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**Legal Notice of Request for Bids
For Construction of Recreation Courts at 1454 Rome Corners Road**

Bids will be received by the Berkshire Township Board of Trustees, Delaware County, Ohio (hereinafter "Board") c/o Tyler Lane, Berkshire Township Administrator, upon request by email tlane@berkshiretwp.org or by phone 740-965-2992, beginning July 16, 2025 until August 13, 2025 at 2:59PM at the Berkshire Township Office, located at 1454 Rome Corners Road, Galena, Ohio 43021 for the construction of four (4) recreation courts (tennis, two (2) pickleball, and a basketball court) at 1454 Rome Corners Road, Galena, Ohio 43021. Bids received after this time and date shall not be considered and will be returned unopened.

At 3:00 p.m. on August 13, 2025, at the Berkshire Township Office, located at 1454 Rome Corners Road, Galena, Ohio 43021, bids will be publicly opened and read aloud. All bids shall be considered valid until sixty (60) days after the bid opening date although not accepted or rejected.

The Board seeks a single contractor to enter a contract for constructing four (4) recreation courts at 1454 Rome Corners Road, Galena, Ohio 43021.

A Request for Bids ("RFB") containing the terms and conditions of this contract, together with detailed technical specifications and bid documents, can be obtained upon request by email tlane@berkshiretwp.org or by phone 740-965-2992 until August 6, 2025, at the Berkshire Township Office, located at 1454 Rome Corners Road, Galena, Ohio 43021.

Bids must be submitted on the forms contained in the RFB, shall contain the full name of each person, party, or parties submitting the bid and all persons interested therein, and shall be enclosed in a sealed opaque envelope addressed and submitted to Tyler Lane, Berkshire Township Administrator, Berkshire Township Office, 1454 Rome Corners Road, Galena, Ohio 43021 and be marked: "Response to the RFB for Berkshire Township Recreation Courts."

The Board shall award the Contract to the bidder deemed to have submitted the lowest and best bid, as determined solely by the Board and/or its representative(s). The Board reserves the right to reject any and/or all bids, or any portion of any and/or all bids, to waive informalities or irregularities that do not affect the substance of the specifications and contents of the RFB and to award a contract in the manner deemed to be in the best interest of the Board and Berkshire Township, Delaware County, Ohio.

IMPORTANT NOTE

By submitting an RFB, Bidders will be presumed to be familiar with all the instructions, requirements, and specifications set forth in this RFB. Bidders are advised to read, understand, and become familiar with the instructions, requirements, and specifications set forth in this RFB.

Each bid, in accordance with R.C. § 153.54, et seq., must be accompanied by a Bid Bond in the amount of 100% of the total amount bid or a cashier's check, certified check, or irrevocable letter of credit equal to 10% of the bid price conditioned that the bidder, if the bidder's bid is accepted, shall execute a contract in conformity with the RFB. Bid security furnished in bond form shall be issued by a surety company or corporation licensed in the State of Ohio to provide said surety. All security shall be in favor of the Berkshire Township Board of Trustees, Delaware County, Ohio.

The successful bidder shall execute and deliver to the Board, within ten (10) days of the award, a Performance Bond in the amount of 100% of the bid price. The Bond shall provide for a 100% guarantee that the bidder provides services as to the specifications of the bid.

Estimated total project cost: \$550,000.

Advertising Dates: Wednesday, July 23, 2025 and Wednesday, July 30, 2025.

Section 1 – Definitions

1.1 Definitions

The following definitions apply to this RFB and related documents:

- A. "Bidder" means any person, company, partnership, or firm submitting a bid pursuant to this RFB. Bidder includes the Contractor.
- B. "Board" means the Berkshire Township Board of Trustees, Delaware County, Ohio.
- C. "Board's Offices" means the offices of the Board located at 1454 Rome Corners Road, Galena, Ohio 43021.
- D. "Contract" means any contract resulting from this RFB.
- E. "Contracted Parties" means the Contractor, any subcontractor, and any sub-subcontractor and includes, but is not limited to any of the Contractor's, any subcontractors, or any sub-subcontractor's officers, officials, boards, employees, agents, servants, volunteers, and/or representatives.
- F. "Contractor" means the successful bidder to construct four (4) recreation courts at 1454 Rome Corners Road, Galena, Ohio 43021 used in this RFB, "Contractor" also means the board, officers, officials, employees, agents, volunteers, and representatives of the Contractor.
- G. "Exception" means a Bidder's inability or unwillingness to meet a term, condition, specification, or requirement in the manner specified in the RFB.
- H. "Indemnified Parties" means the Township, the Board and all their respective officers, officials, employees, volunteers, agents, servants, and representatives.
- I. "Party" means the Board or Contractor individually.
- J. "Parties" means the Board and Contractor collectively.
- K. "Proper Invoice" means an invoice meeting all the following requirements:
 - Free from defects, discrepancies, errors, or other improprieties
 - As applicable, shall include, but is not limited to including, the following:
 - Contractor's name and address as designated in the Contract.
 - Contractor's federal employer identification number.
 - The purchase order number authorizing the purchase of services.
 - Equipment/Unit number.
 - Invoice number.
 - Description of service performed and/or equipment/unit provided.
 - Invoice total cost; and
 - All other information as otherwise specified and required by the Board.

- L. "RFB" means this request for bids package.
- M. "Services" means the construction of four recreation courts per the bid specifications.
- N. "Township" means Berkshire Township, Delaware County, Ohio.

Section 2 – Introduction

2.1 Purpose

The Board seeks a single Contractor to construct four (4) recreation courts (one (1) tennis, one (1) basketball, and two (2) pickleball courts) with associated site work, fencing, and sport-specific materials necessary to play each sport at 1454 Rome Corners Road, Galena, Ohio 43021 in accordance with the attached specifications under Appendix C.

2.2 Location of Township

Berkshire Township is located in the eastern side of Delaware County, Ohio surrounding the City of Sunbury, Ohio and the Village of Galena, Ohio.

Section 3 – Calendar of Events and Communications

3.1 Calendar of Events

ACTION	DATE
Dates of Advertisement	7/23/25 and 7/30/2025
RFB Issue	7/16/2025
Bids Due	8/13/2025
Bids Opened	8/13/2025
Intent to Award	8/18/2025
Contract to Be Executed (Approx.)	9/8/2025

3.2 Obtaining RFB

It is the Bidder's responsibility to obtain this RFB from the Board.

The RFB containing the terms and conditions of this Contract, together with detailed technical specifications and bid documents, may be obtained by appointment by contacting the Township Administrator, Tyler Lane. He can be reached at tlane@berkshiretwp.org or by phone 740-965-2992.

3.3 Form of Bid Submission

Bids shall be submitted in substantially the following form:

- One (1) complete signed original of the bid must be submitted.
- The bid shall be submitted in hard copy.
- The bid shall be submitted on forms contained in this RFB.
- The bid shall contain the full name of each person, party, or parties submitting the bid and all persons interested therein.
- The bid and all submitted documents shall be typewritten.
- Bids shall not contain any erasures or corrections. Bids containing erasures or corrections may be rejected unless the erasures or corrections are explained or noted over the signature of the Bidder.
- Any submittals of court equipment and fencing or samples will be included as part of the bid package.
- The bid shall be signed in ink by a person authorized to sign the bid on behalf of the person or principal submitting the bid. The signer shall be authorized to bind the Bidder.
- The bid shall be enclosed in sealed opaque envelope addressed to:

Tyler Lane
Berkshire Township Administrator
Berkshire Township Office
1454 Rome Corners Road
Galena, Ohio 43021

- envelope shall be marked: "Response to the RFB for Berkshire Township Recreation Courts."

