South King Fire and Rescue

Station 60 Facility Improvements

ADDENDUM #2

April 12, 2019

TO ALL BIDDERS:

The Bid Documents issued **March 20, 2019** for the project noted above are amended by this Addendum #2.

Receipt of this addendum shall be acknowledged by inserting its number in the space provided on the bid form.

PROJECT MANUAL AND DRAWING ITEMS

ITEM 1. Section 00110 TABLE OF CONTENTS
   a. ADD Section 323113 Chain Link Fences and Gates
ITEM 2. Section 323113 Chain Link Fences and Gates
   a. ADD Section in its entirety, 7 pages
ITEM 3. S21.14 Bldg 2 – Foundation and First Floor Plan
   a. ADD Sheet

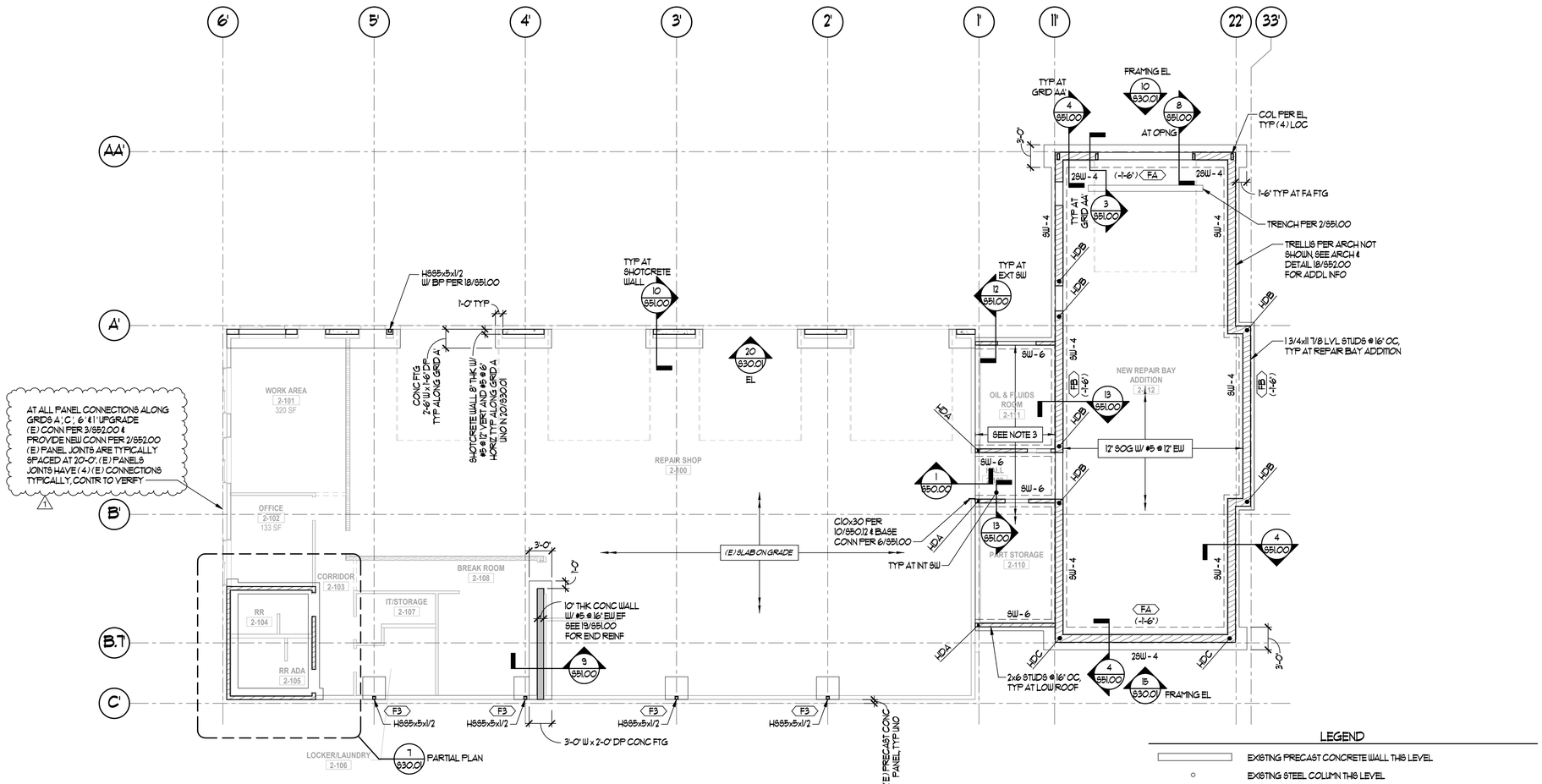
ATTACHMENTS

1) Structural Addenda Sheet S21.14, 1 page.
2) Section 032311 Chain Link Fences and Gates, 7 pages.

END OF ADDENDUM

PLAN NOTES:

1. ALL EXISTING STRUCTURAL COMPONENTS ARE BASED ON INFORMATION GATHERED FROM CURSORY FIELD MEASUREMENTS AND SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL FIELD MEASURE AND VERIFY ALL CONDITIONS PRIOR TO COMMENCING ANY WORK.
2. SEE ARCHITECTURAL FOR DIMENSIONS AND ADDITIONAL INFORMATION NOT NOTED.
3. SLAB ELEVATION SHALL BE AS SHOWN ON PLAN. SLAB-ON-GRADE SHALL BE 4" THICK WITH #4 @ 12 AT CENTER UNO. PROVIDE VAPOR BARRIER PER SPECIFICATIONS BELOW SLAB AT INTERIOR SPACES OVER 6" OF FREE-DRAINING GRANULAR FILL PER SPECIFICATIONS. SEE ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSION AND SLOPE REQUIREMENTS. IF APPROVED BY OWNER AND ARCHITECT.
4. PROVIDE CONSTRUCTION / CONTROL JOINTS IN SLABS ON GRADE TO DIVIDE SLAB INTO RECTANGULAR AREAS 225 SQUARE FEET OR LESS. AREAS SHALL BE APPROXIMATELY SQUARE AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS MUST BE APPROVED BY THE ARCHITECT. SEE 11/S50.00.
