

SECTION 01800 DEMOLITION

1.01 GENERAL:

A. Perform all Work in accordance with the Contract Documents, and applicable codes, standards, and specifications of governing authorities having jurisdiction over the Work.

1.02 VERIFYING EXISTING CONDITIONS:

- A. Contractor shall verify existing conditions at the site, and examine adjoining work which in any way will affect the completion of the Work.
- B. Contractor shall report to the Owner in writing, any condition which will prevent the proper performance of the Work.
- C. No waiver of responsibility for defective adjoining work will be considered unless Notice has been filed by the Contractor and agreed to in writing by the County before Contractor begins any part of the Work.

1.03 LIAISON PERSONNEL:

- A. The Engineer will act as liaison with the Contractor in order that the Work is properly coordinated with the County's necessary functions and operations.
- B. Liaison personnel will advise the Contractor of utility services and facilities which must be maintained.
- C. When requested by the County, the Contractor shall delay specific construction operations that result in inconvenience to the County's operations.
- D. Liaison personnel shall work with the Contractor to establish a schedule of hours which construction operations may be carried on with minimum inconvenience to the City's operations.

1.04 MAINTENANCE OF SERVICES

- A. Make temporary shut-downs of any utility service or facility only at such times as agreed upon and with prior knowledge and consent of the Owner.
- B. In case of accidental interruption of any utility service or facility during the course of the Work, the Contractor shall immediately place an adequate force at the source of such interruption to place back in service with the least possible delay.

1.05 DEBRIS:

- A. Do not permit debris or unsalvageable material resulting from demolition operations to accumulate on site.
- B. Remove debris as quickly as it accumulates.
- C. Do not dispose of debris in waterways.
- D. Keep debris damp enough to keep down dust.
- E. Provide for off-site disposal areas.

1.06 MAINTAINING TRAFFIC

- A. Accomplish Work with minimum interference to pedestrian and vehicular traffic on site and on adjacent streets and highways.

1.07 PROTECTION OF STRUCTURES AND PROPERTY

- A. Work to protect existing structures and adjacent properties against damage from any cause.
- B. Take precautions to guard against movement or settlement of existing structures.
- C. Furnish and install bracing or shoring necessary or proper in connection therewith.
- D. Be responsible for safety and support of existing structures in Work area.

End of Section

SECTION 02013 GALVANIZED 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 recreational/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. 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. 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
 - B. Material samples: If required, provide representative samples of chain link fabric, framework and fittings.
- A. Specification Changes: May not be made after the date of bid unless prior approval by Owner..

PART 2 – PRODUCTS

2.1 CHAIN LINK FABRIC

- A. Steel Chain Link Fabric: Height to be as indicated on drawings.
 - 1. Zinc-Coated Steel Fabric: ASTM A392 hot dipped galvanized before weaving (**GBW**) or after weaving (**GAW**).
 - a. Class 1 - 1.2 oz/ft² (366 g/m²)
 - b. Class 2 - 2.0 oz/ft² (610 g/m²) <available 9 and 6 gauge>
 - 2. Fabric Selection Table: Steel chain link mesh sizes and gauges produced in one piece widths 3 feet (910 mm) to 12 feet (3660 mm)

Mesh Size	6 gauge core	9 gauge core	11 gauge core	11 1/2 gauge core	12 Gauge core	Notes
In. (mm)	0.192 in.	0.148 in.	0.120 in.	0.113 in.	0.105 in.	
	4.88 mm	3.76 mm	3.05 mm	2.87 mm	2.67 mm	N/A = Not applicable for
2 (50)	yes	yes	yes	N/A	N/A	industrial/commercial
1 ¾ (44)	yes	yes	yes	N/A	N/A	applications
1 (25)	N/M	yes	yes	N/A	N/A	N/M = Not manufactured
5/8 (16)	N/M	yes	yes	yes	yes*	*12 ga. only per F668
1/2 (13)	N/M	yes	yes	yes	yes*	
3/8 (10)	N/M	N/M	yes	yes	yes*	
	2170 lbf	1290 lbf	850 lbf	750 lbf	650 lbf	Wire Break Strength
	(9650 N)	(5740 N)	(3780 N)	(3340 N)	(2895 N)	

3. Fabric selvage:

Standard fabric selvage for 2 in (50 mm) mesh 72 in. (1.8 m) high and higher is knuckle finish at each end

Fabric less than 72 in (1.8 m), knuckle finish top and bottom

2.3 ROUND STEEL PIPE FENCE FRAMEWORK

- A. Round steel pipe and rail: Schedule 40 standard weight pipe, in accordance with ASTM F1083, 1.8 oz/ ft² (550 g/m²) hot dip galvanized zinc exterior and 1.8 oz/ft² (550 g/m²) hot dip galvanized zinc interior coating.