3.4 Bid Submission

Bids shall be submitted as follows:

- Bids that are hand delivered will be received by appointment beginning July 28, 2025, at 9:00 a.m. until 2:59 p.m. local time on August 13, 2025. A Contractor shall follow the same procedures set forth in Section 3.2 for setting appointments to hand deliver Bids. Bids received after this time and date shall not be considered and will be returned unopened.
- Bids shall be either mailed or hand delivered to:

Tyler Lane
Berkshire Township Administrator
Berkshire Township Office
1454 Rome Corners Road
Galena, Ohio 43021

- Mailed bids must be received at or before 2:59 p.m. local time on August 13, 2025.
- Bidders are responsible for the timely submission of bids.

3.5 Bid Opening

Bids will be officially opened and read aloud at 3:00 p.m. on August 13, 2025, at the Berkshire Township Office located at 1454 Rome Corners Road, Galena, Ohio 43021.

All bids shall be considered valid until sixty (60) days after the bid opening date although not accepted or rejected.

NOTE: IT IS ABSOLUTELY ESSENTIAL THAT BIDDERS CAREFULLY REVIEW ALL ELEMENTS IN THEIR FINAL BIDS. ONCE OPENED, BIDS CANNOT BE ALTERED; HOWEVER, THE BOARD RESERVES THE RIGHT TO REQUEST INFORMATION OR RESPOND TO INQUIRIES FOR CLARIFICATION PURPOSES ONLY.

3.6 Communication Restrictions

With the exception of Section 3.2 and Section 3.4 above, from the time of release of this RFB until the time a contractor is selected, and a contract executed, Bidders shall not communicate with any Board member or Township, official, officer, employee, staff, representative, or agent concerning the RFB. Bidders that attempt any communications will be disqualified.

The Board, for purposes of clarification, reserves the right to contact any person, firm, company, or entity who has submitted a bid after all bids have been publicly opened and read aloud.

3.7 Modification / Amendment / Supplement to RFB

The Board may modify, amend, or supplement this RFB at any time during the bidding process.

Modification(s), amendment(s), and/or supplements to this RFB will only be by written addendum issued by the Board.

The Board will furnish modification(s), amendment(s), and/or supplement(s) to all prospective bidders who have requested and received a copy of this RFB. Should the Board issue a modification, amendment, and/or supplement, the submission deadline, at the discretion of the Board, may be extended, if appropriate, to accommodate changes in bid content.

3.8 Ownership of Submitted Materials

All documents and materials submitted to and accepted by the Board in response to this RFB shall become the property of the Board and will be retained by the Board in accordance with the Ohio Public Records Act and the Ohio Records Retention Act. All submitted documents and materials, including the contents of the bid, may be subject to release/disclosure pursuant to the Ohio Public Records Act (Ohio Revised Code § 149.43.)

3.9 Costs of Submission

Bidders are responsible for all costs associated with submitting a bid. The Board is not liable for any costs incurred by Bidders in replying to this RFB.

Section 4 – Specifications

4.1 Term of Contract

The Board is seeking multiple bids relative to this Contract. No alternate bid shall be requested nor considered. The term of this Contract is variable. The Township expects one or both of the following options to be presented by the Contractor:

1. The entire project completed by December 31, 2025.
2. The dirt work completed by December 31, 2025, and the installation of courts and related materials by April 1, 2025.

The term shall extend beyond this date if the project is not complete and by consent of the Parties as evidenced by mutual written agreement.

4.3 Requirements

The Contractor shall construct four (4) recreation courts in accordance with the specifications Attached as Appendix C. The Contractor shall perform the services in a professional and courteous manner.

4.4 Experience Requirements

Bidder shall not have failed to fulfill any contract with any other government or private entity or agency or falsified any documentation or bid security to any government or private entity or agency. Discovery of either of the above shall be sole and sufficient cause to reject a bid or, if the Contract has been executed, the Board may terminate the Contract. Under such circumstances, the Board reserves any and all rights and remedies as it may have to recover for damages at law or in equity.

The Bidder should have a record of consistent customer satisfaction and of consistent completion of projects, including projects that are comparable to or larger and more complex than the Board's Project, on time and in accordance with the applicable Contract Documents, and based upon the Bidder's claims history. If the Bidder's management operates or has operated another construction company, the Board may consider the work history of that company in determining whether the Bidder submitted the lowest and best bid. The Board will consider the Bidder's prior experience on other projects of similar scope and/or complexity including prior projects with the Board, including the Bidder's demonstrated ability to complete its work on these projects in accordance with the Contract Documents and on time, and will also consider its ability and capacity to perform a substantial portion of the project with its own forces and its ability to work with the Board as a willing, cooperative, and successful team member. Bringing overstated claims, an excessive number of claims, acting uncooperatively, and filing lawsuits against project owners and/or their design professionals on prior projects of similar scope and/or complexity will be deemed evidence of a Bidder's inability to work with the Board as a willing, cooperative, and successful team member. The Bidder authorizes the Board and its representatives to contact the owners and design professionals (and construction managers, if applicable) on projects on which the Bidder has worked and authorizes and requests such owners and design professionals (and construction managers) to provide the Board with a candid evaluation of the Bidder's performance.

The Bidder shall have a high degree of ethics and integrity. The Board reserves the right to

investigate any bidder to ensure its ethics and integrity.

4.5 Exceptions to Specifications

Unless otherwise specifically indicated as an Exception in the bid, each bid shall be deemed in all respects to comply with all terms, conditions, specifications, and/or requirements of this RFB.

Exceptions to any term, condition, specification, or requirement specified in the RFB shall be identified and fully explained in writing. Each Exception must specifically reference the relevant section(s) of this RFB. Any written identification and explanation of an Exception must accompany the bid. If the Bidder provides an alternative solution when taking an Exception, the benefits of this alternative solution and impact, if any, on any part or all of the Services must be described in detail.

In the absence of an Exception, the Bidder is required to furnish Services in accordance with the specifications of this RFB.

4.6 Compensation

The Contractor shall receive payment as follows:

- A. The Contractor shall provide a Proper Invoice (See Section 1.1(K) of this RFB.)
- B. Invoices shall be hand delivered to or addressed and mailed as follows:

Tyler Lane
Berkshire Township Administrator
Berkshire Township Office
1454Rome Corners Road
Galena, Ohio 43021

- C. Payment shall be made only after a Proper Invoice is received.
- D. The Board shall have thirty (30) days after receipt of a proper invoice from the Contractor to pay such invoice.
- E. The date of the warrant issued in payment shall be considered the date payment is made. The Contractor's payment shall not be initiated before a Proper Invoice is received by the Board.
- F. Payment shall be made to the Contractor, under the Contractor's federal employer identification number and only as provided for in this RFB.
- G. Payments shall be subject to Section 4.3.1 of this RFB.

4.7 Taxes, Discounts, and Credits

The Board is exempt from taxes. The Board shall, upon request, supply the Contractor with any required proof of such an exemption. Should the Board be subject to any taxes, the Contractor will include all applicable taxes in bid prices less all discounts and refunds.

4.8 W-9 Form

The Contractor shall complete and submit a proper W-9 Form.

Section 5 – Format and Bid Submission

In responding to this RFB, Bidders must comply with each of the format and submission requirements detailed in this section.

5.1 Number of Copies

One (1) complete signed original of the bid must be submitted.

