



**DANE COUNTY PUBLIC WORKS**  
**ENGINEERING DIVISION**

1919 Alliant Energy Center Way  
Madison, Wisconsin 53713  
Office: 608/266-4018

# ADDENDUM 1

May 12, 2022

**ATTENTION ALL REQUEST FOR BIDS (RFB) HOLDERS**

**RFB NO. 322017 - ADDENDUM NO. 1**

**TENNIS COURT RESTORATION @ GOODLAND COUNTY PARK**

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**BIDS DUE: TUESDAY, MAY 17, 2022, 2:00 PM. DUE DATE AND TIME ARE NOT CHANGED BY THIS ADDENDUM.**

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This Addendum is issued to modify, explain or clarify the original Request for Bid (RFB) and is hereby made a part of the RFB. Please attach this Addendum to the RFB.

**PLEASE MAKE THE FOLLOWING CHANGES:**

- 1. Section 00 41 13 - Bid Form**  
Delete current Bid Form, replace with new Bid Form, issued with this Addendum.
- 2. Section 03 31 00**  
Add Section 03 31 00, "Concrete, Forms & Reinforcement", issued with this Addendum.
- 3. Page 93 – FURNISH AND INSTALL 12' HEIGHT CHAIN LINK FENCE, COMPLETE**  
Delete the current page 93 and replace with revised page 93, issued with this Addendum.  
Revision allows for use of concrete footings or drive anchors for fence post installation.
- 4. Sheet 6 of 6**  
Delete current Sheet 6; replace with new Sheet 6, issued with this Addendum.

If any additional information about this Addendum is needed, please contact Ryan Shore at 608/445-0109, shore@countyofdane.com.

Sincerely,

*Ryan L Shore*

Project Manager

Enclosures:

Bid Form  
Section 03 31 00  
Page 93  
Sheet 6

Name of Bidding Firm: \_\_\_\_\_

SECTION 00 41 13

BID FORM

**BID NO. 322017**

**PROJECT: TENNIS COURT RESTORATION  
GOODLAND COUNTY PARK**

**TO: DANE COUNTY PUBLIC WORKS ENGINEERING DIVISION  
PROJECT MANAGER  
1919 ALLIANT ENERGY CENTER WAY  
MADISON, WISCONSIN 53713**

**NOTE: WISCONSIN STATUTE 77.54 (9M) ALLOWS FOR NO SALES & USE TAX ON THE PURCHASE OF MATERIALS FOR COUNTY PUBLIC WORKS PROJECTS. THIS DOES NOT APPLY TO HIGHWAYS, STREETS AND ROADS PROJECTS.**

**BASE BID - LUMP SUM:**

The undersigned, having examined the site where the Work is to be executed and having become familiar with local conditions affecting the cost of the Work and having carefully examined the Drawings and Specifications, all other Construction Documents and Addenda thereto prepared by Dane County Public Works Engineering Division hereby agrees to provide all labor, materials, equipment and services necessary for the complete and satisfactory execution of the entire Work, as specified in the Construction Documents, for the Base Bid stipulated sum of:

\_\_\_\_\_ and \_\_/100 Dollars  
Written Price

\$ \_\_\_\_\_  
Numeric Price

Receipt of the following addenda and inclusion of their provisions in this Bid is hereby acknowledged:

Addendum No(s). \_\_\_\_\_ through \_\_\_\_\_

Dated \_\_\_\_\_

Dane County must have this project completed by October 15, 2022. Assuming this Work can be started by July 5, 2022, what dates can you commence and complete this job?

Commencement Date: \_\_\_\_\_ Completion Date: \_\_\_\_\_  
(final, not substantial)

I hereby certify that all statements herein are made on behalf of:

\_\_\_\_\_  
(Name of Corporation, Partnership or Person submitting Bid)

Select one of the following:

1. A corporation organized and existing under the laws of the State of \_\_\_\_\_, or
2. A partnership consisting of \_\_\_\_\_, or
3. A person conducting business as \_\_\_\_\_;

Of the City, Village, or Town of \_\_\_\_\_ of the State of \_\_\_\_\_.

I have examined and carefully prepared this Bid from the associated Construction Documents and have checked the same in detail before submitting this Bid; that I have full authority to make such statements and submit this Bid in (its) (their) (my) behalf; and that the said statements are true and correct. In signing this Bid, we also certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a Bid; that this Bid has been independently arrived at without collusion with any other bidder, competitor, or potential competitor; that this Bid has not been knowingly disclosed prior to the Bids Due Date to another bidder or competitor; that the above statement is accurate under penalty of perjury.

The undersigned is qualified as a Best Value Contractor or has proven their exemption. Qualification or exemption shall be complete before Bid Due Date / Time.

The undersigned further agrees to honor the Base Bid and the Alternate Bid(s) for sixty (60) calendar days from date of Award of Contract.