5. TOPS OF ALL FOOTINGS SHOWN IN THIS PLAN SHALL BE AT ELEVATION 0'-0" UNO. OVER EXCAVATE AND PLACE SUITABLE COMPACTED FILL AS DIRECTED BY OWNER APPOINTED GEOTECHNICAL ENGINEER WHERE REQUIRED. WHERE INDICATED, FOOTINGS SHALL BEAR ON SOLS REINFORCED USING AGGREGATE PIERS. AGGREGATE PIERS ARE NOT REQUIRED BELOW ANY SLABS-ON-GRADE. SEE GENERAL STRUCTURAL NOTES AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH FINAL SITE GRADES AND MAINTAIN MINIMUM DEPTH OF FOOTINGS SHOWN ON THE DRAWINGS.
6. SEE ARCHITECTURAL / MECHANICAL / CIVIL / UTILITIES DRAWINGS FOR UNDERSLAB PIPING. COORDINATE FOUNDATION DEPTHS AND PIPING IN ACCORDANCE WITH 13/S50.00.
7. ALL STAIRS AND LANDINGS NOT SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS ARE DESIGN-BUILD COMPONENTS. ALL DESIGN-BUILD STEEL COMPONENTS SHALL BE DESIGNED, DETAILED, AND SUPPLIED BY THE STEEL FABRICATOR. SEE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS. SUPPLY AND INSTALL COMPLETE STAIR SYSTEMS INCLUDING TREADS, RISERS, AND INTERMEDIATE LANDINGS. ANY NON-STEEL COMPONENTS INCLUDING FOOTINGS SHALL BE DESIGNED, SUPPLIED AND INSTALLED BY SUPPLIERS AND SUBCONTRACTORS AS DIRECTED BY THE GENERAL CONTRACTOR.
8. PROVIDE EXISTING PRECAST CONCRETE PANEL TO EXISTING FOOTING CONNECTION @ 4'-0" OC, MINIMUM (2) CONNECTIONS PER PANEL. SEE 20/S51.00.
9. POSTS OR JAMB STUDS SUPPORTING BEAMS ABOVE SHALL BE (2) STUDS, UNO.
10. AT PLYWOOD SHEAR WALLS, CONTRACTOR SHALL EXTEND SHEATHING TO ACHIEVE FULL COVERAGE OF ENTIRE WALL TO AVOID CONFLICTS BETWEEN VARYING PLYWOOD AND GWB THICKNESS.
11. WHERE SHEAR WALL INTERSECT, SEE 7/S50.11 FOR REQUIREMENTS.
12. SEE 1/S50.00 FOR SLAB-ON-GRADE INFILL. SEE ARCHITECTURAL AND PLUMBING FOR SLAB INFILL LOCATIONS AND SLOPE.



