications.
- 3.2.2.12.3 Depending on topography and at the request of the Contract Manager, Contractor may be required to install, additional bracing above the water gap bracing.
- 3.2.2.12.4 Contractor shall stretch and terminate the fence wire at the point closest to the depression by wrapping and securing.
- 3.2.2.12.5 Contractor shall stretch the fence material level across the water gap with a 3/8" wire cable/rope stretched between the pipe posts on each side of the water gap.
- 3.2.2.12.6 Contractor shall attach 4" x 4" six-gauge welded galvanized cattle panels connected to the cable with hog ring staples (9 gauge galvanized steel) and cut cattle panels to match the contour of the water feature.
- 3.2.2.12.7 Contractor shall contour a 24" wide piece of galvanized metal attach to the bottom of the water gap on the upstream side to prevent brush from weaving into the panel and facilitate opening in a flood event.
- 3.2.2.12.8 Contractor shall prevent livestock passage around the ends of the brace structures. (See Exhibit C.)

3.2.2.13 Special Conditions:

- 3.2.2.13.1 Contractor shall provide bracing around all trees greater than eight inches in diameter at breast height (DBH), where such trees are in the path of the game fence (six inches from the property line).
- 3.2.2.13.2 Contractor shall ensure tree bracing is consistent with corner bracing on each side of the tree, and includes two additional horizontal braces to connect the corner braces.
- 3.2.2.13.3 Contractor shall terminate fence at corner and wrap around farthest post.
- 3.2.2.13.4 Contractor shall weld 2" x 4" galvanized cattle panels to braces (oriented so as to inhibit climbing) forming an eight foot tall two or three-sided box around tree.
- 3.2.2.13.5 Contractor shall cut cattle panels to form to the contour of the ground.

3.2.3 Removal of Fencing With Replacement

- 3.2.3.1 If existing fence is not on City property, Contractor shall leave existing fence intact unless otherwise instructed by Contract Manger.
- 3.2.3.2 Where new fence is to be installed, if existing fence is on the property line or is within City property, Contractor shall remove and dispose of existing fence unless otherwise specified by Contract Manager.
- 3.2.3.3 Where newly installed fence terminates and existing fence remains, Contractor shall tie existing fence to new fence brace to eliminate gaps.
- 3.2.3.4 At the request of the Contract Manager, Contractor shall remove existing metal fencing materials including all wire, metal stays, staples, t-posts, and pipe from City property.
- 3.2.3.5 Contractor shall perform no dozing or pushing of material across the ground associated with removal of fencing with replacement.

3.2.4 Removal of Fencing Without Replacement

- 3.2.4.1 Unless otherwise specified by the City, Contractor shall remove of all existing fencing and gates, and dispose of them offsite. Contractor may be required to leave some of the old fencing in place at the verbal request of the City Contract Manager.
- 3.2.4.2 Contractor shall pull from the ground, or cut off flush with ground all existing metal pipe and t-posts.
- 3.2.4.3 Contractor shall leave in place of cut flush with ground all existing untreated wooden fencing materials such as stays or posts. Contractor shall scatter cut wooden fencing material at least 30-feet way from two-track roads. Contractor shall not pile cut wooden material.
- 3.2.4.4 Contractor shall ensure all metal is reclaimed, recycled, or otherwise disposed of in accordance with state and local regulations.

- 3.2.4.5 Contractor shall cut brush in order to effectively remove all of the targeted fence materials.
- 3.2.4.6 Contractor shall scatter any cut brush 30 feet from any roadway and any such debris shall be left less than 2 feet in height.
- 3.2.4.7 Contractor shall perform no dozing or pushing of material across the ground associated with removal of fencing without replacement.

3.3 **Brush Clearing**

- 3.3.1 Contractor shall ensure brush clearing along the fence line and access routes is compliant with Contract Manager's instructions regarding Balcones Canyonlands Preserve endangered species.
- 3.3.2 Contractor shall follow oak wilt prevention protocols including immediately spraying any cuts on oak with pruning spray and properly disinfecting cutting equipment between cuts on different oak trees. The protocols can be viewed at the following link:

http://www.austintexas.gov/sites/default/files/files/Planning/City_Arborist/Oak_Wilt_Policy.pdf
- 3.3.3 Contractor shall immediately paint with wound dressing any cuts and wounds on all tree species, except Ashe juniper (cedar). If a tree is cut down, Contractor shall paint the stump cut. Contractor shall ensure that limbs that are cut are flush with the primary stem/trunk or ground leaving minimal (less than two inches) stubs or stumps.
- 3.3.4 In an eight foot strip along the Balcones Canyonlands Preserve and a twelve foot strip on WQPL property line and extending into City property, the Contractor shall clear tree and brush species less than eight inches in diameter (DBH) from the strip.
 - 3.3.4.1 On Balcones Canyonlands Preserve, Contractor shall not cut oak trees nor trees greater than 19 inches in diameter (DBH).
 - 3.3.4.2 On Balcones Canyonlands Preserve, with approval from the Contract Manager, Contractor may deviate the clearing and/or fence inward from the property boundary where topography and/or vegetation necessitates deviation.
- 3.3.5 Contractor shall clear no vegetation on non-City properties. If vegetation rooted on non-City property has limbs extending onto City property, Contractor shall trim the limbs at the property line. Contractor shall trim limbs overhanging fences to four feet above the top of the fence.
- 3.3.6 On Balcones Canyonlands Preserve, Contractor shall be responsible for chipping all cut branches, trees, and/or shrubs and scattering this mulch within the work path. Contractor shall scatter mulch prior to fence installation and spread within the eight foot strip of clearing created, unless otherwise directed by the Contract Manager.
- 3.3.7 On Balcones Canyonlands Preserve, Contractor may use a flail type implement (such as a Seppi) for clearing. In areas where chipping is not feasible and with the approval of the Contract Manager as well as is the standard practice on fencing installed on Water Quality Protection Lands, the Contractor shall drag all branches, brush, and trees at least 50 feet from the fence line and disperse them on-site. Contractor shall not pile dragged brush more than two feet in height.
 - 3.3.7.1 Contractor shall not chip or mulch on the Water Quality Protection lands.