**SIGNATURE:** \_\_\_\_\_  
(Bid is invalid without signature)

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

Email Address: \_\_\_\_\_

Contact Person: \_\_\_\_\_

END OF SECTION

**THIS PAGE IS FOR BIDDERS' REFERENCE**  
**DO NOT SUBMIT WITH BID FORM.**

**BID CHECK LIST:**

These items **must** be included with Bid:

Bid Form

Bid Bond

Proposed Subcontractors Form

Fair Labor Practices Certification

**DANE COUNTY BEST VALUE CONTRACTING QUALIFICATION**

General Contractors & all Subcontractors must be qualified as a Best Value Contractor with the Dane County Public Works Engineering Division. Qualification & listing is not permanent. Renewal is required every 36 months. Complete a *Best Value Contracting Application* online at:

[publicworks.countyofdane.com/bvc](http://publicworks.countyofdane.com/bvc)

**DANE COUNTY VENDOR REGISTRATION PROGRAM**

All bidders are strongly encouraged to be a registered vendor with Dane County. Registering allows vendors an opportunity to receive notifications for RFBs & RFPs issued by the County and provides the County with up-to-date company contact information. Complete a new form or renewal online at:

[danepurchasing.com/Account/Login?](http://danepurchasing.com/Account/Login?)

## SECTION 03 31 00

### CONCRETE, FORMS AND REINFORCEMENT

#### PART 1 - GENERAL

##### 1.01 Section Includes

- A. Formwork for cast-in-place concrete.
- B. Steel reinforcing for cast-in-place concrete.
- C. Cast-in-place concrete.
- D. Curing and Sealing.

##### 1.02 Related Sections

- A. Section 07 92 00 - Joint Sealers.
- B. Section 01 45 16 – Testing Requirements.

##### 1.03 References

- A. ACI 117-90 - Standard Tolerance for Concrete Construction Materials.
- B. ACI 301-96 - Structural Concrete for Buildings.
- C. ACI 305R-91 - Hot Weather Concreting.
- D. ACI 306R-88 - Cold Weather Concreting.
- E. ACI 308-92 - Standard Practice for Curing Concrete.
- F. ACI 318-08 - Building Code Requirements for Reinforced Concrete.
- G. ACI 347-94 - Guide to Formwork for Concrete.
- H. ASTM A82 - Steel Wire, Plain, for Concrete Reinforcement.
- I. ASTM A185 - Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
- J. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- K. ASTM C31 - Making and Curing Concrete Test Specimens in the Field.
- L. ASTM C33 - Standard Specification for Concrete Aggregates.
- M. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- N. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
- O. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
- P. ASTM C150 - Standard Specifications for Portland Cement.
- Q. ASTM C171 - Sheet Materials for Curing Concrete.
- R. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
- S. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete.

- T. ASTM C260 - Air Entraining Admixtures for Concrete.
- U. ASTM C494 - Chemical Admixtures for Concrete.
- V. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.
- W. ASTM C618 - Coal Fly Ash and Raw or Calcinated Natural Pozzolan for Use in Concrete.
- X. ASTM D1751 - Performed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
- Y. ASTM D1752 - Prefomed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

#### **1.04 Quality Assurance**

- A. Perform formwork in accordance with ACI 347.
- B. Perform reinforcement work in accordance with ACI 318.
- C. Perform concrete work in accordance with ACI 301.
- D. Conform to ACI 305R when concreting in hot weather and ACI 306R when concreting in cold weather.

#### **1.05 Submittals**

- A. Formwork: Submit manufacturer's data and installation instructions for proprietary materials including form coating, ties and accessories, and manufactured form systems.
- B. Reinforcement: NA
- C. Concrete
  - 1. Mix Design
    - a. Provide dry weight of cement, saturated-surface dry weight of aggregate, brand name, type, and quantity of admixtures, and pounds of water per cubic yard of concrete.
    - b. Test data supporting the portions of the design mixes based on laboratory trial batches in accordance with ACI 318. Test data supporting the proportions of the design mixes based on past field experience in accordance with ACI 318 may be provided in lieu of the laboratory data.
    - c. Design mixes shall be approved by Engineer a minimum of five working days prior to delivery of concrete to the Site.
  - 2. Admixtures: Submit manufacturer's literature and certifications.
  - 3. Delivery Tickets: With each load of concrete delivered, duplicate delivery tickets shall be provided which give the following information:
    - a. Name of ready-mix batch plant.
    - b. Serial number of ticket
    - c. Date.
    - d. Truck number.
    - e. Name of contractor.
    - f. Name and location of job.
    - g. Class or designation of concrete.
    - h. Amount of concrete in cubic yards.
    - i. Time loaded or of first mixing of cement and aggregate.
    - j. Water added at jobsite and initials of person authorizing addition.
    - k. Admixtures, if added.
  - 4. Surface Treatments: Submit manufacturer's literature and application recommendations.

#### **1.06 Delivery**

- A. Deliver reinforcement in bundles with metal tags indicating bar size and length.