SHEET NOTE:

ALL DIMENSIONS, ELEVATION, AND LOCATIONS OF EXISTING STRUCTURAL COMPONENTS ARE BASED ON INFORMATION GATHERED FROM ORIGINAL DRAWINGS OR CURSORY FIELD MEASUREMENTS AND ARE SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL FILED MEASURE AND VERIFY ALL CONDITIONS PRIOR TO COMMENCING ANY WORK. NOTIFY ENGINEER WHERE CONDITIONS VARY FROM THOSE SHOWN.

FOOTING SCHEDULE

MARK	WIDTH	LENGTH	DEPTH	TOP REINFORCING	BOTTOM REINFORCING	REMARKS
F3	3'-0"	3'-0"	1'-6"	(3) #5 EW	(4) #5 EW	SEE 7/S51.00
FA	3'-0"	PER PLAN	2'-0"	-	#5 @ 12" TRANS (3) #5 LONG	SEE 8/S51.00 & 12/S51.00
FB	2'-0"	PER PLAN	2'-0"	-	#5 @ 12" TRANS (3) #5 LONG	SEE 12/S51.00 & 13/S51.00

BLDG 2 - FOUNDATION AND FIRST FLOOR PLAN

1/8" = 1'-0"

N

LEGEND

- EXISTING PRECAST CONCRETE WALL THIS LEVEL
- EXISTING STEEL COLUMN THIS LEVEL
- HSS COLUMN THIS LEVEL
- FX (X'-XX") FOOTING MARK PER FOOTING SCHEDULE TOP OF FOOTING ELEVATION
- CONCRETE WALL THIS LEVEL
- SHOTCRETE WALL THIS LEVEL
- 9W - X SHEAR WALL THIS LEVEL PER SCHEDULE 20/S50.11 TYPICAL WALLS ARE 2x6 STUDS @ 16" OC, LVL 1 3/4 x 11 7/8 @ 16" OC WHERE STUDS > 14'-0" ARE REQUIRED
- HDA HOLDOWN PER SCHEDULE 9/S50.11, TYPICAL HOLDOWN BY SIMPSON STRONG-TIE

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

Reid Middleton
728 134th Street SW Suite 200
Everett, Washington 98204
Ph: 425 741-3800
www.reidmiddleton.com

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STATE OF WASHINGTON CHRISTOPHER A. WILLIAMS 43107 REGISTERED PROFESSIONAL ENGINEER
04/12/19

SOUTH KING FIRE & RESCUE
FACILITY IMPROVEMENTS
FIRE STATION 60
35100 PACIFIC HIGHWAY SOUTH,
FEDERAL WAY, WA 98003

PROJECT 2015137

BID SET

ISSUE DATE MARCH 20, 2019

REVISION SCHEDULE

1	ADDENDUM	4/12/19

BLDG 2 - FOUNDATION AND FIRST FLOOR PLAN

SHEET
S21.14

SECTION 32 31 13 ALUMINUM CHAIN LINK FENCE AND GATES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. DIVISION 01 - GENERAL REQUIREMENTS: Drawings, quality, product and performance requirements, general and supplemental conditions apply as applicable to the project and project documents.