5.2 Form of Bid Submission

Bids shall be submitted in substantially the following form:

- The bid shall be submitted in hard copy.
- The bid shall be submitted on forms contained in this RFB.
- The bid shall contain the full name of each person, party, or parties submitting the bid and all persons interested therein.
- The bid and all submitted documents shall be typewritten.
- Bids shall not contain any erasures or corrections. Bids containing erasures or corrections may be rejected unless the erasures or corrections are explained or noted over the signature of the Bidder.
- The bid shall be signed in ink by a person authorized to sign the bid on behalf of the person or principal submitting the bid. The signer shall be authorized to bind the Bidder.
- The bid shall be enclosed in sealed opaque envelope addressed to:

Tyler Lane
Berkshire Township Administrator
Berkshire Township Office
1454 Rome Corners Road
Galena, Ohio 43021

- The envelope shall be marked: "Response to the RFB for Berkshire Township Recreation Courts."

5.3 Bid Submission

Bids shall be submitted as follows:

- Bids will be received by appointment beginning July 28, 2025 until 2:59 p.m. local time on August 13, 2025. Bids received after this time and date shall not be considered and will be returned unopened.
- Bids shall be either mailed or hand delivered to:

Tyler Lane
Berkshire Township Administrator
Berkshire Township Office
1454Rome Corners Road
Galena, Ohio 43021

- Mailed bids must be received at or before 2:59 p.m. local time on August 13, 2025.
- Bidders are responsible for the timely submission of bids.

5.4 Bid Organization

Bids shall be organized in the following sections. The sequence of the sections shall be the same as the sequence of the sections in the list below.

A. Cover Letter

The cover letter shall meet the following requirements:

- Be in the form of a standard business letter.
- Contains a statement guaranteeing the validity of the bid for a period of no less than sixty (60) days after the bid's opening date.
- Contain a statement certifying bidder's compliance with the minimum contractor qualifications as provided in this RFB.
- Be signed by an individual authorized to legally bind the Bidder.
- Contain the name, address, telephone number, facsimile number, and email address of:
 - Contact person with authority to answer questions regarding the bid.
 - Contact person to be notified regarding legal/contractual issues.

B. Bid Form

The fully completed Bid Form as contained in this RFB. Included on the bid form or, if necessary, attached sheet shall be the following:

- Bidder contact information
- History of the Bidder
- As much detail as possible about the Bidder's capabilities
- As much detail as possible about the Bidder's experience relating to the specifications contained in this RFB.
- Two (2) non-Contractor owned or non-business partner customer references where the Bidder has provided similar Services.

C. RFB

A complete copy of RFB with all blanks completed shall accompany the bid.

D. Forms

The following forms attached to and/or required by this RFB shall accompany the bid:

- Affidavit of Authority to Sign on Behalf of the Principal
- Non-Discrimination Form
- Personal Property Tax Affidavit (No Tax Owed or Tax Owed)
- Non-Collusion Affidavit
- OPERS Independent Contractor Acknowledgement Form
- Bid Security
- Any other form required by this RFB

All forms shall be fully completed. All above referenced affidavits and forms are attached to this RFB and by this reference incorporated into this RFB and the Contract.

E. Required Documents

The following documents shall accompany the bid:

- Completed W-9
- Proof of Insurance/Certificates of Insurance (worker's compensation and insurance policies required by RFB)
- Any other documents required by this RFB

All the above referenced documents shall be furnished by the Bidder. By this reference, the above referenced documents are incorporated into this RFB and the Contract.

F. Additional Information

Any additional information or attachments pertinent to the Contractor's bid not included under one of the required sections listed above.

5.6 Failure to Submit Required Documents

The failure of a Bidder to submit any affidavits, forms, or other documents required by this RFB and/or if any such affidavits, forms, or other documents are not fully executed, may be grounds for rejection of the bid.

Section 6 – Evaluation of Bids and Award

6.1 Evaluation Team

A representative appointed by the Board will evaluate the bids and make a recommendation to the Board. The Board will be responsible for selecting the winning bid.

6.2 Evaluation

Evaluation of responses to this RFB will consist of the following three (3) phases:

Phase I: Verification of compliance by a Bidder to the minimum technical requirements of the RFB.

Phase II: Evaluate the contents and merits of the bids.

Phase III: Selection by the Board

The Board reserves the right to supplement or change the evaluation process or selection criteria.

6.2.1 Phase I – Evaluation of Minimum Technical Requirements

The first phase of the evaluation process consists of a review of all bids received to ensure that each bid meets the minimum technical requirements contained in this RFB, including, but not limited to, those identified below:

1. The Bidder must submit one (1) complete signed original of the bid by the bid submittal deadline.
2. The Bidder must sign the bid in accordance with this RFB.
3. The bid must include the documents, forms, and information as specified in this RFB and such documents, forms, and information must be completed.

Bids that have been determined not to have met one or more of the mandatory requirements will be excluded from any further consideration.

6.2.2 Phase II – Evaluation of Contents, Merits, and Requirements

The second phase of the evaluation process will only include those bids meeting the minimum technical requirements as provided in Section 6.2.1 above (i.e., passing Phase I of the evaluation process.) Such bids will be evaluated based on, including, but not limited to:

- The contents of the bid
- The merits of the bid
- The experience of the Bidder.
- Favorable References
- The ability of the Bidder to provide the Services.
- The ability of the Bidder to act timely in providing the Services.
- The cost of the Services.

Bidders submitting bids may be requested to make a presentation to the Board to explain the bid and to answer any questions. These discussions will be with the Bidders deemed fully qualified and best suited among those submitting bids based on the factors listed above.

Bids will be ranked according to the lowest and best.

6.2.3 Phase III - Selection by Board

The Board shall award the Contract to the bidder deemed to have submitted the lowest and best bid, as determined solely by the Board and/or its representative(s). The Board reserves the right to reject any and/or all bids, or any portion of any and/or all bids, to waive informalities or irregularities that do not affect the substance of the specifications and contents of the RFB and to award a contract in the manner deemed to be in the best interest of the Board and Berkshire Township, Delaware County, Ohio.

6.3 Award

The Contract will be awarded as follows:

- A. Except as otherwise provided in this RFB, ALL BIDS OPENED SHALL BE FINAL.
- B. The Board reserves the right to consider all elements entering into the question of determining the responsibility of the Bidder, his or her agents or representatives.
- C. Any bid which, in the judgment of the Board, is incomplete, conditional, obscure, or which contains irregularities that affect the substance of the specifications and contents of the RFB, may be rejected.
- D. The Board shall award the Contract to the bidder deemed to have submitted the lowest and best bid, as determined solely by the Board and/or its representative(s). The Board reserves the right to reject any and/or all bids, or any portion of any and/or all bids, to waive informalities or irregularities that do not affect the substance of the specifications and contents of the RFB and to award a contract in the manner deemed to be in the best interest of the Board and Berkshire Township, Delaware County, Ohio.
- E. The Contract shall be in writing.
- F. The Contract shall be in the form included in this RFB.
- G. Upon execution of the Contract, the Board shall return, in a timely manner, the bid security/bond of all unsuccessful bidders.

6.4 Mathematical Error

In the case of a bid being substantially lower than other bids as the result of a mathematical or clerical mistake by a bidder in preparing its bid, as opposed to a judgment mistake, the Board may, prior to award of a contract, reject such a bid upon presentation of a petition from the Bidder accompanied by a sworn affidavit of error setting forth the error, the cause thereof, and sufficient evidence to substantiate the same as a mathematical or clerical mistake and not a mistake of judgment. The petition must be made in writing and filed with the Board within two (2) business days after the bid opening.