### **1.07 Coordination**

- A. Coordinate placement of formwork, formed openings, and placement of accessories and attachments.

## **PART 2 - PRODUCTS**

### **2.01 Forms**

- A. Wood Forms
  - 1. Plywood: PS1, BB grade, Class 1.
  - 2. Clean straight lumber, dressed on face and edges, 2-inch nominal thickness.
- B. Preformed Steel Forms: Minimum 16 gauge matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
- C. Pan Type: Steel of size and profile required.
- D. Tubular Column Type: Round, spirally wound laminated fiber material, surface treated with release agent, non-reusable, of sizes required.

### **2.02 Formwork Accessories**

- A. Form Ties: Snap-off type, galvanized metal, adjustable length, cone type, 1-inch breakback dimension. The tie shall not leave holes larger than one inch diameter in concrete surface.
- B. Form Release Agent: Colorless mineral oil which will not stain concrete, or absorb moisture, or impair natural bonding of coating intended for use on concrete.
- C. Chamfered Corners: When Drawings indicate chamfered corners provide wood strip type.
- D. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.
- E. Waterstop: Polyvinyl chloride with preformed corner sections and heat welded jointing.
  - 1. Non-Moving Construction Joints: 6" ribbed, 3/8" thick, non-tapered, 5/8" rib diameter; Greenstreak 679 or equal.
  - 2. Expansion and Moving Construction Joints: 9" ribbed with center ball, 3/8" thick, non-tapered, 5/8" rib diameter, 1" O.D. and 1/2" I.D. center bulb; Greenstreak 735 or equal.

### **2.03 Formwork Design**

- A. Design formwork to safely support vertical and lateral loads that may be applied until such loads can be supported by the concrete structure.
- B. Design formwork to carry loads to ground or to concrete that has attained adequate strength.
- C. Design formwork to include assumed values of live load, dead load, weight of equipment to be operated on formwork, concrete mix, height of concrete drop, vibrator frequency, ambient temperature, foundation pressures, stresses, lateral stability, and other factors pertinent to the safety of the structure during construction.
- D. Support form facing materials to prevent deflection.
- E. Provide camber as required for anticipated deflections due to weight and pressure of fresh concrete and construction loads.

### **2.04 Reinforcement**

- A. NA

**2.05 Reinforcement Accessories**

- A. NA

**2.06 Concrete Materials**

- A. Portland Cement: ASTM C150, Type 1.
- B. Aggregate: ASTM C33.
- C. Water: Clean and not detrimental to concrete.
- D. Flyash: ASTM C618, Class C.

**2.07 Concrete Admixtures**

- A. Air Entrainment: ASTM C260.
- B. Water Reducing: ASTM C494; Type A, Water Reducing.
- C. Retarding: ASTM C494. Type D, Water Reducing and Retarding.
- D. Accelerating: ASTM C494 Type C Accelerating (non-chloride); Type E, Water Reducing and Accelerating (non-chloride).
- E. Superplasticizer: A high-range water reducing admixture meeting requirements of ASTM C494, Type F; Master Builders Rheobuild 1000 or equal.
- F. Crystalline Waterproofing: A waterproofing agent meeting requirements of permeability according to COE CRD-C48.

**2.08 Accessories**

- A. Vapor Retarders: 6 mil thick clear polyethylene film, type recommended for below grade application.

**2.09 Concrete Mix Design**

- A. Mix and deliver concrete in accordance with ASTM C94.
- B. Select proportions in accordance with ACI 301.
- C. Provide concrete in accordance with the following requirements:
  - 1. Concrete Mixes

Concrete Mixes		
Class	Compressive Strength at 28 days, psi	Maximum Water-Cement Ratio, by Weight
Plain Concrete		
A	5,000	.48
B	4,000	.57
C	3,500	.62
Air-Entrained Concrete		
D	4,000	.48

- 2. Air Content: Total air content (entrained and entrapped) for air-entrained concrete shall be in accordance with the following table:



Air Content	
Nominal Max. Size Aggregate	Air Content
3/4"	6% ± 1
1"	6% ± 1
1 1/2"	5% ± 1

3. In any mix, up to 20 percent of the cement (on a pound per pound basis) may be replaced with flyash.
4. Superplasticizer: Superplasticizer may be used at the Contractor's option. See Drawings for any locations where superplastized concrete is required. Superplasticizer shall generally be added at the plant, but may be added at the jobsite.
5. Concrete Schedule: Unless otherwise indicated in the Contract Documents provide concrete in accordance with the following schedule.