Regular Grade: Minimum steel yield strength 30,000 psi (205 MPa)

High Strength Grade: Minimum yield strength 50,000 psi (344 MPa)

[Specify Grade: Regular or High Strength]

- Line post: 1.90 inches outside diameter
- End, Corner, Pull post: 2.375 inches outside diameter, zinc coating, weight: 2.72 lb/ft
- Top, brace, bottom and intermediate rails, 1.660 inches outside diameter, zinc coating, weight: 2.27 lb/ft

- 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)
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*Regular Grade F1083 Schedule 40

2.4 TENSION WIRE

- A. Metallic Coated Steel Marcellled Tension Wire: 7 gauge core (0.177 in.) (4.50 mm) marcellled 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)

2.5 NONE

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 3/4 in. (44 mm) mesh shall have a minimum cross section of 3/16 in. (4.8 mm) by 3/4 in. (19 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

2.6 TIE WIRE and HOG RINGS

- A. Basic commercial / industrial applications - specify 9 gauge core aluminum alloy ties and hog rings per ASTM F626.
- B. power fastened wire ties and preformed hog rings having minimum zinc coating 1.20 oz/ft² (366 g/m²) per ASTM F626.

2.9 SWING GATES

A. Swing Gates: Galvanized steel pipe welded fabrication in compliance with ASTM F900. Gate frame members 1.900 in. OD (48.3 mm) ASTM F 1083 schedule 40 galvanized steel pipe Frame members spaced no greater than 8 ft. (2440 mm) apart vertically and horizontally. Welded joints protected by applying zinc-rich paint in accordance with ASTM Practice A780. Positive locking gate latch, pressed steel galvanized after fabrication. Galvanized malleable iron or heavy gauge pressed steel post and frame hinges. Provide lockable drop bar and gate holdbacks with double gates. Match gate fabric to that of the fence system. Gateposts per ASTM F1083 schedule 40 galvanized steel pipe.

B. Gateposts: Regular Grade ASTM F1083 Schedule 40 pipe

Gate fabric height up to and including 6 ft. (1.2m)		
Gate leaf width	Post Outside Diameter	Weight
up to 4 ft. (1.2 m)	2.375 in. (60.3 mm)	3.65 lb/ft (5.4 kg/m)
over 4 ft. to 10 ft. (1.2 to 3.05 m)	2.875 in. (73.0 mm)	5.79 lb/ft (8.6 kg/m)
over 10 ft. to 18 ft. (3.05 to 5.5 m)	4.000 in. (101.6 mm)	9.11 lb/ft (13.6 kg/m)
Gate fabric height over 6 ft. to 12 ft. (1.2 to 2.4m)		
Gate leaf width		
up to 6 ft. (1.8 m)	2.875 in. (73.0 mm)	5.79 lb/ft (8.6 kg/m)
over 6 ft. to 12 ft. (1.8 to 3.7 m)	4.000 in. (101.6 mm)	9.11 lb/ft (13.6 kg/m)
over 12 ft. to 18 ft. (2.4 to 5.5 m)	6.625 in. (168.3 mm)	18.97 lb/ft (28.2 kg/m)
over 18 ft. to 24 ft. (5.5 to 7.3 m)	8.625 in. (219.1 mm)	28.58 lb/ft (42.5 kg/m)

2.10 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 is included in the project. 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. Top of concrete footing to be at 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.

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 than 18 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. Secure the fabric to the tension wire by crimping hogs rings around a fabric wire picket and tension wire.

3.5 GATE INSTALLATION

- A. Swing Gates: Installation of swing gates and gateposts in compliance with ASTM F 567. Direction of swing shall be inward. Gates shall be plumb in the closed position having a bottom clearance of 3 in. (76 mm), grade permitting. Hinge and latch offset opening space shall be no greater than 3 in. (76 mm) in the closed position. Double gate drop bar receivers shall be set in a concrete footing minimum 6 in.

(152 mm) diameter 24 in. (609.6 mm) deep. Gate leaf holdbacks shall be installed for all double gates. Electrically operated gates must be manufactured and installed in compliance with 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 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 02013

SECTION 02726-BASEBALL INFIELD SOILS

1.01 GENERAL:

A. Perform all Work in accordance with the plans and these specifications and applicable codes, standards, and specifications for the minimum acceptable standards for infield mix to be supplied and spread by the Contractor in accordance with County personnel having jurisdiction over the work.

1.02 VERIFYING EXISTING CONDITIONS:

- A. Contractor shall verify existing conditions at the site, and examine adjoining work which in any way will affect the completion of the Work.
- B. Contractor shall report to the Owner/Engineer in writing, any condition which will prevent the proper performance of the Work.
- C. No waiver of responsibility for defective adjoining work will be considered unless Notice has been filed by the Contractor and agreed to in writing by the Engineer before Contractor begins any part of the Work.

1.03 LIAISON PERSONNEL:

A. The County will act as liaison with the Contractor in order that the Work is properly coordinated with the County's necessary functions and operations.