3.3.7.2 Contractor shall ensure all cuts are made at ground level leaving no more than 2 inches of the cut brush or tree sticking up.

3.3.8 Contractor shall cut no additional clearing for access roads or trails other than those described in this Scope without prior approval from the Contract Manager.

3.4 **Work Schedule**

3.4.1 For each new fencing installation project and for scheduled maintenance projects, Contractor shall attend a kick off meeting with Contract Manager and discuss a schedule of work within 3 calendar days of notification of new project by Contract Manager.

3.4.2 Contractor shall begin receiving materials and be able to begin work within 15 calendar days of contract execution.

3.4.3 Contractor shall notify the Contract Manger daily of the Contractor's intended work schedule and location.

3.4.4 Contractor shall complete projects in sections as instructed by the Contract Manager or their designee.

4.0 **Health and Safety Requirements**

4.1 Contractor shall adhere to all OSHA, City and local codes, State and Federal laws and regulations concerning safety. Contractor shall be responsible for assuring the safety of its employees and the general public during performance of all services.

4.2 Contractor employees shall have a minimum of two 5 lb. fire extinguishers at the site at all times and readily available for use if needed.

4.3 Contractor shall perform no welding, grinding, torch work, smoking or other similar spark or heat-producing activity on red-flag warning days. The warning can be found at the following link:

<http://www.srh.noaa.gov/ewx/?n:::firewx.htm>

4.4 During a burn ban, Contractor shall conduct hot work according to the following Travis County Fire Marshal procedures:

https://www.traviscountytexas.gov/images/fire_marshal/docs/Hot_Works_Procedures_Eng.pdf

https://www.traviscountytexas.gov/images/fire_marshal/docs/Hot_Works_Procedures_Span.pdf

4.5 Contractor shall notify Contract Manager within thirty (30) minutes of any spill and accidental fires by Contractor employees. Contractor shall be responsible for cleaning up spills and extinguishing fires caused by Contractor employees.

4.6 Contractor shall provide each employee with proper identification that contains both the name of the Contractor and the employee. Employees shall wear or carry proper identification at all times while on City property.

4.7 Contractor shall prepare a Wildfire Prevention Plan for this work, see Exhibit D.

4.8 Contractor shall not use tobacco products on any City worksite.

5.0 **City's Responsibilities**

- 5.1 The City will provide the survey of project boundary for vendor to use to clearly locate and mark survey points.
 - 5.2 The City will inspect and approve all clearing and access along access routes prior to commencement of fence installation and/or repair.
 - 5.3 The Contract Manager will review all schedule of work (Work Schedule Protocol) submitted on fence projects for review and approval prior to commencement of fence installation and/or repair.
 - 5.4 The City reserves the right to require the Contractor to dismiss from the premises any employee whose conduct is improper, inappropriate or offensive. Non-Contractor personnel and minors shall not be permitted on the job premises.
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Part Two: Fence Project at Onion Creek Management Unit

6.0 Introduction

This scope of work establishes requirements for the installation, maintenance, replacement and removal of fencing on the Onion Creek Management Unit of the Water Quality Protection Lands.

7.0 Purpose

Fencing provides the most fundamental deterrent to trespassing and other crimes on Austin Water lands. It also demonstrates the due diligence for legal posting of the site. Without proper fencing, law enforcement is at a disadvantage to prosecute such transgressions. The fencing at this portion of the site is approximately 50 years old and is in need of replacement. Should the project not move forward, Austin Water property may be negatively impacted in terms of public health and safety issues, asset protection, environmental consequences (illegal dumping on recharge lands), protection of karst features, and others. By updating the fencing, Austin Water can expect cost savings by spending fewer dollars on security patrols, fencing repair, and coordinating with law enforcement.

8.0 Background

Fence construction and removal provided under this scope of work will be conducted at the City of Austin's Water Quality Protection Lands Onion Creek Management Unit. Project site is located in Hays County predominately in a rural setting with some portions next to a suburban and/or rural neighborhood. A map showing each section can be reviewed in Exhibit E.

This portion of the project is a one-time project with three distinct scopes of work:

- 8.1 Scope 1, installation of 5 strand barbed wire on Onion, Searcy stretch
 - 8.1.1 This segment shall be five-strand barbed wire which runs along the City property on three sides in their entirety. The total distance is approximately 14,100 feet. All existing fence located where replacement fencing is planned will be removed unless otherwise indicated by Contract Manager.
- 8.2 Scope 2, installation of a net wire fence

8.2.1 This section shall be a netwire fence with two-strand barbed wire on top and is located where the fence follows three sides of a residential lot line next to Teal Lane.

8.3 Scope 3, removal of barbed wire fencing, net wire fencing, and gates

8.3.1 Approximately 4,100 feet of net wire/barbed wire fence and any associated gates shall be removed from the property. Of this total, approximately 3,000 feet are located toward the western side of the property (running roughly north/south) and approximately 1,100 feet are near Sections 1 and 2 along Teal Lane.

9.0 **Tasks/Requirements**

9.1 ***Contractor General Responsibilities***

9.1.1 Contractor shall provide all equipment, labor, materials and supplies needed to complete this work. Contractor shall abide by the attached Materials Criteria in Exhibit A.

9.1.2 Contractor shall be responsible for instructing employees on safety measures.

9.1.3 Contractor shall commence work within 30 calendar days after contract award.

9.1.4 Contractor shall finish work 90 days after work begins with some allowance provided for unsuitable weather conditions which will be at the discretion of the Contract Manager.

9.1.5 Contractor shall arrange for all utility location services needed for the project. Contractor shall take all necessary precautions to avoid damaging any located utilities.

9.1.6 Contractor shall restrict work hours to 8:00 am to 5:00 pm local time when along a neighborhood or residential property boundary.

9.1.7 Contractor shall comply with all County or Fire Marshall restrictions relating to welding or other hot work during burn bans or other burn restrictions, see <http://www.co.hays.tx.us/fire-marshal.aspx>.