Section 7 – Terms and Conditions

7.1 Contractor Acknowledgement

By submitting a bid, the Bidder makes the following acknowledgements:

- The Bidder acknowledges that the Bidder has fully and completely read and reviewed this RFB, that the Bidder fully and completely understands this RFB, and the Bidder agrees to be bound by all its terms, requirements, and conditions.
- The Bidder acknowledges and understands that the Contract is not valid until it has been approved by the Board and all other necessary and applicable persons, entities, or Parties.

7.2 Reservation of Rights

The Board reserves the following rights in relation to any submitted bid and/or the Contract:

- A. The right to disqualify any bid that takes exception to or limits the rights of the Board.
- B. To refuse any bid not properly submitted in accordance with the requirements of this RFB.
- C. To reject incomplete bid forms.
- D. To reject the selected bid and/or other bids at any time prior to execution of the Contract.
- E. The right to cancel this RFB at any time.
- F. To reduce the scope of services required herein and to negotiate the price to reflect such change after award of the Contract.
- G. Within its sole discretion and based on the bids received, to award a contract to the selected bidder, or to award no contract at all.
- H. The Board shall award the Contract to the bidder deemed to have submitted the lowest and best bid, as determined solely by the Board and/or its representative(s). The Board reserves the right to reject any and/or all bids, or any portion of any and/or all bids, to waive informalities or irregularities that do not affect the substance of the specifications and contents of the RFB and to award a contract in the manner deemed to be in the best interest of the Board and Berkshire Township, Delaware County, Ohio.

7.3 Independent Contractor

The Contractor shall act in performance of this Contract as an independent contractor. As an independent contractor, the Contractor and/or its officers, officials, boards, employees, representatives, agents, volunteers, and/or servants are not entitled to any of the benefits enjoyed by employees of the Board. The Contractor shall be responsible for payment of all employment-related taxes, employee benefits, and Worker's Compensation premiums. Additionally, pursuant to Section 145.038 of the Ohio Revised Code, if the selected Contractor is an entity with fewer than five (5) individual employees, the Board shall require the Contractor to acknowledge, in writing on a form provided by the Ohio Public Employees Retirement System ("OPERS"), that the Contractor has been informed that the Board does not consider the Contractor a public employee and that no contributions will be made to the OPERS for the services provided under this Contract (see form provided).

7.4 Indemnification

The Contractor shall provide indemnification as follows:

- A. To the fullest extent of the law and without limitation, the Contractor agrees to indemnify and hold free and harmless the Indemnified Parties from any and all actions, claims, suits, demands, judgments, damages, losses, costs, and expenses, including, but not limited to attorney's fees, arising out of or resulting from any accident, injury, bodily injury, sickness, disease, illness, death, or occurrence, regardless of type or nature, negligent or accidental, actual or threatened, intentional or unintentional, known or unknown, realized or unrealized, related in any manner, in whole or in part, to the Contracted Parties performance of this Contract or the Contracted Parties' actions or omissions, including any subcontractor's, or any sub-subcontractor's performance of this Contract, including, but not limited to the performance or actions of the Contractor's, any subcontractor's, or any sub-subcontractor's officers, officials, boards, employees, agents, servants, volunteers, or representatives. The Contractor agrees that in the event of or should any such actions, claims, suits, or demands be brought against the Indemnified Parties that the Contractor shall, at its own expense, promptly retain defense counsel to represent, defend, and protect the Indemnified Parties, paying all attorney's fees, costs, and expenses. The Contractor further agrees that in the event of or should any such actions, claims, suits, or demands be brought against the Indemnified Parties, that the Contractor shall pay, settle, compromise and procure the discharge of all judgments, damages, losses, costs, and expenses, including, but not limited to attorney's fees.
- B. The Contractor shall assume full responsibility for, pay for, and shall indemnify and hold free and harmless the Indemnified Parties from any harm, damage, destruction, injury, or loss, regardless of type or nature, known or unknown, realized or unrealized, to any property, real or personal, belonging to the Indemnified Parties or others, including but not limited to real estate, buildings, structures, fixtures, furnishings, equipment, vehicles, supplies, accessories and/or parts arising out of or resulting in whole or in part from any acts or omissions negligent or accidental, actual or threatened, intentional or unintentional of the Contracted Parties.
- C. To the fullest extent of the law and without limitation, the Contractor agrees to indemnify and hold free and harmless the Indemnified Parties from any and all actions, claims, suits, demands, judgments, damages, losses, costs, penalties, fines, and expenses, including, but not limited to attorney's fees, arising out of or resulting from any violation of

governmental laws, regulations, any spoilage, harm, damage, injury, or loss of or upon the environment, including, but not limited to land, water, or air, or any adverse effect on the environment, including, but not limited to land, water, or air, regardless of type or nature, negligent or accidental, actual or threatened, intentional or unintentional, known or unknown, realized or unrealized, related in any manner, in whole or in part, to the Contracted Parties performance of this Contract or the Contracted Parties' actions or omissions. The Contractor agrees that in the event of or should any such actions, claims, suits, or demands be brought against the Indemnified Parties that the Contractor shall, at its own expense, promptly retain defense counsel to represent, defend, and protect the Indemnified Parties, paying any and all attorney's fees, costs, and expenses. The Contractor further agrees that in the event of or should any such actions, claims, suits, or demands be brought against the Indemnified Parties, that the Contractor shall pay, settle, compromise and procure the discharge of any and all judgments, damages, losses, costs, penalties, fines, and expenses, including, but not limited to attorney's fees.

7.5 Insurance

The Contractor shall carry and maintain current throughout the life of the Contract such bodily injury and property damage liability insurance as will protect it and the Indemnified Parties against all claims for personal injury, including death, or property damage, which may arise out of or result from the performance of or operations under this Contract or from the use of any vehicle(s) in connection therewith, and shall include coverage for indemnification as described above.

Prior to commencement of this Contract, the Contractor shall present to the Board current certificates of insurance and shall maintain current such insurance during and throughout the entire term of this Contract. Said insurance shall, at a minimum, include the insurance specified below and the amount of coverage on said policies of insurance shall be at least that which is specified below:

- A. Worker's Compensation Insurance as required by Ohio law and any other state in which work will be performed.
- B. Commercial General Liability Insurance with coverage in an amount equal to and covering all sums which the Contractor may or shall become legally obligated to pay as damages, but in an amount providing for a minimum of or at least one million dollars (\$1,000,000.00) coverage per occurrence with an annual aggregate of at least two million dollars (\$2,000,000.00), including coverage for subcontractors, if any are used, covering all work performed under this Contract.
- C. Umbrella or Excess Liability Insurance (over and above Commercial General Liability) with coverage in an amount equal to and covering all sums which the Contractor may or shall become legally obligated to pay as damages, but in an amount providing for a minimum of at least two million dollars (\$2,000,000.00) of coverage.
- D. Auto/Vehicle Liability Insurance covering all owned, non-owned and hired vehicles used in connection with the work required under this Contract and/or used in providing services or otherwise for the Board, with coverage in an amount equal to that required by law and covering all sums which the Contractor may or shall become legally obligated to pay as damages, but in an amount providing for minimum coverage of at least three hundred thousand dollars (\$300,000.00)

(Combined Single Limit) or, one hundred thousand dollars (\$100,000.00) per person and three hundred thousand dollars (\$300,000.00) per accident for bodily injury and one hundred thousand dollars (\$100,000.00) per accident for property damage or more as may be required for particular vehicles or particular uses of vehicles as required by applicable law.