Concrete Schedule	
Concrete Class	Location
Class A	Walls & floors where water tightness is required (i.e. tanks, wet wells)
Class B	Structural slabs Beams and columns
Class C	Footings Exterior walls
Class D	Exterior slabs Exterior precast topping Retaining walls Curb & gutter and sidewalk Other similar exterior concrete

D. Slump:

Location	Slump, Inches	
	Slump	Tolerance
Footings	5	± 1
Reinforced foundation walls, exterior walls	3	± 1
Exterior slab on grade	3	± 1
Precast topping	3	± 1
Pavements, sidewalk, curb and gutter	3	± 1
Retaining walls	3	± 1

Superplasticized Concrete Slump: 7 inches, not to exceed 10 inches. Do not use less than the manufacturer's recommended minimum dose. Adjust "water slump" (slump before superplasticizer addition) to be in line with Section D, above, and then utilize an appropriate superplasticizer dose to meet this final slump range.

## 2.10 Curing Materials

- A. Reinforced Paper: Two sheets of kraft paper cemented together with bituminous material reinforced with fiber meeting requirements of ASTM C171.
- B. Plastic Film: Polyethylene film with a minimum thickness of 0.004 inches meeting requirements of ASTM C171.
- C. Curing Compound: Liquid membrane curing compound meeting requirements of ASTM C309. For concrete floors specified to receive a combination curing, sealing, and dustproofing compound, provide Sonneborn Kure-N-Seal or equal. Compound shall be compatible with resilient flooring and carpet adhesives.

## 2.11 Concrete Sealers

A. NA

## PART 3 - EXECUTION

### 3.01 Form Construction

A. General

1. Construct forms to produce concrete sections of the size, shape lines and dimensions indicated and as required to obtain accurate alignment, location, grade, level and plumbness.
2. Provide for openings, offsets, keyways, moldings, riglets, chamfers, blocking, screeds bulkheads, anchorages, inserts and other required features.

B. Fabrication

1. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage concrete surfaces.
2. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only.
3. Kerf wood inserts for forming keyways, riglets, recesses, and similar items to prevent swelling and to ensure easy removal.
4. Provide temporary openings where interior area of formwork is inaccessible for cleanout and inspection and concrete placement. Brace temporary openings in as inconspicuous locations as possible.
5. Butt joints tight and provide back-up materials as necessary to prevent leakage of concrete paste.

C. Falsework

1. Support, brace and maintain falsework to safely support vertical, lateral, and asymmetrical loads until loads can be supported by in-place construction. Provide shores and struts with positive means of adjustment capable of taking up settlement during concrete placement using wedges or jacks.
2. Carefully inspect falsework and formwork during and after concrete placement for abnormal deflections or signs of failure. Make any necessary adjustments.

D. Forms for Exposed Concrete.

1. Drill wood forms to suit ties used and to prevent leakage around tie holes. Do not splinter forms by driving ties through improperly prepared holes.
2. Provide sharp, clean corners at intersecting planes without visible edges or offsets. Back joints with extra studs or girts to maintain true intersections.
3. Use extra studs, walers and bracing to prevent bowing of forms between studs. Do not use narrow strips of form material which allows bowing.

E. Corner Treatment: Unless otherwise indicated, form chamfers with 3/4 in. x 3/4 in. strips accurately formed and surfaced to produce uniformly straight lines and tight edge joints on exposed concrete. Extend terminal edges to required limit and miter chamfer strips at changes in direction.

F. Provisions for Other Trades

1. Provide openings in formwork to accommodate other trades. Verify size and location with trade requiring the opening. Provide openings in accordance with approved shop drawings.
2. Accurately and securely support items to be built into the forms. Other trades shall provide items to be installed and shall provide instructions and supervision as necessary.

G. Installation of Embedded Items

1. Set and build into the work, anchorage devices and other embedded items required for work by others that is attached to or supported by cast-in-place concrete. Use shop drawings, diagrams, templates and/or instructions provided by suppliers or other trades.
2. Thoroughly brace embedded items to prevent movement during concrete placement. Lace items whenever possible.

3. Ducts, conduits, pipes and their fittings shall be installed below slabs whenever possible. When it is necessary to embed them within a slab, they shall not be larger than 1/3 the thickness of the slab. Do not place adjacent ducts, conduits, or pipes closer than three times the O.D. of the smallest element.
  4. Do not cut or move reinforcement to accommodate embedded items without approval of Engineer.
- H. Edge Forms: Set edge forms or bulkheads and intermediate screwed strips for slabs to obtain required elevations and contours in the finished slab surface.
- I. Cleaning and Tightening:
1. Thoroughly clean forms and adjacent surfaces immediately prior to pouring concrete.
  2. Apply form release agent at the rate recommended by the manufacturer.
  3. Re-tighten forms immediately after concrete placement as required to eliminate mortar leaks.

### **3.02 Form Removal**

- A. Formwork not supporting concrete, such as beams, walls, columns and similar items, may be removed after curing at not less than 50 degrees F for 24 hours after placement, provided concrete is sufficiently hard to not be damaged by form removal. Protection and curing shall be maintained after form removal.
- B. Formwork supporting weight of concrete such as soffits, joists, slabs, and other structural elements may not be removed in less than 14 days and not until concrete has attained design minimum 28-day compressive strength.
- C. Form-facing material may be removed four days after placement, if shores and other vertical supports have been arranged to permit removal without loosening or disturbing shoring and supports.