9.1.8 Contractor shall submit a Wildfire Prevention Plan to the City Contract Manager before beginning work. A copy of the plan can be reviewed in Exhibit D.

9.1.9 After contract is awarded, Contractor shall attend a short pre-work meeting with City Contract Manager to gain specific instructions about work requirements.

9.1.10 Contractor operations shall be performed in a manner that minimizes disturbance of the soil surface. If at any time the City's Contract Manager deems that operation of equipment is resulting in excessive soil disturbance, he may instruct the Contractor to adjust operations

accordingly. This may involve slowing down equipment operations, suspending operations when the soil is wet, or otherwise altering equipment operations in a manner that will result in reduced disturbance to soil and/or herbaceous vegetation.

- 9.1.11 Contractor shall preserve in place all iron rods, pipe, nails and other permanent boundary survey markers.
- 9.1.12 Contractor shall recognize that existing fence may serve as livestock containment for adjacent tracts of land and shall maintain this containment of livestock during fence replacement. Contractor shall be responsible for capturing and containing any livestock that escapes containment as a result of the Contractor's actions.
- 9.1.13 In the event of spills of fuels, lubricants, hydraulic oils or solvents, Contractor shall notify the City Contract Manager immediately. Contractor shall correct spill by excavating contaminated soil, removing it from the site, and legally disposing of collected materials.
- 9.1.14 Damage to sites, utilities, or facilities (including fences not intended to be removed) on City property caused by the Contractor's employees shall be replaced or repaired by the Contractor within three (3) business days of the damage occurring, to the satisfaction of the City Contract Manager, at no additional cost to the City.
- 9.1.15 Contractor's access shall be limited to only the construction site and the Contractor shall not drive on any other part of the property.
- 9.1.16 Contractor shall notify the City Contract Manager when the job is complete, so that the City Contract Manager can conduct an inspection. The City reserves the right to request changes necessary to comply with these specifications. Contractor shall complete requested changes at no additional cost to the City.
- 9.1.17 Contractor may use equipment such as ATVs, tractors, or skid steers for removal, transporting, or loading of material.
- 9.1.18 Contractor shall use wheeled equipment. Contractor may use tracked equipment after the Contractor demonstrates to the City Contract Manager that the tracked equipment can be operated in a manner that creates little to no soil disturbance, and the City Contract Manager has provided written approval to the Contractor that the demonstrated tracked equipment is acceptable.
- 9.1.19 Contractor shall perform no dozing or pushing of material across the ground.
- 9.1.20 Contractor shall follow oak wilt prevention protocols including immediately spraying any cuts on oak with wound dressing or pruning spray and properly disinfecting cutting equipment between cuts on different oak trees to prevent the spread of oak wilt. The protocols can be viewed at the following link:

- 9.1.21 Contractor shall provide bracing around any trees flagged with “Do Not Cut” flagging.

9.2 **Scope of Work 1- Installation of Onion, Searcy Stretch**

- 9.2.1 Contractor shall not negatively impact neighborhood property in any way including, but not limited to:

- 9.2.1.1 Littering

- 9.2.1.2 Damaging lawns, trees, or other plants

- 9.2.1.3 Harming or endangering pets

The City reserves the right to add to this list in the event of a public complaint.

- 9.2.2 Contractor is not required to install gates for this section.

- 9.2.3 Contractor shall install a fence of five strand barbed wire (12 ½ gage) fence with the top wire set at a height of approximately 52 inches and the bottom wire set no less than 6 inches from the ground. Contractor shall ensure wire is double wrapped at terminal locations. Contractor shall ensure all splices are Western-Union type.

- 9.2.4 Contractor shall comply with additional specifications included in the fence construction data sheet and general construction criteria (Exhibit A).

- 9.2.5 Contractor shall ensure line posts and corner braces are galvanized or painted steel minimum 2 7/8 inch pipe (Schedule 40 minimum). Contractor shall fit the tops of the braces and line posts with watertight, malleable, galvanized/iron caps.

- 9.2.6 Contractor shall install line posts every 100 feet along the fence (2 7/8 inch minimum, set to a depth of 3 feet, with an above ground height of 5 feet). Contractor shall install painted T posts every 20 feet (set to a depth of 16 inches) and galvanized steel fence stays will be set every 10 feet.

- 9.2.7 Contractor shall install double “H” braces at all gates, corners, angle changes greater than 20°, end of length of wire (1320 feet) and pulling points. Each H Brace shall be 8 feet in width. Posts shall be the same size (2 7/8”) as line posts and set to the same depth (3 ft). Cross members shall be the same size (2 7/8”) as posts, be saddle cut to fit posts (8 ft), and welded to posts. Contractor shall paint all welds to prevent corrosion.

9.3 **Scope of Work 2 – Installation of Net wire Fence**

- 9.3.1 Contractor shall construct the net wire segment of the fence utilizing galvanized woven wire (10-47-6-9 with a height of 47 inches, 10 horizontal wires with graduated spacing, 6 inch spacing between vertical stays, 9 gauge top and bottom wire and 11 gauge intermediate wires.) Contractor

shall ensure 2 strands of 12 gauge barbed wire top the net wire with top wire set to a height of 52 inches.

9.3.2 Contractor shall paint corner posts dark green to help disguise the fence.

9.3.3 Contractor shall clear all junipers (cedars), and all oaks, elms, or other tree and brush species less than 8 inches in diameter at breast height from a 12 foot strip on the City side of the fence. Contractor shall be responsible for removing all cut branches, trees, and/or shrubs, dragging them at least fifty (50) feet from the fence line and disbursing on-site without stacking and without causing any damage to caves, creeks or other sensitive areas.

9.3.4 Contractor shall not grind or mulch woody material.

9.3.5 Contractor shall remove and dispose of all portions of fence to be replaced.

9.4 **Scope of Work 3 - Removal of Old Fencing**

9.4.1 Unless otherwise specified by the City, Contractor shall remove of all existing fencing and gates, and dispose of them offsite. Contractor may be required to leave some of the old fencing in place at the verbal request of the City Contract Manager.