1.2 SUMMARY

A. This Section includes industrial/commercial chain link fence and gates specifications:
   1. Galvanized steel coated chain link fabric
   2. Galvanized steel framework and fittings
   3. Gates: swing and cantilever slide
   4. Barbed wire
   5. Installation
B. Related Sections:
   1. 01 33 23 Shop Drawings, product data
   2. 01 43 13 Manufacturers Qualifications
   3. 03 30 53 Miscellaneous Cast in Place Concrete
   4. 25 50 00 Integrated Automation [pertinent to gate operator access control]
   5. 26 01 02 Electrical distribution [relating to gate operators]
   6. 31 22 19 Finish Grading

1.3 REFERENCES

A. ASTM A121 Specification for Metallic-Coated Carbon Steel Barbed Wire

B. ASTM A392 Specification for Zinc-Coated Steel Chain-Link Fence Fabric

C. ASTM A780 Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

D. ASTM F552 Standard Terminology Relating to Chain Link Fencing

F. ASTM F567 Standard Practice for Installation of Chain Link Fence

G. ASTM F626 Specification for Fence Fittings

H. ASTM F900 Specification for Industrial and Commercial Swing Gates

I. ASTM F1043 Specification for Strength and Protective Coatings of Steel Industrial Chain Link Fence Framework

J. ASTM F1083 Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures

K. ASTM F1184 Specification for Industrial and Commercial Horizontal Slide Gates

L. ASTM F2200 Specification for Automated Vehicular Gate Construction

M. UL325 Automatic operators: Door, Drapery, Gate, Louver and Window

1.4 SUBMITTALS

A. Shop drawings: Site plan showing layout of fence location with dimensions, location of gates and opening size, cleared area, elevation of fence, gates, footings and details of attachments. Comply with the provisions of Section 01 33 23.

B. Material samples: When required, provide representative samples of chain link fabric, framework and fittings.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Framework, posts, rails, fabric, and fittings for chain link fence system:

1. **MERCHANTS METALS®** www.merchantsmetals.com
Tech-Info@merchantsmetals.com
Phone: (888) 260-1600 Fax: (888) 261-3600

2.2 CHAIN LINK FABRIC

A. Steel Chain Link Fabric: Color: Black. Height as indicated on drawing.
1. Zinc-Coated Steel Fabric: ASTM A392 hot dipped galvanized before weaving (GBW)
2. Class 1 - 1.2 oz. /ft² (366 g/m²) with 3 1/2" X 5" mesh, 9 gauge, with a core wire diameter of 0.148" and a break load of 1290 lb./f.
3. B. Fabric selvage: Standard fabric selvage knuckle finish top and bottom, K&K.

2.3 ROUND STEEL PIPE FENCE FRAMEWORK

A. Round steel pipe and rail: Cold-rolled electric-resistance welded pipe in accordance with ASTM F1043 Materials Design Group IC **(LG-40)**, minimum steel yield strength 50,000 psi (344 MPa). Type B external coating, hot dip galvanized zinc 0.9 oz/ ft² (305 g/m²) with a clear polymeric overcoat, Type D interior 90% zinc-rich coating having a minimum thickness of 0.30 mils (0.0076 mm).
1. Line post : 2.375 inches outside diameter, weight not less than 3.12 lb/ft
2. End, Corner, Pull post 2.875 inches outside diameter, weight not less than 4.64 lb/ft.
3. Top, brace, bottom and intermediate rails, 1.660 in. (42.2 mm) OD.