### **3.03 Reuse of Forms**

- A. Clean and repair surface of forms to be used. Split, frayed, delaminated or otherwise damaged form-facing material shall not be reused.

### **3.04 Formwork Tolerances**

- A. Tolerances shall meet requirements of ACI 347.

### **3.05 Reinforcement Installation**

NA

### **3.06 Reinforcement Tolerances**

NA

### **3.07 Preparation for Concrete Placement**

- A. Check grades and placement of forms.
- B. Remove debris, water, excess form oil etc. from forms.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, and anchored securely.
- D. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.
- E. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert dowels and pack solid with non-shrink grout.

### 1.08 Delivery

- A. Deliver and discharge concrete within 90 minutes or before 300 drum revolutions, whichever comes first, after the addition of water to the cement.
- B. Do not add water to the mix after the initial introduction of water without the approval of the Engineer. If water is added at the jobsite, the concrete shall be mixed a minimum of 30 drum revolutions. Any water added shall not bring the total water in the mix to an amount above the specified water-cement ratio.
- C. The temperature of the concrete as delivered shall not exceed a temperature of 90°F.
- D. When the average of the highest and lowest temperature during the period from midnight to midnight is expected to drop below 40°F for more than three successive days, concrete shall be delivered to meet the following temperature immediately after placement:

Minimum Concrete Temperature	
Section Size	Min. Temperature
<12"	55°F
12"-36"	50°F
36"-72"	45°F
>72"	40°F

### 3.09 Placing Concrete

- A. Place concrete in accordance with ACI 318.
- B. Notify Engineer a minimum of 24 hours prior to concrete placement.
- C. Ensure reinforcement, inserts, embedded parts, formed expansion joints and contraction joints are not disturbed during concrete placement.
- D. Deposit concrete as close as practical to its final position. Do not drop concrete more than five feet vertically. Superplasticized concrete may be dropped a maximum of five feet vertically with maximum lift depth of five feet.
- E. Place concrete continuously per hole.
- F. Do not interrupt the placement.
- G. Thoroughly consolidate concrete by suitable means during placement. Thoroughly work concrete around reinforcement and embedded items and into corners of forms.

### 3.10 Joints

NA

### 3.11 Concrete Finishing

- A. Provide finishes in accordance with ACI 301, Section 5.

Type	Finish	Comments
1	Screed off	
2	Rough form finish	Patch tie holes and defects. Chip or rub off fins exceeding ¼ in. in height. Leave surfaces with the texture imparted by form.
3	Smooth form finish	Patch tie holes and defects. Remove all fins completely. Comply with rubbed finish.
4	Smooth rubbed finish	Remove forms as early as permitted and perform necessary patching. Produce finish no later than day following form removal. Wet surface and rub with

		carorundum brick or other abrasive until uniform color and texture are produced. Use no cement grout.
5	Floated finish	Place, consolidate, strike off, and level concrete. Float with hand float, bladed power float with flat shoes, or power disk float when bleed water sheen has disappeared and surface has stiffened sufficiently to allow floating.
Type	Finish	Comments
6	Troweled finish	Float surface, then hand or power trowel. Hand trowel surface smooth and free of trowel marks. Continue until ringing sound is produced as surface is troweled. Floors shall be laser screeded.
7	Broom finish	Immediately after surface has been floated, give the surface a course scored texture using a broom.

1. Finish Schedule: Unless otherwise indicated in the Contract Documents, finish concrete surfaces as follows:

Surface	Finish
Buried foundations, footings and footing walls	1 and 2
Buried walls	2
Exposed exterior walls and retaining walls	3
Exterior slabs, steps, ramps, and sidewalks	7
Concrete topping for precast decks	6

2. In areas with floor drains, maintain floor elevations at walls; pitch surfaces uniformly to drains at 1/4 inch per foot or as indicated on Drawings.

### 3.12 Curing and Protection

#### A. General:

1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
3. Cover concrete with polyethylene if rain is eminent.
4. Cure concrete in accordance with ACI 308.

#### B. Wet Fabric Method

1. Place wetted burlap on concrete surface when the concrete is still wet, but firm enough to support the burlap without marring the surface. Lay the burlap flat on the concrete surface, overlapping adjacent strips by a minimum of six inches. After forms are removed, cover edge with burlap.
2. Keep burlap wet for seven days. Add water as necessary by fine spray.

#### C. Plastic Film/Reinforced Paper Method

1. Place plastic film or reinforced paper on exposed concrete surfaces when the concrete is still wet, but firm enough to support the burlap without marring the surface. Place the material flat on the surface, without wrinkles. Weight material so that it remains in contact with the concrete. Place soil or wood strips on material edges.
2. Keep covered for seven days.