9.4.2 In two locations, the Contractor shall remove an old cross fence. No new fence will not be established in its place.

9.5 **Other Requirements**

9.5.1 Removal of fencing other than Scope of Work 3

9.5.1.1 Contractor shall remove from the property all metal fencing materials including all wire, metal stays, staples, t-posts, and pipe.

9.5.1.2 Contractor shall either pull from the ground or cut off flush with the ground existing metal pipe and t-posts.

9.5.1.3 Contractor may leave all wooden fencing materials such as stays or posts may in place, or flush-cut and scatter at least 30-feet from two-track roads. Contractor shall not pile wooden material.

9.5.1.4 Contractor shall ensure all metal is either reclaimed, recycled, or disposed of.

9.5.1.5 Prior to contract completion, Contractor shall remove all trash, rubbish, debris and waste generated by this project.

9.5.1.6 Prior to contract completion, Contractor shall remove any and all materials removed or replaced during construction and/or installation.

9.5.2 Brush removal

- 9.5.2.1 Contractor shall cut brush in order to effectively remove all of the targeted fence materials.
- 9.5.2.2 Contractor shall scatter any cut brush 30 feet from any roadway and any such debris shall be left less than 2 feet in height.
- 9.5.2.3 Contractor shall clear all woody vegetation from a path 12 feet wide (from the fence) on the City's side of the fence to allow vehicle passage, unless otherwise indicated by the City Contract Manager.
- 9.5.2.4 After clearing vegetation, Contractor shall remove vegetation material from the site or scatter it inside the tract at least 50 feet away from the property boundary. Contractor shall ensure this material is not stacked higher than 2 feet in height, and no materials shall be thrown, disposed of, or otherwise allowed onto neighboring properties.

EXHIBIT A
CITY OF AUSTIN
FENCE CONSTRUCTION DATA SHEET

COMPONENT	UNITS	SPECIFICATION
1. Barbed Wire		
Size	gage	12 ½
Strands	number	5
Top Wire Height (average)	inches	52
Bottom height (average)	inches	6
2. Corner, Gate, and Pull Assembly Posts		
KIND	material	Steel pipe, galvanized or painted, Schedule 40 minimum, welded and capped
Length (minimum)	feet	8
Top Diameter (minimum)	inches	2 7/8"
Depth to set	feet	3
3. Line Posts		
(2 7/8 pipe every 100ft followed by t-posts every 20 ft, with stays at every 10ft)		
Kind	material	Steel pipe, galvanized or painted, Schedule 40 minimum, capped
Length (minimum)	feet	8
Top Diameter (minimum)	inches	2 7/8"
Depth to set	feet	3
Spacing (maximum)	feet	100
Kind (see General Construction and Material Criteria)	material	Steel T (painted)
Length	Feet	6
Depth to set	inches	16
Spacing (maximum)	feet	20
Stays (steel twist)	required	yes
Stay spacing	feet	10
4. Staples and Clips		
Wire clips		galvanized
5. Brace Assemblies		
Location	required	all gates, corners, Angle changes (>20DEG), Pulling points
Length (minimum)	feet	8
Deadman or "Double H Brace"		required

Wire will be double wrapped at each brace termination.

All wire splices will be Western Union.

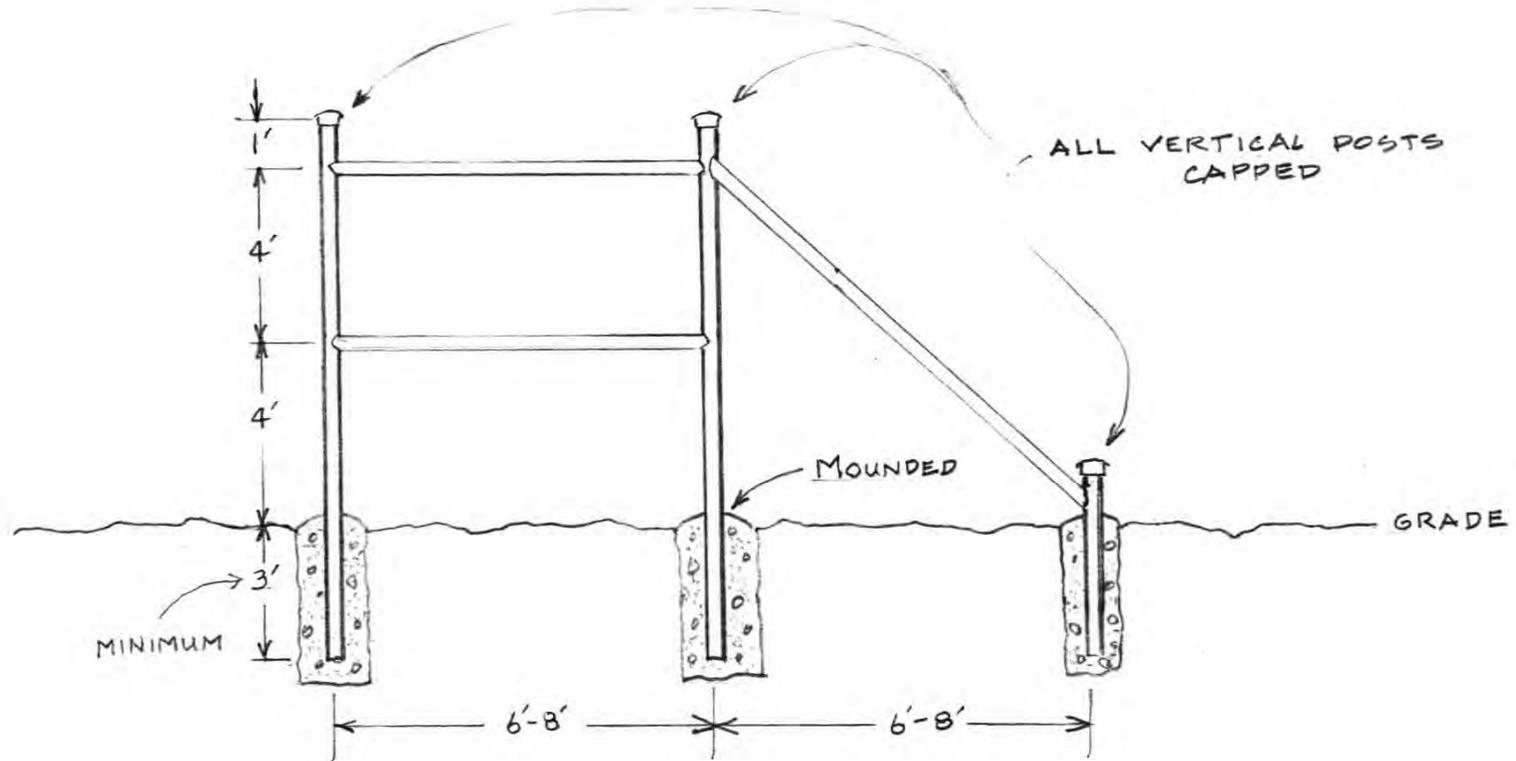
General Construction and Materials Criteria are attached and supplement construction data for each fence segment.