The Board must be named as "Additional Insured" on the policies listed in paragraphs B, C, and D above.

The insurance company needs to be identified for each insurance policy and coverage. The certificates of insurance are to be signed by a person authorized by the insurance company to bind coverage on its behalf.

All insurance shall be written by insurance companies licensed to do business in the State of Ohio.

The Contractor's insurance coverage shall be primary insurance as respects the Indemnified Parties and any insurance maintained by the Indemnified Parties shall be excess to the Contractor's insurance and shall not contribute to it.

The insurer shall provide thirty (30) days' written notice to the Board before any cancellation or non-renewal of insurance coverage. Failure to provide such written notice will oblige the insurer to provide coverage as if cancellation or non-renewal did not take place.

If there is any change in insurance carrier or liability amounts, a new certificate of insurance must be provided to the Board within seven (7) calendar days of change.

During the life of the Contract, the Board may require the Contractor to provide respective and/or additional certificate(s) of insurance in order to verify coverage. Failure to provide a requested certificate of insurance within seven (7) calendar days of the request may be considered as default.

Failure to maintain the required insurance coverage at any time during the term of the Contract shall be deemed a material breach of the Contract. Such failure shall render the Contract void in its entirety and the Contractor shall not be entitled to any payment pursuant to the Contract or otherwise.

In addition to the rights and protections provided by the insurance policies as required above, the Board shall retain all such other and further rights and remedies as are available at law or in equity.

7.6 Bid Security/Bond

Each bid shall be accompanied by bid security in accordance with Sections 153.54, et seq., of the Ohio Revised Code in the form of either:

- A. A bond in favor of the Board. Said bond shall be in accordance with Ohio Revised Code Sections 153.54, et seq. and be in the full amount of the bid. The bond shall be substantially in the form provided in Ohio Revised Code Section 153.571 (See form provided or a standard bond form in accordance with Ohio Revised Code Section 153.571 from any surety company or corporation authorized to do business within the State of Ohio

is acceptable.) The bond shall be made payable to the Berkshire Township Board of Trustees, Delaware County, Ohio, referencing this RFB. Bid security furnished in bond form shall be issued by a surety company or corporation licensed in the State of Ohio to provide said surety; or,

- B. A certified check, cashier's check, or money order. Said certified check, cashier's check, or money order shall be in accordance with Ohio Revised Code Sections 153.54, et seq. and be in the amount of ten per cent (10%) of the bid. The certified check, cashier's check, or money order shall be drawn on a solvent bank or savings and loan association. Such certified check, cashier's check, or money order shall be in favor of or made payable to the Berkshire Township Board of Trustees, Delaware County, Ohio. If the Bidder chooses to submit this type of bid guaranty, it shall be a condition of the bid guaranty to provide a performance bond that complies with the requirements and form of Ohio Revised Code Section 153.57 if the Bidder is ultimately awarded the contract by the Board.

The bid security, regardless of form, shall be conditioned that the Bidder, if the Bidder's bid is accepted, shall execute a proper contract in conformity to the invitation and the bid.

The bid security/bond shall conform to the requirements of Ohio Revised Code Section 153.54, et seq.

If the Bidder fails to enter into the Contract within ten (10) days after awarding the bid, the bid security shall be subject to forfeiture as provided in Ohio Revised Code Section 153.54, et seq. Should the Bidder appropriately and timely enter the Contract, the bid security will be returned. The bid security of all unsuccessful bidders will be returned upon execution of the Contract.

If the bid security is in the form of a bond, the surety company providing the bond shall have a minimum policyholder's rating of A- and a minimum financial rating of VI and in all other respects be acceptable to the Board.

Attorneys-in-fact who sign the bond must file a certified and effectively dated copy of their power of attorney evidencing their authority to sign and bind the surety company, together with a copy of the Certificate of Authority issued by the Ohio Department of Insurance authorizing the surety company to engage in such business in the State of Ohio.

7.7 [This Section is left intentionally blank.]

7.8 Damages in the Event of Default

The Board declares and the Contractor acknowledges that the Board may suffer damages due to the failure of the Contractor to act in accordance with the requirements, terms, specifications, and conditions of the Contract. The Board declares and the Contractor agrees that such failure shall constitute an event of default on the part of the Contractor and the Contractor agrees to pay damages to the Board to compensate the Board for any damages it incurs as a result of the default. The Contractor agrees that if the Board does not give prompt notice of such a failure, that the Board has not waived any of its rights or remedies concerning the failure by the Contractor.

In the event of default by the Contractor, the Board may procure the Services from other sources and hold the Contractor responsible for any excess costs occasioned thereby.

7.9 Termination

A. Termination for Convenience

Within its sole discretion, the Board may terminate this Contract at any time and for any reason by giving at least seven (7) days' advance notice, in writing, to the Contractor. The Contractor shall be entitled to receive compensation for any Services satisfactorily performed hereunder through the date specified on the notice as the effective date for such termination.

B. Breach or Default:

Upon breach or default of any of the provisions, obligations, or duties embodied in this Contract, the aggrieved Party shall provide written notice of the breach or default to the breaching or defaulting Party and permit the breaching or defaulting Party to remedy the breach or default within a specified reasonable period. If the breach or default is not satisfactorily remedied within the specified time period, this Contract may, at the election of the aggrieved Party, be immediately terminated. The Parties may, without limitation, exercise any available administrative, contractual, equitable, or legal remedies. In the event of such a breach or default, the Contractor shall be entitled to receive compensation for any Services satisfactorily performed hereunder through the date of termination.

C. Effect of Waiver of any Occurrence of Breach or Default:

The waiver of any occurrence of breach or default is not and should not be interpreted as a waiver of any such subsequent occurrence. The Parties, without limitation, retain the right to exercise all available administrative, contractual, equitable, or legal remedies. If either Party fails to perform an obligation or obligations under this Contract and such failure(s) is (are) waived by the other Party, such waiver shall be limited to the failure(s) so waived and shall not be deemed to waive other failure(s). The waiver by the Board shall be authorized in writing and signed by a quorum of the Board.

7.10 Subcontracting

The Contractor may sub-contract any portion of this Contract with prior written approval from the Board. If Services are subcontracted, the Contractor shall continue to act as the prime contractor for all subcontracted Services and shall assume full responsibility for the performance of the Services. The Contractor will remain the sole point of contact and shall be ultimately responsible for the performance of the Services.

7.11 Assignment

The Contractor shall not assign, transfer, convey, or otherwise dispose of the Contract or its right to execute it or its right, title, or interest to it or any part thereof, or assign any of the moneys due or to become due under the Contract, without the prior written consent of the Board.

7.12 Inspection and Maintenance of Records and Work Papers/Audit

At any time during regular business hours, with reasonable notice and as often as the Board or their representatives may deem necessary, the Contractor shall make available to any or all the above-named parties or their authorized representatives, all subcontracts, invoices, receipts, payrolls, personnel records, reports, documents and all other information or data relating to all

matters covered by this Contract. The Board or its representatives shall be permitted by the Contractor to inspect, audit, make excerpts, photo static copies, and/or transcripts of any and all documents relating to all matters covered by this Contract.