1.04 MATERIALS

A. Baseball infield mix shall be free of any stones over 1/4" in any dimension.

Sieve Analysis:

Size	Percent Passing
#4	100.0
#10	89.5
#20	85.9
#40	79.6
#60	64.2
#100	45.4
#200	38.4

It shall contain no organic matter and meet the following mechanical analysis:

Soil Classification Range:

Sand (2.0-0.05mm)	50%-70%
Silt (0.05-0.002mm)	12%-22%
Clay (less than 0.002mm)	10%-16%

B. Recommended products or approved equals:

1. "Diamond Dirt" Baseball/Softball Diamond Infield Mix by Turf & Dirt
2. "Home Run" Infield Baseball Mix by Blue Mount Quarry

1.04 INSTALLATION

At the direction of the County, baseball infield soil will be delivered to the site and spread in front the fine graded backstop and elsewhere on the field as needed.

- a. Establish arc of field. This is to be done based on the placement location of the new home plate and pitcher rubber.
- b. Excavate infield to a depth of 2". Resulting material, unless otherwise approved, shall be removed from the site and disposed of by the Contractor.
- c. Excavated infield is to be loosened by means of a rototiller or Harley rake to a depth of 2" (4" total). Any rocks or debris are to be removed.
- d. The area between the dirt and grass is to be removed and repaired to create a smooth transition between the infield and outfield.
- e. Spread new infield mix. Material is to be 2-1/2 inches thick, approximately 75 tons. Contractor is to provide submittal of mix to the County for approval prior to procurement and delivery.
- f. Infield is to be graded in accordance with the plans as approved by the County and to match the surrounding grades. Skinned area is to receive approximately 3 tons of calcined clay and mixed into the top 1/2". A final light top dressing of 1/4" calcined clay is to be applied to infield and re-rolled per item g. below.
- g. Infield is to be rolled tight with a minimum weight of 250lbs/ft (example: 6' roller is to weigh between 1500 lbs and 3000 lbs)

End of Section

SECTION 06190 TIMBER WORK

1.01 GENERAL:

- A. Perform all Work in accordance with the Contract Documents, and applicable codes, standards, and specifications of governing authorities having jurisdiction over the Work.

1.02 QUALITY ASSURANCE:

- A. Applicable Standards: Conform to the following Standards:

- ASTM A153: Zinc Coating (Hot Dip) on Iron and Steel Hardware.
- ASTM A307: Carbon Steel Externally threaded Standard Fasteners
- AWPA T1: Processing and Treatment Standard
- AWPA M4 : Standard for the Care of Preservative Treated Wood
- SPIB: Grading Rules
- GRADE 316: Marine Grade Stainless Steel Fasteners

1.03 SUBMITTALS:

- A. Certificates: Submit to the Engineer, a certificate of Inspection issued by an American Lumber Standards Committee stating grade of timber, treatment quality and moisture content upon shipment from the treatment plant.

1.04 PRODUCT HANDLING AND STORAGE:

- A. Handling: Exercise care in handling of timber to avoid surface and structural damage. Do not use cant hooks, dogs, or pike poles for handling timber.
- B. Storage: Store timber under cover, above ground and keep free from dirt, grease, or other foreign matter. Stack timber in a manner that will prevent long timbers from sagging or becoming crooked. Store materials in accordance with AWPA M4.

2.01 PRODUCTS:

- A. Timber: Stringers, split caps, and beams to be Southern Pine No. 2, rough sawn, square four sides, and graded in accordance with SPIB's Grading Rules and with moisture content of 19 percent at time of delivery to the site. Deck and railing members to be Southern Pine No. 1, dressed, square four sides. Heavy timbers larger than 4 x12's are to be kiln dried prior to treatment. Minimum retention shall be as follows:

- Joist, rafters, trim, & posts to be 0.8 lbs/cf

- B. Preservative: In accordance with AWPA T1 for marine applications

C. Fasteners: ASTM A307, hot dipped galvanized or A316 Stainless Steel

2.02 FABRICATION:

A. Timber: Where practical, cut timber to required length with straight cuts and no splintered edges, and drill holes prior to preservative treatment to minimize treating cuts and hole in the field. Use only full length timbers. Drill holes straight and perpendicular to the bearing surface. Joints shall not be permitted in split caps, stringers, or bracing unless otherwise approved. No shimming will be permitted in making joints, nor will open joints be accepted.

2.03 PRESERVATIVE TREATMENT OF TIMBERS:

A. General: Treat timbers with preservative in accordance with AWWA Standard Marine application.

B. Field Cuts: All cuts and bolt holes made after treatment shall be treated in accordance with AWWA for marine applications.

3.01 EXECUTION:

A. Timbers: Prior to erection of timbers, coat all cuts, and damaged surfaces in accordance with AWWA. Erect timbers plumb and level with tight spacing as shown on the drawings. Secure timbers in proper alignment. Tighten bolts to bring all bearing surfaces into contact. Install decking members "cup down" to prevent cupping and prevent retainage of surface moisture.

B. Preparation: Contractor shall be responsible for making field measurements, required to accurately construct the structure as shown on the drawings. It is the responsibility of the Contractor to construct the pavilion as indicated on the construction drawings.

C. All workmanship shall be first class. Only competent and experienced carpenters shall be employed in the Work. Deep hammer marks in wood surfaces shall be considered evidence of poor workmanship and sufficient cause for replacement of the member in question, at Contractor's expense.

D. Driving of nails and spikes into treated timber for attachment of forms or temporary bracing will not be allowed.

End of Section