EXHIBIT A

General Construction and Material Criteria

1. Fence line will be cleared of all brush or other vegetation which will interfere with fence construction (note: this project requires protection of numerous trees and neighbors' property)
2. Gage – Foreign made 12 ½ gage and heavier malleable steel barbed wire (not high tensile) must equal or exceed 950 pounds-force break strength. If lab tests are needed, three wire samples of the lot under consideration will be tested. The average strength of the samples will be the basis for acceptance. If any single samples has less than 900 pounds-force break strength the entire lot shall be disqualified.
3. Twist wire stays will be installed at no more than 10 foot intervals, 15 foot intervals when standards call for t-post spacing exceeding 20 feet.
4. Line posts must be installed at significant high and low points along the fence to maintain proper wire height.
5. Steel Pipe
 - Steel
 - 2 7/8" diameter or larger, Schedule 40 minimum
 - Capped on top
 - All braces or other assemblies will be welded together
 - Painted or galvanized
6. Steel 2 7/8 Line posts must be set to a minimum depth of 36 inches in the soil. T-Posts will be set to a depth of 16 inches or the anchor plate on steel t posts must be at least 3 inches below the soil surface.
7. Wire clips for fastening wire to steel posts must be galvanized and similar to strength of fence wire.
8. Location of braces and/or end assemblies are required at all corners, gates, and when the angle of the fence changes more than 20 degrees.
9. Steel "T" posts must be new, painted, and a minimum of 1.25 pounds per foot length.
10. Spacing between pull post assemblies (double H Braces) may be no more than the length of a roll of wire (normally 1320') on straight pulls on flat topography.
11. Gates shall be galvanized tubular steel construction a minimum of 14 feet wide with a minimum of 5 tubes.
12. Any splicing of wire shall be accomplished using the method known as a "Western Union Splice" only
13. Wire will be double wrapped at each brace termination.

EXHIBIT B



SCALE = ~ 1/4" = 1'



City of Austin
 Reicher Ranch, 3635 RR 620 South
 Austin TX 78738-6807
 Ph: (512)263-6433; Fax: (5412)263-1276

Wildland Conservation Division

Computer File Information

Revisions

Pipe Brace Assembly
 Per Specification 3.5

Plan No.

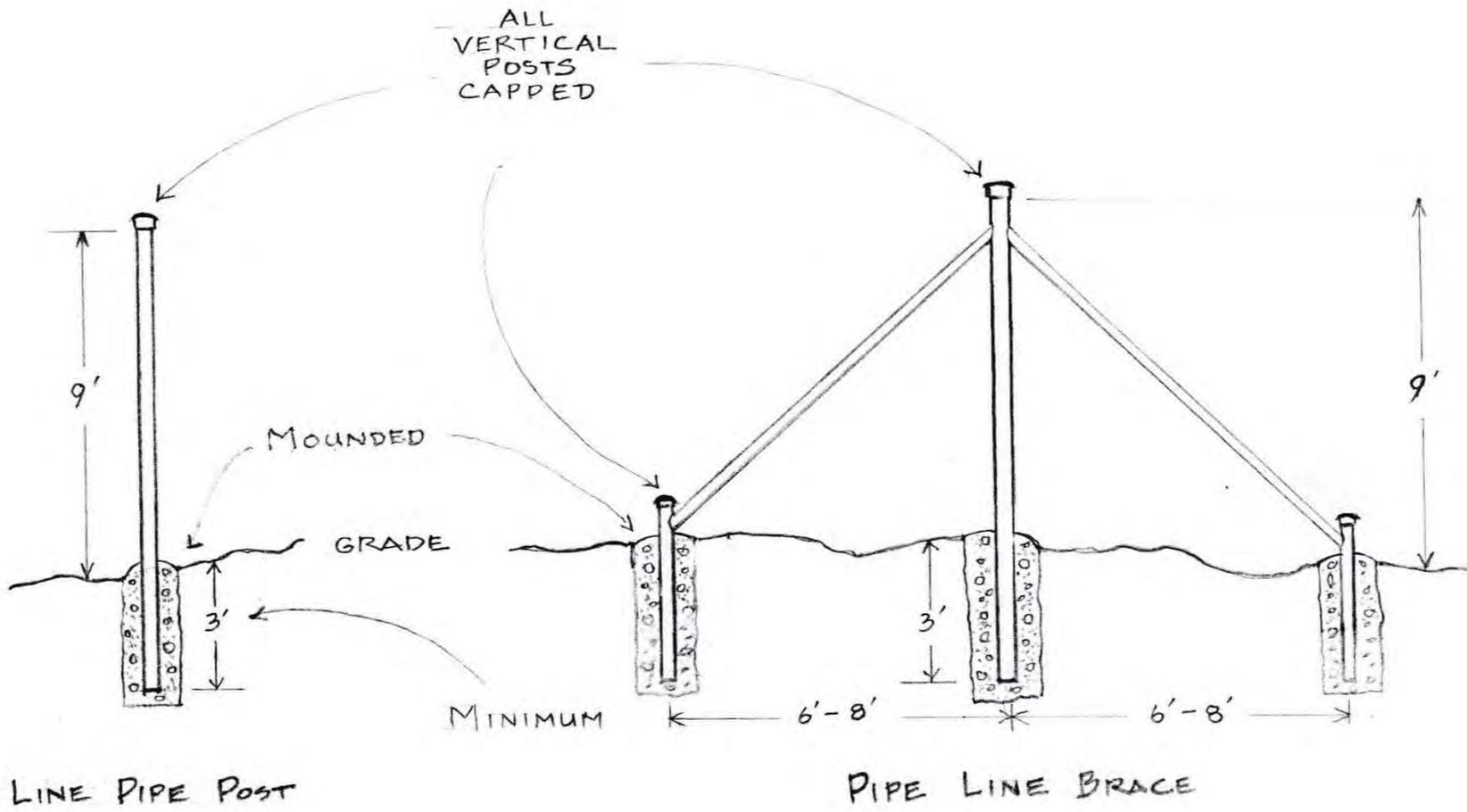
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By: D. Croft