The Contractor, for a minimum of three (3) years after reimbursement/compensation for services rendered under this Contract, agrees to retain and maintain, and assure that all its subcontractors retain and maintain, all records, documents, writings and/or other information related to performance of this Contract. If an audit, litigation, or other action is initiated during the time period of this Contract, the Contractor shall retain and maintain, and assure that all its subcontractors retain and maintain, such records until the action is concluded and all issues are resolved or the three (3) years have expired, whichever is later.

7.13 Notices

All notices which may be required by this Contract or by operation of any rule of law shall be hand delivered, sent via certified United States Mail, return receipt requested, sent via a nationally recognized and reputable overnight courier, return receipt requested, or via facsimile, to the following individuals at the following addresses and shall be effective on the date received:

Contractor:

Fax: _____

Board:

Tyler Lane
Berkshire Township Administrator
Berkshire Township Office
1454 Rome Corners Road
Galena, Ohio 43021

7.14 Equal Employment Opportunity

In fulfilling the obligations and duties of the Contract, the Contractor shall comply with all federal, state, and/or local non-discrimination laws.

The Contractor shall not discriminate against any employee or applicant for employment based on race, religion, national origin, color, creed, gender, sexual orientation, age, Vietnam-era Veteran status, or disability, as defined in the Americans with Disabilities Act. The Contractor shall ensure that applicants are hired and that employees are treated during employment without regard to any of the above listed factors. Such action shall include, but not be limited to the

following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship.

The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices stating that the Contractor complies with all applicable federal, state, and local non-discrimination laws. The Contractor shall incorporate the foregoing requirements of this section in all of its contracts for any of the work prescribed herein and shall require all of its subcontractors for any part of such work to incorporate such requirements in all subcontracts for such work.

7.15 Drug Free Environment

The Contractor agrees to comply with all applicable state and federal laws regarding a drug-free environment and shall have established and have in place a drug-free environment policy. The Contractor shall make a good faith effort to ensure that all its employees will not purchase, use, or possess illegal drugs or alcohol or abuse prescription drugs in any way.

7.16 Findings for Recovery

The Contractor certifies that it has no outstanding findings for recovery pending or issued against it by the State of Ohio.

7.17 Non-Collusion

The Bidder/Contractor certifies as follows:

- This Bid/Contract is not entered or made in the interest of or on behalf of an undisclosed person, partnership, company, association, organization, or corporation.
- This Bid/Contract is genuine and not collusive or a sham.
- The Bidder/Contractor has not directly or indirectly induced or solicited any other Bidder to put in a false or sham Bid.
- The Bidder/Contractor has not directly or indirectly colluded, conspired, connived or agreed with any Bidder or anyone else to put in a sham Bid or that anyone shall refrain from Bidding.
- The Bidder/Contractor has not directly or indirectly colluded, conspired, connived or agreed with any other person or entity concerning or regarding this Contract.
- The Bidder/Contractor has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the price of this Contract, to fix any overhead, profit or cost element of this Contract, or to secure any advantage against the Board or anyone interested in this Contract.
- The Bidder/Contractor has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the Bid price of said Bidder or any other Bidder, or to fix any overhead, profit or cost element of such Bid price or that of any other Bidder, or to secure any advantage against the Board or anyone interested in the proposed contract.
- This Bid/Contract is not a product of collusion with any other vendor, person, or entity, and no effect has been made to fix any overhead, profit or cost element of any proposed price.
- The Bidder/Contractor is unaware of and there is no conflict of interest, involving either it or its employees, which would prohibit the Bidder/Contractor from entering this Contract.

- The Bidder has not, directly or indirectly, submitted its Bid price or any break-down thereof, or the contents thereof, or divulged any information or data relative thereto, or paid and will not pay any fee in connection therewith, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any other individual except to such person or persons as have a partnership or other financial interest with the Bidder in its general business.
- All statements contained in the Bid are true.
- All statements contained in the Contract are true.

7.18 Conflict of Interest

The Contractor agrees that no agent, officer, or employee of the Board during his/her tenure or for one (1) year thereafter shall have any interest, direct or indirect, in this Contract or the proceeds thereof.

The Contractor agrees that it will not employ in any manner a current Board officer or employee for a minimum period of one (1) year from the expiration or termination of this Contract, without the prior express written consent of the Board.

No personnel of the Contractor may voluntarily acquire any personal interest that conflicts with their responsibilities under the Contract.

The Contractor will not knowingly permit any public official or public employee who has any responsibilities related to the Contract to acquire an interest in anything or any entity under the Contractor's control if such an interest would conflict with that official's or employee's duties. The Contractor will disclose to the Board knowledge of any such person who acquires an incompatible or conflicting personal interest related to the Contract. The Contractor will take all legal steps to ensure that such a person does not participate in any action affecting the work under the Contract, unless the Board has determined that, in the light of the personal interest disclosed, that person's participation in any such action would not be contrary to the public interest.

7.19 Conflicts of Terms, Conditions, or Provisions

To the extent that the terms, conditions, or provisions of this RFB/Contract and any bid submitted by the Contractor may be inconsistent, the terms, conditions, or provisions of this RFB/Contract control.

7.20 Headings

Headings in this RFB/Contract are for convenience only and shall not affect the interpretation of any of the terms and conditions contained in this RFB/Contract.

7.21 Severability

If any provision of this RFB/Contract or the application of any such provision shall be held by a court of competent jurisdiction to be contrary to law or invalid, the remaining provisions of this RFB/Contract shall remain in full force and effect.

7.22 Incorporation of RFB into Contract

The legal notice, this RFB and all its appendixes and attachments, any addenda, modification, or supplement to the RFB, and the Contractor's bid are by this reference incorporated into the Contract.

7.23 Incorporation of Appendixes

All appendixes, forms, and other documents as completed by the Contractor and contained in and/or referenced in this RFB are hereby incorporated into this RFB and the Contract.

7.24 Force Majeure

The Parties shall be temporarily excused from performance and shall not be entitled to impose any penalty as a result of any delay in performance caused by reason of war, insurrection, strike, automobile fuel shortage, weather, explosion, act of God, order of Court or other public authority, interruption of payments due under this Contract, or any other cause beyond the reasonable control of the Parties. Such excusal from performance shall continue until such *force majeure* ceases to exist or the Contract is terminated as provided herein.

7.25 Governing Law

This Contract shall be governed by and interpreted in accordance with the laws of the State of Ohio. All legal disputes arising from this Contract shall be filed in and heard before the courts of Delaware County, Ohio.

7.26 Authority to Sign

Any person submitting a bid pursuant to this RFB and executing the Contract in a representative capacity hereby warrants that he/she has authority to submit a bid and sign this Contract or has been duly authorized by his/her principal to submit a bid and execute this Contract on such principal's behalf.

7.27 Entire Agreement

The legal notice, this RFB and all its appendixes and attachments, any addenda, modification, or supplements to the RFB, and the Contractor's bid shall constitute the entire understanding and agreement between the Board and the Contractor, shall supersede all prior understandings and agreements relating to the subject matter hereof, and may only be amended in writing with the mutual consent and agreement of the parties.

Appendix A

BID FORM

BID FORM
Construction of four recreation courts at 1454 Rome Corners Road, Galena,
Ohio 43021

Instructions:

1. Complete ALL blanks.
2. Bidder should submit one (1) single bid for a contract with a term of less than one (1) year.
3. Submit bid in compliance with RFB requirements and specifications.