C. Typical post and rail size for normal Commercial / Industrial applications

Item	Fence Height	Outside Diameter Inches (mm)	*F1083 Schedule 40 Weight lb/ft (kg/m)	F1043-IC (LG-40) Weight lb/ft (kg/m)
Line post	up to 6 ft. (1.8 m)	1.900 (48.3)	2.72 (4.0)	2.28 (3.39)
	over 6 to 8 ft. (1.8 to 2.4 m)	2.375 (60.3)	3.65 (5.4)	3.12 (4.64)
	over 8 to 12 ft. (2.4 to 3.7 m)	2.875 (73.0)	5.79 (8.6)	4.64 (6.91)
	over 12 to 16 ft. (3.7 to 4.9 m)	4.000 (101.6)	9.11 (13.6)	6.56 (9.78)
Terminal post	up to 6 ft. (1.8 m)	2.375 (60.3)	3.65 (5.4)	3.12 (4.64)
	over 6 to 8 ft. (1.8 to 2.4 m)	2.875 (73.0)	5.79 (8.6)	4.64 (6.91)
	over 8 to 12 ft. (2.4 to 3.7 m)	4.000 (101.6)	9.11 (13.6)	6.56 (9.78)
	over 12 to 16 ft. (3.7 to 4.9 m)	6.625 (168.3)	18.97 (28.2)	Not available
		8.625 (219.1)	28.58 (42.5)	Not available
Rails		1.660 (42.2)	2.27 (3.4)	1.84 (2.74)

*Regular Grade F1083 Schedule 40

2.4 TENSION WIRE

A. Metallic Coated Steel Marcelled Tension Wire: 7 gauge core (0.177 in.) (4.50 mm) marcelled wire complying with ASTM A824 [Match coating type to that of the chain link fabric] <Insert metallic coating Type and class when applicable>

1. Type II Zinc-Coated, ASTM A817 Class 4 - 1.2 oz/ft² (366 g/m²)
2. Type II Zinc-Coated, ASTM A817 Class 5 - 2.0 oz/ft² (610 g/m²)

2.6 FITTINGS

A. Tension and Brace Bands: Galvanized pressed steel complying with ASTM F626, minimum steel thickness of 12 gauge (0.105 in.) (2.67 mm), minimum width of 3/4 in. (19 mm) and minimum zinc coating of 1.20 oz/ft² (366 g/m²). Secure bands with 5/16 in. (7.94 mm) galvanized steel carriage bolts.

B. Terminal Post Caps, Line Post Loop Tops, Rail and Brace Ends, Boulevard Clamps, Rail Sleeves: In compliance to ASTM F626, pressed steel galvanized after fabrication having a minimum zinc coating of 1.20 oz/ft² (366 g/m²).

C. Truss Rod Assembly: In compliance with ASTM F626, 3/8 in. (9.53 mm) or 5/16" (7.94 mm) diameter steel truss rod with a pressed steel tightener, minimum zinc coating of 1.2 oz/ft² (366 g/m²), assembly capable of withstanding a tension of 2,000 lbs. (970 kg).

D. Tension Bars: In compliance with ASTM F626. Galvanized steel one-piece length 2 in. (50 mm) less than the fabric height. Minimum zinc coating 1.2 oz. /ft² (366 g/m²).
*[Bars for 2 in. (50 mm) and 1 ¾ in. (44 mm) mesh shall have a minimum cross section of 3/16 in. (4.8 mm) by 3/4 in. (19 mm)]
*[Bars for 1 in. (25 mm) mesh shall have a cross section of 1/4 in. (6.4 mm) by 3/8 in. (9.5 mm)]
*[Small mesh 3/8 in. (10 mm), 1/2 in. (13 mm) and 5/8 in. (16 mm) shall be attached (sandwiched) to the terminal post using a galvanized steel strap having a minimum cross section of 2 in. (51 mm) by 3/16 in. (4.8 mm) with holes spaced 15 in. (381 mm) on center to accommodate 5/16 in. (7.9 mm) carriage bolts which are to be bolted thru the strap the mesh and thru the terminal post.]