Date: 04/17/09

1 of 5

EXHIBIT B



SCALE = ~ 1/4" = 1'



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Wildland Conservation Division

Computer File Information

Revisions

Line Pipe Post per Specification 3.8
 Pipe Line Brace per Specification 3.7

Plan No.

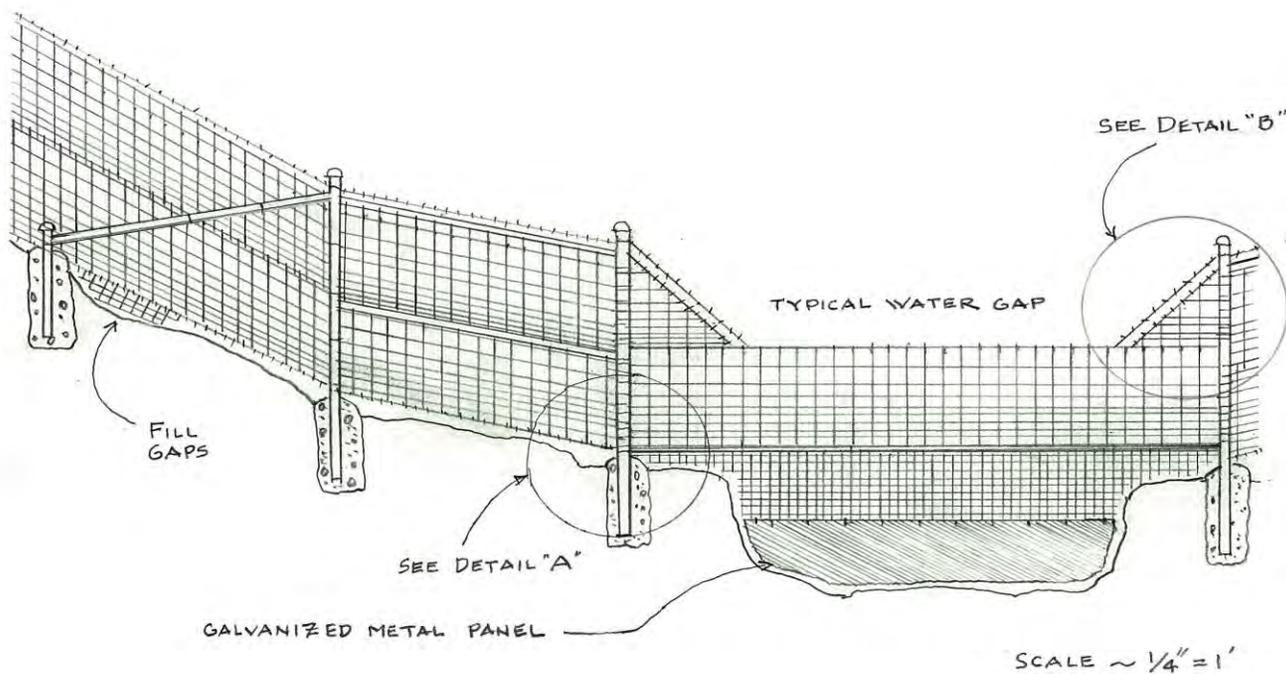
Sheet No.

By: D. Croft

Date: 04/17/09

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EXHIBIT B



City of Austin

Reicher Ranch, 3635 RR 620 South
 Austin TX 78738-6807
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Wildland Conservation Division

Computer File Information

Revisions

Revised 08/2012 dlc

Water and Soil Gaps
 (Typical)

Plan No.