#### D. Liquid Membrane-Forming Curing Compound

1. Apply after finishing as soon as the free water on the surface has disappeared and no water sheen is visible, but not so late that the curing compound will be absorbed into the concrete.
2. Apply at a uniform rate of 150 to 200 sq. ft. per gallon. When feasible, apply in two applications at right angles to each other with the second coat being applied within 30 minutes of the first.
3. Coat edges within 30 minutes of form removal.
4. Use Type 2, white pigmented, for concrete exposed to sunlight and Type 1, clear for other

5. concrete.
  5. Do not use liquid membrane-curing compound on surfaces that are to receive additional concrete, paint, or tile that requires a positive bond, unless it has been demonstrated that the membrane can be satisfactorily removed or that it can serve as a satisfactory base.
- E. Curing/Sealing Material
1. Use for sidewalk and driveways.
  2. Cure and seal concrete with a uniform coating of membrane curing/sealing compound.
  3. Apply with sprayer in accordance with the manufacturer's printed instructions.
  4. Apply two coats at right angles to each other.
  5. Do not apply if the temperature of the concrete is less than 40°F.

### **3.13 Field Quality Control**

- A. Sampling and testing shall be the responsibility of the Contractor. See Section 01 45 16 Testing Requirements.
- B. Provide free access to Work and cooperate with testing personnel.
- C. Four concrete test cylinders will be taken for every 75 or less cubic yards of each class of concrete placed in one day. Test cylinders will be lab cured. One test cylinder will be broken at 7 days, two at 28 days and one will be held.
- D. Engineer may cast additional test cylinders for field curing cold or hot weather may affect curing.
- E. One slump test, one air test and the concrete temperature will be taken for each set of test cylinders taken.
- F. Sampling and testing will be performed in accordance with the following:
  2. Concrete samples: ASTM C172.
  3. Test cylinders: ASTM C31.
  4. Slump tests: ASTM C143.
  5. Air test: ASTM C231.
- G. In addition to providing test results to the Engineer, provide the test results to the concrete supplier.

### **3.14 Patching**

- A. Allow Engineer to inspect concrete surfaces immediately upon removal of forms.
- B. Honeycomb, embedded debris, and tie holes are not acceptable.
- C. Patch imperfections in accordance with ACI 301, Section 5.

### **3.15 Defective Concrete**

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the Engineer.

END OF SECTION

## **FURNISH AND INSTALL 6' & 12' HEIGHT CHAIN LINK FENCE, COMPLETE**

### **DESCRIPTION**

Work under this item shall include all labor, materials, equipment and incidentals necessary to install 6' fencing on 3 sides of the basketball court and 12' fencing around the tennis court as shown on the plans.

Included in the price per linear foot price will be all materials, labor, equipment and incidentals necessary to fabricate and install all fencing per Site Plan and Details. All fencing shall be constructed of schedule 40 pipe.

Contractor to note: Drive anchors, are an approved alternate to concrete footings.

### **METHOD OF MEASUREMENT**

Furnish and Install 6' & 12' Height Chain Link Fence, Complete shall be measured by the linear foot as listed on the proposal page.

## **FURNISH AND INSTALL 4' WIDTH CHAIN LINK GATE, COMPLETE**

### **DESCRIPTION**

Work under this item shall include all labor, materials, equipment and incidentals necessary to install 4' width gates at the courts according to Details and as shown on the plans.

Included in the price per each gate price will be all materials, labor, equipment and incidentals necessary to fabricate and install a total of four (4), 4' wide walk in gates including framework, chain link fabric, fasteners, hinges and gate latches. All gate framework shall be constructed of schedule 40 pipe.

All gates are to be installed per industry standards and/or these plans and details.

**Contractor to note: Drive anchors, are an approved alternate to concrete footings.**

### **METHOD OF MEASUREMENT**

Furnish and Install 4' Width Chain Link Gate, Complete shall be measured shall be measured per each as described above.

## **FURNISH AND INSTALL NET POSTS**

### **DESCRIPTION**

Work under this item shall include all labor, materials, equipment and incidentals necessary to fabricate or purchase a total of two (2) net posts according to Details and install the net posts on the tennis court as shown on the plans. Included in the price per post will be the hot mix patch installed after the net posts are installed.