E. Barbed Wire Arms: In compliance with ASTM F626, pressed steel galvanized after fabrication, minimum zinc coating of 1.20 oz. /ft² (366 g/m²), capable of supporting a vertical 250 lb (113 kg) load. [Type I – three strand 45 degree (0.785 rad) arm] [Type II – three strand vertical arm] [Type III – "V" shaped six strand arm]

2.7 TIE WIRE and HOG RINGS

A. Basic commercial / industrial applications - specify 9 gauge core aluminum alloy ties and hog rings per ASTM F626.
B. Added security or fence containing privacy **(Priva-Max®)** slats specify 9 gauge core (0.148) (3.76 mm) steel Galvanized Before Weave (GBW) with preformed power fastened wire ties and preformed hog rings having minimum zinc coating 1.20 oz/ft² (366 g/m²) per ASTM F626.

2.10 HORIZONTAL SLIDE GATES

A. Cantilever Slide Gates: in accordance with ASTM F 1184 Type II Class 2, and in compliance with UL-325, and ASTM 2200. (No substitution) Gate to be made of Aluminum Alloy 6005A-T61. All square members are 2" sq. weighing 0.94 lb/FT (139 kg/m). Complete frame welded to top one piece track and 4" x 2" bottom rail weighing 1.71 lbs./ft. (2.54 kg/m) Supply 2 truck assemblies that are swivel type having lubricated and scaled ball bearing wheels that will align in the track during all normal operations of the gate.

Standard Opening	Standard Support Overhang
11'-0" (3354 mm) through 14'-0" (4267 mm)	7'-6" (2286 mm)
15'-0" (4572 mm) through 22'-0" (6706 mm)	10'-0" (3048 mm)

23'-0" (7010 mm) through 30'-0" (9144 mm)	12'-0" (3857 mm)
31'-0" (9449 mm) through 40'-0" (12192 mm)	16'-0" (4876 mm)

Gates 31'0" (9449 mm) through 40'0" (12192 mm) dual top tracks and two additional truck assemblies. For gates over 40'0" (12192 mm), contact Merchants Metals for custom drawings and specs.

B. Chain Link 2" Fabric: Galvanized After Weaving

C. Finish - Black Polymer coated horizontal slide gates and posts shall match the coating type and color as that specified for the fence framework.

D. Gateposts, 4" O.D. (101.6 mm) schedule 40 weighing 9.11 lb./ft. (13.6 kg/m). Single gates with single tracks require 3 gate posts. (1 latch post and 2 support posts) Single gates with dual tracks require 5 gate posts. (1 latch and 2 dual support posts) Double gates require twice the number of support posts but do not have a latch post.

E. Electrically operated horizontal slide gates must be manufactured and installed to comply with the safety requirements of ASTM F2200 and UL 325.

2.11 CONCRETE

Concrete for post footings shall have a 28-day compressive strength of 2,500 psi. (17.2 MPa).

PART 3 EXECUTION

3.1 CLEARING FENCE LINE

Clearing: Surveying, clearing, grubbing, grading and removal of debris for the fence line or any required clear areas adjacent to the fence <Insert project requirement> [is included in the earthwork contractor's contract under the provisions of Division 31 - Earthwork.] [is not included in the earthwork contractor's contract and is the responsibility of the fence contractor in accordance with the provisions of Division 31 - Earthwork.] The contract drawings indicate the extent of the area to be cleared and grubbed.

3.2 FRAMEWORK INSTALLATION

A. Posts: Posts shall be set plumb in concrete footings in accordance with ASTM F567. Minimum footing depth, 24 in. (609.6 mm) plus an additional 3 in. (76.2 mm) depth for each 1 ft. (305 mm) increase in the fence height over 4 ft. (1220 mm). Minimum footing diameter four times the largest cross section of the post up to a 4.00" (101.6 mm) dimension and three times the largest cross section of post greater than a 4.00" (101.6 mm) dimension. Footing 3 feet depth and 1.5 feet diameter. Top of concrete footing to be at grade crowned to shed water away from the post or 6 inches (152 mm) below grade crowned to shed water away from the post. Line posts installed at intervals not exceeding 10 ft. (3.05 m) on center.