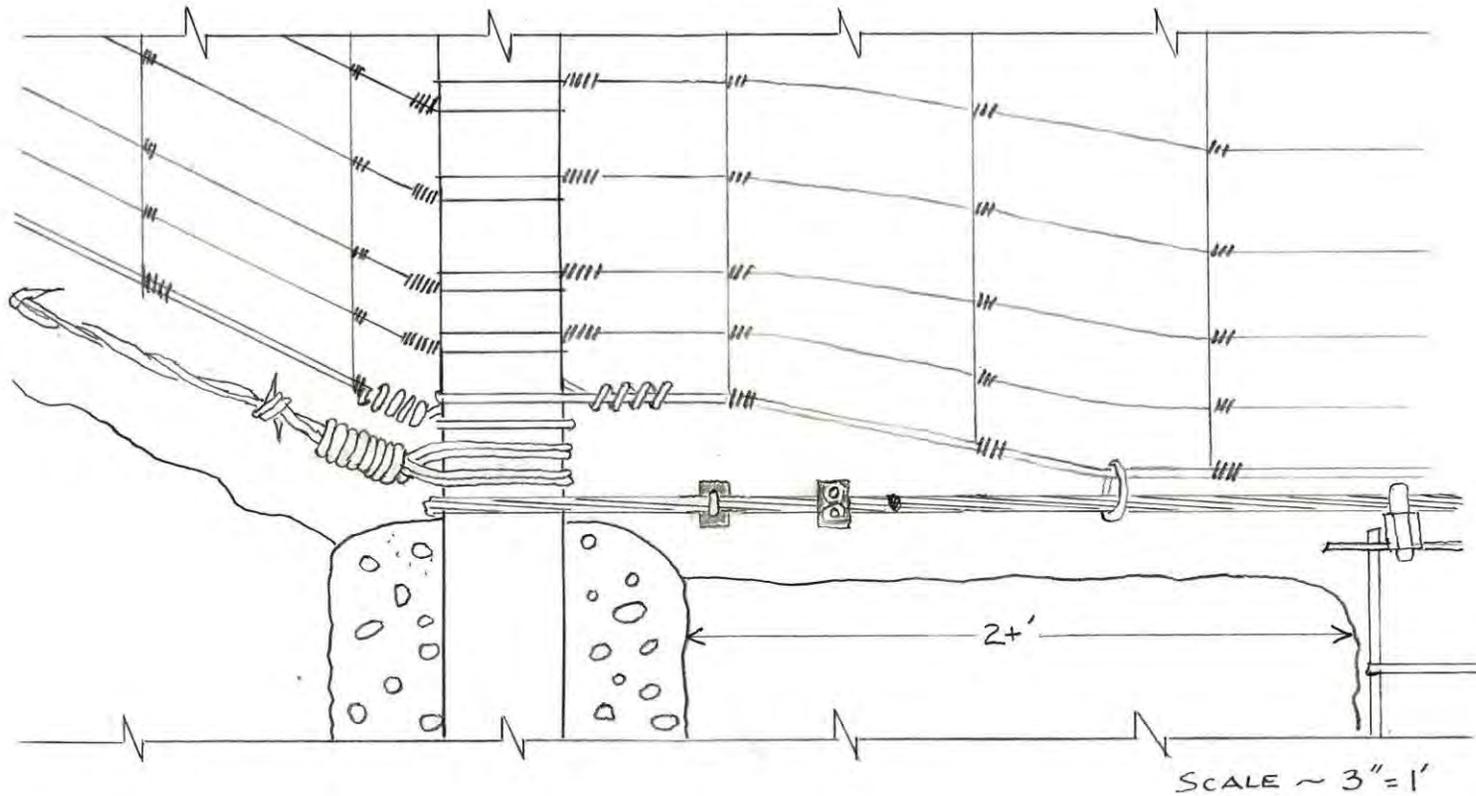
Sheet No.

By: D. Croft

Date: 04/17/09

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EXHIBIT B



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Computer File Information

Revisions

Revised 08/2012 dlc

Water Gap Detail A

Plan No.

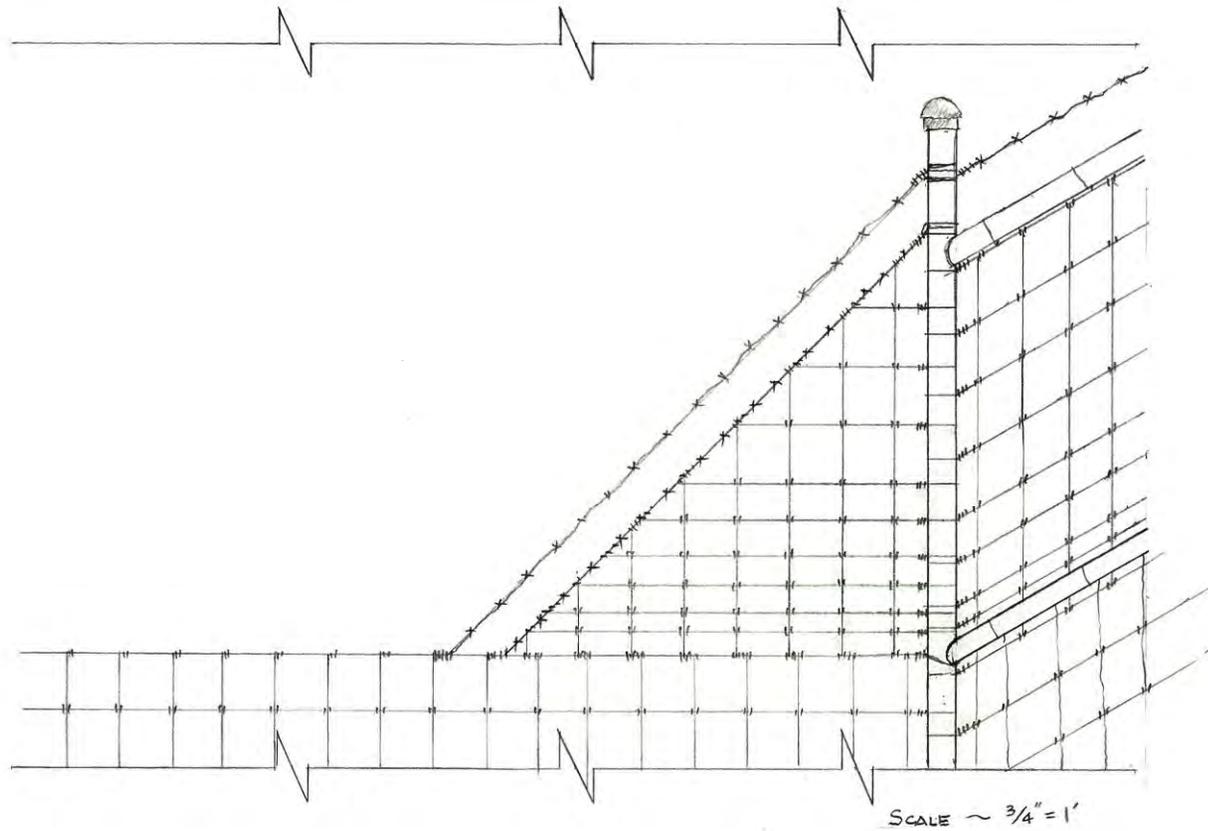
Sheet No.