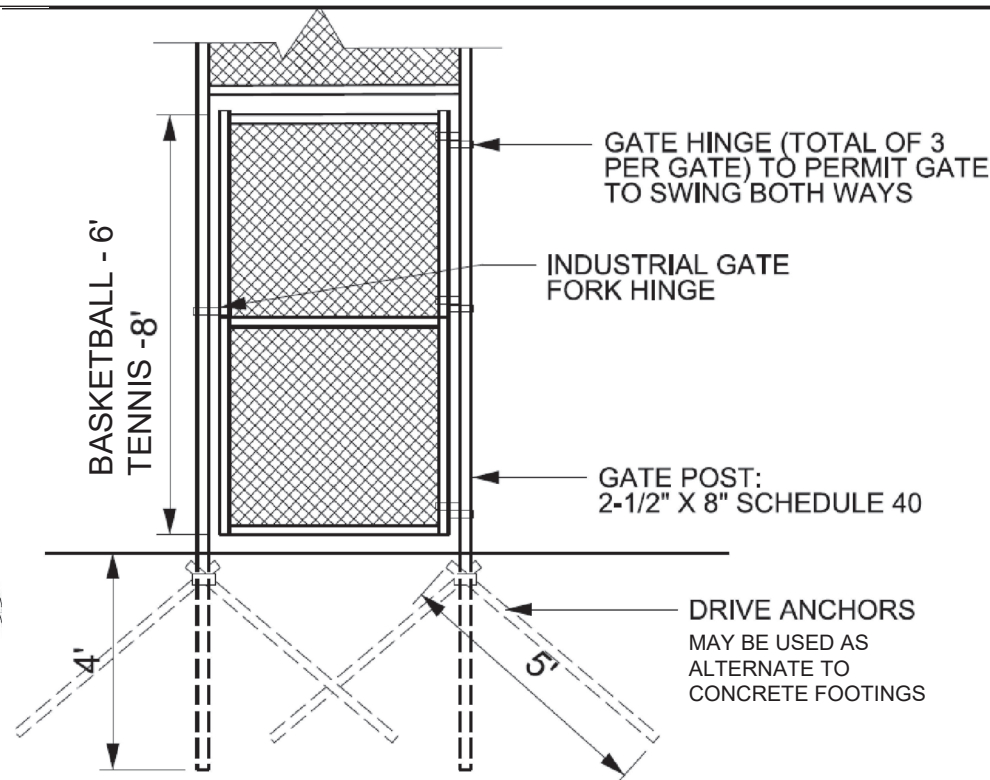
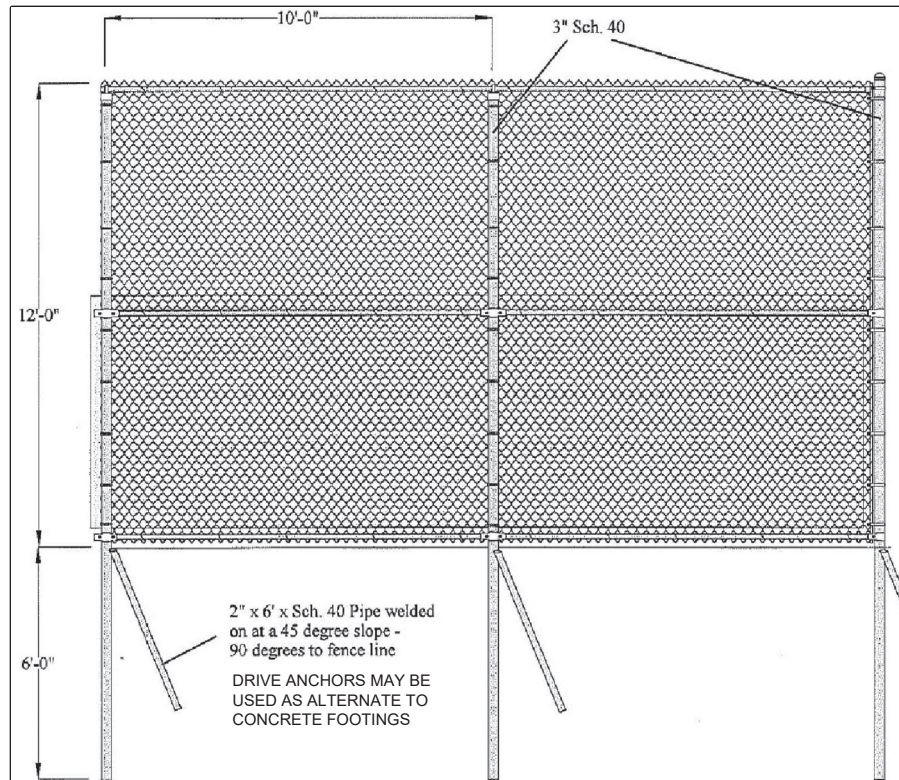
### **METHOD OF MEASUREMENT**

Method of measurement for the work described above will be per each including hot mix patch.

## **FURNISH AND INSTALL NET & NET TIE DOWNS**

### **DESCRIPTION**

Work under this item shall include all labor, materials, equipment and incidentals necessary to fabricate or purchase a total of one (1) net and one (1) net tie downs according to Detail and install the net tie downs on the tennis court as shown on the Site Plan. Included in the price per net tie down will be the purchase and installation of the tennis nets.