Reservations of Rights:

The Board reserves the following rights:

- The right to disqualify any bid that takes Exception to or limits the rights of the Board.
- To refuse any bid not properly submitted in accordance with the requirements of this RFB.
- To reject incomplete bid forms.
- To reject the selected bid and/or other bids at any time prior to execution of the Contract.
- The right to cancel this RFB at any time.
- To reduce the scope of services required herein and to negotiate the price to reflect such change after award of the Contract.
- Within its sole discretion and based on the bids received, to award a contract to the selected bidder, or to award no contract at all.

Award:

The Board shall award the Contract to the bidder deemed to have submitted the lowest and best bid, as determined solely by the Board and/or its representative(s). The Board reserves the right to reject any and/or all bids, or any portion of any and/or all bids, to waive informalities or irregularities that do not affect the substance of the specifications and contents of the RFB and to award a contract in the manner deemed to be in the best interest of the Board and Berkshire Township, Delaware County, Ohio.

A. Bidder Contact Information:

1. Name of Bidder/Company:

2. Bidder/Company Address:

3. Name of Contact for Bidder/Company:

4. Bidder/Company Telephone Number (Including Area Code):

5. Bidder/Company Facsimile Number (Including Area Code):

6. Bidder/Company Email:

B. Bid:

The bid amount shall be the total price.

BID:

The bid amount shall be the total price for the construction of four recreation courts per the specified requirements.

Bid Amount

\$

C. History of Bidder:

D. Bidder Capabilities:

E. Bidder Experience: List three Athletic Court Projects

F. References: (Please provide name, address, telephone number, and any other relevant contact information):

1.

2.

G. Exceptions to Specifications: _____ Yes _____ No

If Yes, please attach a separate sheet with an explanation of Exceptions:

_____ Yes _____ No

Any or all of the above work may be non-performed at the discretion of the Board. Notification of any item to be non-performed shall be made to the Contractor before commencement of work.

This bid shall be valid until sixty (60) days after the bid opening date although not accepted or rejected. No Bidder shall withdraw his/her bid until at least sixty (60) days after the bid opening date.

The Bidder certifies that he/she has read, understands, and, if his/her bid is accepted, agrees to be bound by ALL the Contract Documents including, but not limited to, the legal notice, the RFB and appendixes, the bid, and the Contract.

The below signed Bidder does hereby agree to do the above work in accordance with the contents of the RFB and at the prices herein indicated.

Signature

Date

Printed Name

Title/Position

Company Name

Appendix B

FORMS

- AFFIDAVIT OF AUTHORITY TO SIGN ON BEHALF OF PRINCIPAL
- NON-DISCRIMINATION FORM
- PERSONAL PROPERTY TAX AFFIDAVIT – NO TAX OWED
- PERSONAL PROPERTY TAX AFFIDAVIT – TAX OWED
- NON-COLLUSION AFFIDAVIT
- OPERS INDEPENDENT CONTRACTOR ACKNOWLEDGEMENT FORM
- BID BOND/GUARANTY
- CONTRACT
- FISCAL OFFICER'S CERTIFICATION

AFFIDAVIT OF AUTHORITY TO SIGN ON BEHALF OF PRINCIPAL

(To be filled in and executed if the Contractor is a corporation)

State of _____)

County of _____) ss.:

_____, being duly sworn, deposes and says that he/she is

Secretary of _____

a corporation organized and existing under and by virtue of the laws of the State of

_____, and having its principal offices at: _____

(street), _____ (city), _____

(county), _____ (state).

Affiant further says that _____ (name

of officer), _____ (title) of the

corporation is duly authorized to sign the contract for _____

_____ for said corporation

by virtue of _____ (state whether a

provision of by-laws, or a resolution of Board of Directors)

If by resolution, give date of adoption: _____, 20__.

Signature

Sworn to before me and subscribed in my presence this _____ day of _____, 20__.

Notary Public

My commission expires: _____

NON-DISCRIMINATION FORM

In the performance of all contracts with the Berkshire Township Board of Trustees, the Contractor will be bound by the following non-discrimination in employment clauses:

1. The Contractor agrees to comply with all federal, state, and/or local non-discrimination laws.
2. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, religion, gender, age, sexual orientation, or national origin or physical or mental handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, religion, gender, age, sexual orientation, national origin or physical or mental handicap. Such actions shall include, but not be limited, to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rate of pay or other forms of compensation; and selection or training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this non-discrimination clause.
3. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, creed, religion, gender, age, sexual orientation, national origin, or physical or mental handicap.
4. The Contractor further agrees that he/she will incorporate or cause to be incorporated into any subcontract, the regulations on Equal Employment Opportunity during the performance of this Contract.

_____, 20____
Date

Contractor

By: _____

Title: _____

PERSONAL PROPERTY TAX AFFIDAVIT

(No Delinquent Tax Owed)

STATE OF _____)
)
COUNTY OF _____) SS:

The undersigned hereby affirms and certifies that they are not charged with delinquent personal property taxes on the general tax list of personal property of Delaware County, Ohio, nor were they charged with delinquent personal property taxes on the general tax list of personal property of Delaware County at the time this bid was made.

Contractor

By: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____, 20__.

Notary Public

My commission expires _____

In accordance with Section 5719.042 ORC, a copy of this statement shall be incorporated into the Contract, and no payment shall be made with respect to any contract to which this section applies, unless such statement has been so incorporated as a part thereof.

PERSONAL PROPERTY TAX AFFIDAVIT

(Delinquent Tax Owed)

STATE OF _____)
)
COUNTY OF _____) SS:

The undersigned hereby affirms and certifies that they are charged with delinquent personal property taxes on the general tax list of personal property of Delaware County, Ohio.

The amount owed is 1000000. Unpaid interest and penalties are in the amount of 1000000.

Contractor

By: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____, 20__.

Notary Public

My commission expires _____

In accordance with Section 5719.042 ORC, a copy of this statement shall be incorporated into the Contract, and no payment shall be made with respect to any contract to which this section applies, unless such statement has been so incorporated as a part thereof.

NON-COLLUSION AFFIDAVIT

State of _____)
County of _____) SS:

Bid Identification: Construction of two baseball dugouts at Berkshire Township Park.

Contractor: _____

The undersigned, being first duly sworn, deposes and says that he is _____ of the above named Contractor making the foregoing Bid; that such Bid is not made in the interest of or on behalf of an undisclosed person, partnership, company, association, organization, or corporation; that such Bid is genuine and not collusive or sham; that said Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham Bid, and has not directly or indirectly colluded, conspired, connived or agreed with any Bidder or anyone else to put in a sham Bid, or that anyone shall refrain from Bidding; That said Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix Bid price of said Bidder or any other Bidder, or to fix any overhead, profit or cost element of such Bid price, or that of any other Bidder, or to secure any advantage against the Owner awarding the Contract or anyone interested in the proposed contract; that all statements contained in such Bid are true; and further, that said Bidder has not, directly or indirectly, submitted its Bid price or any break-down thereof, or the contents thereof, or divulged any information or data relative thereto, or paid and will not pay any fee in connection therewith, to any corporation, partnership, company, association, organization, Bid depository, or to any member or agent thereof, or to any other individual except to such person or persons as have a partnership or other financial interest with said Bidder in its general business.

Executed this _____ day of _____, 20__.

Sworn to and subscribed in my presence this _____ day of _____, 20__.