4 of 5

By: D. Croft

Date: 04/17/09

EXHIBIT B



City of Austin
 Reicher Ranch, 3635 RR 620 South
 Austin TX 78738-6807
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Wildland Conservation Division

Computer File Information

Revisions

Water Gap Detail B

Plan No.

Sheet No.

By: D. Croft

Date: 08/09/2012

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EXHIBIT C



EXHIBIT D

Wildfire Prevention Plan Template

Location of Work:

BCP: _____

WQPL: _____

Tract name(s): _____

Nearest gate address: _____

GPS Coordinates: _____

Date(s): _____

Type of work:

Specifics of Work:

Number of personnel: _____

Fire prevention/ suppression equipment on site:

Fire prevention preparation:

EXHIBIT D

Fire department jurisdiction: _____

Spotter: During active high fire danger periods a member of the work group will be designated as a spotter to observe and report potential wildfire ignitions. During hot work such as welding, or high risk activities such as operation of vehicles or power equipment in heavy fuels the spotter will be dedicated only to that responsibility.

Name of designated spotter: _____

Emergency contact: An emergency contact will be the designated point of contact who will be available in the event Wildland Conservation Division Management needs to contact a project team in the field.

Name of emergency contact: _____

Best method of contact: # _____

Personnel:

Supervisor: _____

Phone: _____

Project Manager WCD: Rick Hudson _____

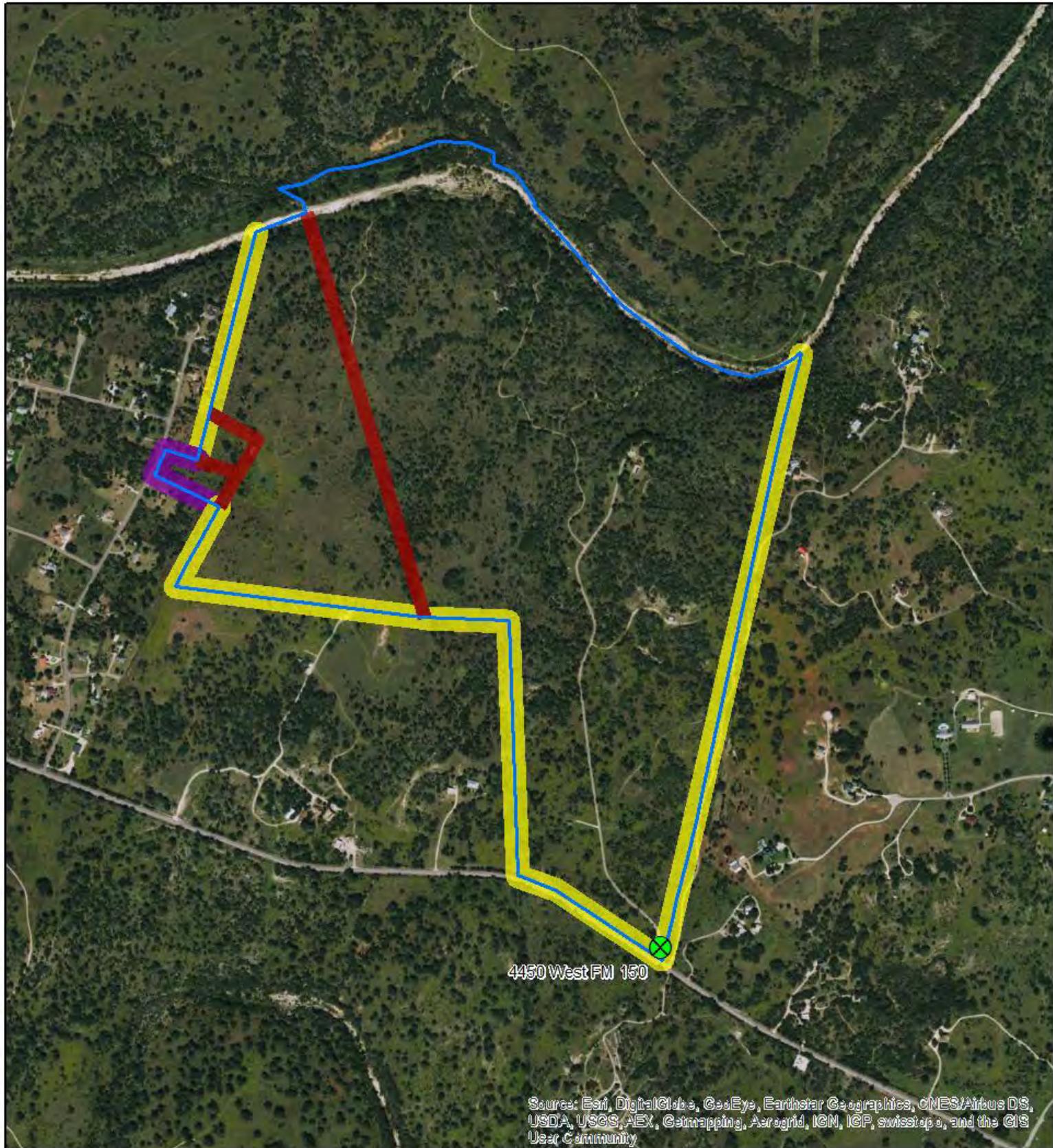
Phone: (512)940-3164 _____

Contract Manager: Rick Hudson (cell 512-940-3164), (desk 512-972-1684)

Fire Manager: Luke Ball (cell 512-940-3452), desk 512-972-1683)

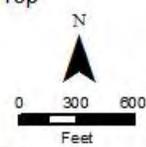
WQPL Manager: Kevin Thuesen (cell 512-632-8064), desk 512-972-1666)

BCP Manager: Sherri Kuhl (cell 512-299-6775), desk 512-972-1664)



- WQPL Property
- 5-strand Barbed Wire Fence
- X Gate
- Netwire Fence with 2-strand Barbed Wire on Top
- Remove Fence

City of Austin
 Austin Water Utility
 Wildland Conservation Division
 May, 2016



WQPL - Searcy Project Map



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. This product has been produced by the Wildland Conservation Division for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.