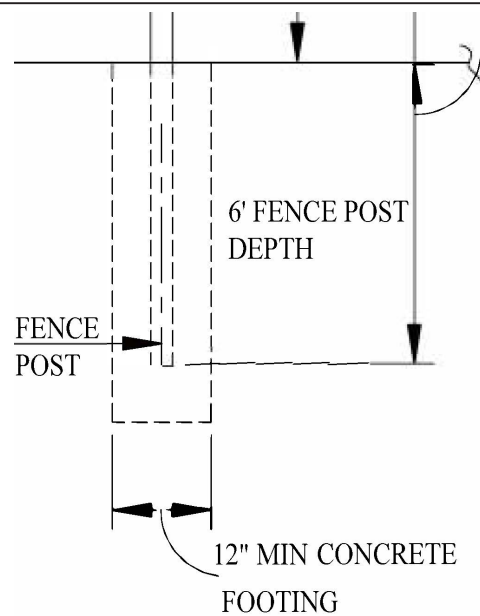
NOTES: BASKETBALL COURT FENCE IS 6' HIGH ON 3 SIDES, ALL OTHER FENCE IS 12' HIGH. FABRIC, FRAME WORK, AND FITTINGS FOR CHAIN LINK FENCE PER DETAILS SHOWN ON THIS SHEET AND IN SPECIFICATIONS SECTION. END/CORNER POSTS SHALL BE 3" O.D. SCHEDULE 40 PIPE,

GALVANIZED; LINE POSTS SHALL BE 3" O.D. SCHEDULE 40 PIPE, GALVANIZED; RAILS SHALL BE 1-5/8" O.D. SCHEDULE 40 PIPE, GALVANIZED; FABRIC SHALL BE 1-3/4", 11-GAUGE MESH ALUMINIZED; DRIVE ANCHORS IF USED SHALL BE 2" GALVANIZED SCHEDULE 40 PIPE.

FABRIC	Height 6' & 12'	Mesh 1 3/4"	Gage Selvage 11 KK	Finish ALUM	TYPE
FRAMEWORK:	O.D.	WALL	WT PER FT	LENGTH	Schedule 40
END/CORNER POST:	3"	.203	5.79	12' & 18'	Schedule 40
LINE POST:	3"	.203	5.79	12' & 18'	Schedule 40
RAILS:	1 5/8"	.140	2.27	10' TYP.	Schedule 40

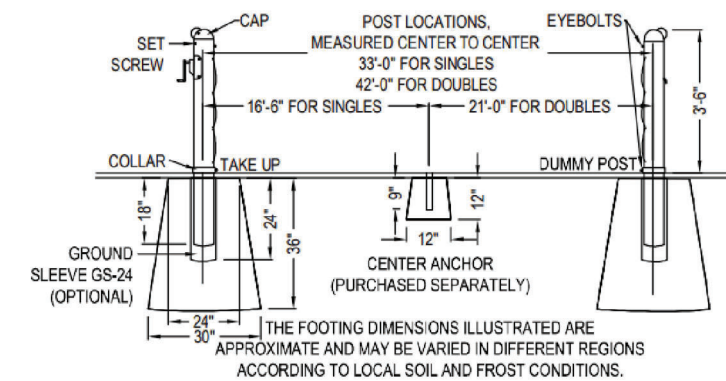
CHAIN LINK FENCE & GATES

SCALE: NTS



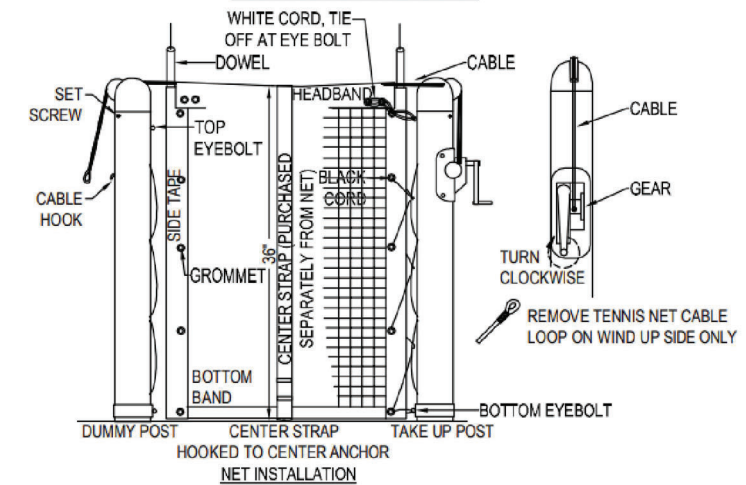
FENCE POST FOOTINGS

SCALE: NTS



THE FOOTING DIMENSIONS ILLUSTRATED ARE APPROXIMATE AND MAY BE VARIED IN DIFFERENT REGIONS ACCORDING TO LOCAL SOIL AND FROST CONDITIONS.

POST AND ANCHOR INSTALLATION



NET POST & CENTER TIE-DOWN

SCALE: NTS

GOODLAND TENNIS COURT RESTORATION

CONSTRUCTION DETAILS

Project No: RFB #322017  
Date: April 8, 2022  
Designed By: ADD

SHEET NO.

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