B. Top rail: When specified, install 21 ft. (6.4 m) lengths of rail continuous thru the line post or barb arm loop top. Splice rail using top rail sleeves minimum 6 in. (152 mm) long. Rail shall be secured to the terminal post by a brace band and rail end. Bottom rail or intermediate rail shall be field cut and secured to the line posts using boulevard clamps or brace band with rail end.

C. Terminal posts: End, corner, pull and gate posts shall be braced and trussed for fence 6 ft. (1.8 m) and higher and for fences 5 ft. (1.5 m) in height not having a top rail. The horizontal brace rail and diagonal truss rod shall be installed in accordance with ASTM F567.

D. Tension wire: Shall be installed 4 in. (101.6 mm) up from the bottom of the fabric. Fences without top rail shall have a tension wire installed 4 in. (101.6 mm) down from the top of the fabric. Tension wire to be stretched taut, independently and prior to the fabric, between the terminal posts and secured to the terminal post using a brace band. Secure the tension wire to each line post with a tie wire. Install the top tension wire through the barb arm loop for fences having barbed wire and no top rail.

3.3 CHAIN LINK FABRIC INSTALLATION

Chain Link Fabric: Install fabric to outside of the framework maintaining a ground clearance of no more than 2 inches (50 mm). Attach fabric to the terminal post by threading the tension bar through the fabric; secure the tension bar to the terminal post with tension bands and 5/16 in. (7.94 mm) carriage bolts spaced no greater than 12 inches (304.8mm) on center. Small mesh fabric less than 1 in. (25 mm), attach to terminal post by sandwiching the mesh between the post and a vertical 2 in. wide (50mm) by 3/16 in. (4.76 mm) galvanized steel strap using carriage bolts, bolted thru the bar, mesh and post spaced 15 in. (381 mm) on center. Chain link fabric to be stretched taut free of sag. Fabric to be secured to the line post with tie wires spaced no greater than 12 inches (304.8 mm) on center and to horizontal rail spaced no greater than18 inches (457.2 mm) on center. [Aluminum alloy tie wire shall be installed following ASTM F567: Wrap the tie around the post or rail and attached to a fabric wire picket on each side of the post or rail by twisting the tie wire around the fabric wire picket two full turns, cut off excess wire and bend over to prevent injury.] [Preformed 9 gauge power-fastened wire ties shall be installed following ASTM F626: Wrap the tie a full 360° around the post or rail and fabric wire picket, using a variable speed drill, twist the two ends together three full turns, cut off any excess wire and bend over to prevent injury.] Secure the fabric to the tension wire by crimping hogs rings around a fabric wire picket and tension wire.

3.4 BARBED WIRE INSTALLATION

Barbed Wire: Stretched taut between terminal posts and secured in the slots provided on the line post barb arms. Attach each strand of barbed wire to the terminal post using a brace band.

3.5 GATE INSTALLATION

A. Horizontal Slide Gates: Install according to manufacturer's instructions and in accordance with ASTM F567. Gates shall be plum in the closed position, installed to slide with an initial pull force no greater than 40 lbs. (18.14 kg). Double gate drop bar receivers to be installed in a concrete footing as required by site conditions and codes. Ground clearance shall be 3 in. (76 mm), grade permitting. Electrically operated gate installation must conform to ASTM F2200 and UL 325.

3.6 NUTS AND BOLTS

Bolts: Carriage bolts used for fittings shall be installed with the head on the secure side of the fence. All bolts shall be peened over to prevent removal of the nut.

3.7 ELECTRICAL GROUNDING

Grounding: Grounding of the fence and gates is not the responsibility of the fence contractor and not included in the fencing scope of work for this contract. Grounding, when required, shall be specified and included in Contract Section 33 79 00 Site Grounding. A licensed electrical contractor shall install grounding when required.

3.8 CLEAN UP

Clean Up: The area of the fence line shall be left neat and free of any debris caused by the installation of the fence.

END OF SECTION 32 31 13