Notary Public
My commission expires: _____

BID BOND/GUARANTY
(Section 153.571 Ohio Revised Code)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned

_____ as principal and
_____ as sureties, are
hereby held and firmly bound unto the Berkshire Township Board of Trustees, Delaware County, Ohio as obligee in the penal sum of the dollar amount of the bid submitted by the principal to the obligee to undertake the project known as construction of two dugouts at Berkshire Township Park. The penal sum referred to herein shall be the dollar amount of the principal's bid to the obligee, incorporating any additive or deductive alternate bids made by the principal on the date referred to above to the obligee, which are accepted by the obligee. In no case shall the penal sum exceed the amount of _____ dollars. (If the foregoing blank is not filled in, the penal sum will be the full amount of the principal's bid, including alternates. Alternatively, if the blank is filled in, the amount stated must not be less than the full amount of the bid including alternates, in dollars and cents. A percentage is not acceptable.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

Signed this _____ day of _____, 20 _____. THE
CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above-named principal has submitted a bid to build baseball diamond dugouts at Berkshire Township Park.

Now, therefore, if the obligee accepts the bid of the principal and the principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the principal pays to the obligee the difference not to exceed ten per cent of the penalty hereof between the amount specified in the bid and such larger amount for which the obligee may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the obligee does not award the contract to the next lowest bidder and resubmits the project for bidding, the principal pays to the obligee the difference not to exceed ten per cent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising, and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect; if the obligee accepts the bid of the principal and the principal within ten days after the awarding of the contract enters into a proper contract in accordance with the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as though set forth herein;

Now also, if the said _____ shall well and faithfully do and perform the things agreed by _____ to be done and performed according to the terms of said contract; and shall pay all lawful claims of subcontractors, materials suppliers, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any materials supplier or laborer having a just claim, as well as for the obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety

for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of the said contract or in or to the plans or specifications therefor shall in any wise affect the obligations of said surety on its bond.

NOTE: IF CONTRACTOR is partnership, all partners should execute BOND.

SIGNED AND SEALED This _____ day of _____, 20__.

Principal

Surety

By: _____

By: _____
Attorney-in-Fact

Title: _____

SURETY COMPANY ADDRESS:

SURETY AGENT'S ADDRESS:

Street

Agency Name

City State Zip

Street

City State Zip

PERFORMANCE BOND
(Section 153.57 Ohio Revised Code)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned _____ as principal and _____ as sureties, are hereby held and firmly bound unto _____ in the penal sum of _____ dollars, for the payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

Signed this _____ day of _____, _____

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above named principal did on the _____ day of _____, _____, enter into a contract with _____, which said contract is made a part of this bond the same as though set forth herein;

Now, if the said _____ shall well and faithfully do and perform the things agreed by _____ to be done and performed according to the terms of said contract; and shall pay all lawful claims of subcontractors, material suppliers, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any material supplier or laborer having a just claim, as well as for the obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of the said contract or in or to the plans or specifications therefor shall in any wise affect the obligations of said surety on its bond.

(SIGNATURES NEXT PAGE)

NOTE: IF CONTRACTOR is partnership, all partners should execute BOND.

SIGNED AND SEALED This _____ day of _____, 20__.

Principal

Surety

By: _____

By: _____
Attorney-in-Fact

Title: _____

SURETY COMPANY ADDRESS:

SURETY AGENT'S ADDRESS:

Street

Agency Name

City _____ State _____ Zip _____

Street _____

City _____ State _____ Zip _____

**CONTRACT TO PROVIDE FOR THE CONSTRUCTION OF FOUR (4) RECREATION
COURTS AT 1454 ROME CORNERS ROAD, GALENA, OHIO 43021.**

This Contract (hereinafter "Contract") is executed this _____ day of _____, 20____, by and between the Berkshire Township Board of Trustees, Delaware County, Ohio (hereinafter "Board"), whose principal place of business is located at the Berkshire Township Office located at 1454 Rome Corners Road, Galena, Ohio 43021, and

_____ a [____ corporation, ____ partnership, or ____ individual] (hereinafter referred to as the "Contractor"), whose principal place of business is located at:

(Hereinafter individually "Party" and collectively "Parties.")

WHEREFORE, the Board is requesting the construction of two baseball dugouts; and

WHEREFORE, the Contractor submitted a bid to perform such Services, was the lowest and best bidder, was awarded this Contract, and agrees to perform the Services at the price bid; and,

WHEREFORE, the Board approved Resolution No. _____ on the _____ day of _____, 20____ (hereinafter "Resolution"); and,

WHEREFORE, the Resolution approved the execution of this Contract by the Board.

NOW THEREFORE, for good and valuable consideration and the mutual covenants and promises contained herein, the Parties agree as set forth below:

PURPOSE OF CONTRACT:

The purpose of this Contract is to state the covenants and conditions under which the Contractor shall construct two baseball dugouts.

1. Legal Notice,
2. Request for Bids (RFB) by the Board.
3. Contractor's Bid,
4. All documents and forms completed by the Contractor in accordance with the RFB and/or in submitting a bid.

TERM:

This Contract shall go into effect on the date the last party signs the Contract and shall continue through the completion of the project. Consistent with the terms of the RFB, the work shall be complete within one hundred ninety five (195) days of the effective date of the Contract, unless delays are necessary for reasons beyond the Contractor's reasonable control. If such delays are necessary, Contractor must immediately notify the Board. The determination of whether or not a delay may be excused is solely within the discretion of the Board.

SCOPE OF SERVICES:

The Contractor will construct four (4) recreation courts at 1454 Rome Corners Road, Galena, Ohio 43021 in accordance with the specifications as laid out in the "Final Development Plan for Berkshire Township Recreation Courts" attached to the RFB as Appendix C.

- The Contractor's employees shall be citizens of the United States of America or legally entitled to work in the United States of America. Proof of citizenship or ability to work shall be produced to the Board upon request.
- The Contractor shall provide notice to an identified representative of the Board of the When construction is to take place.
- The Board may impose penalties in accordance with Section 4.3.1 of the RFB.

COMPENSATION:

For and in consideration of the successful completion of the project the Contractor will receive

\$ _____

(Fill in amount in numbers.)

(Fill in amount in words.)

DAMAGES IN THE EVENT OF BREACH:

If the Contractor fails to fully meet and perform all the obligations imposed and required as part of this Contract, the Contractor shall pay damages to the Board as compensation for such failure. Such damage shall be as provided in the RFB.

INSURANCE AND INDEMNIFICATION:

The Contractor hereby agrees to indemnify and hold free and harmless the Board and all their respective boards, officers, officials, employees, volunteers, agents, servants and representatives as provided in the RFB. The Contractor also agrees to carry such insurance as required by the RFB.

INCORPORATION OF THE CONTRACT DOCUMENTS AND RESOLUTION:

The Contract Documents and Resolution in their entirety and all terms, provisions, and conditions contained therein are all by this reference hereby expressly understood and accepted by the Parties and are all in their entirety incorporated into and made a part of this Contract.

IN WITNESS WHEREOF, the Parties, by and through their respective and proper officers, have on behalf of themselves or those whom they represent, signed this Contract of their own free and voluntary will and agree to the Parties being bound thereby.

**BERKSHIRE TOWNSHIP BOARD OF TRUSTEES,
DELAWARE COUNTY, OHIO**

Mike Dattilo, Trustee

Date _____

Rod Meyers, Trustee

Date _____

Paul Disantis, Trustee

Date _____

Berkshire Township Board of Trustees
Berkshire Township Office
1454 Rome Corners Road
Galena, Ohio 43021

CONTRACTOR:

Company Name

Check One: ☐ Corporation
 ☐ Partnership
 ☐ Individual
 ☐ Other: _____

A person signing shall, in his/her own handwriting, sign the principal's name, his/her own name and his/her title. A person signing for a corporation, other than the president or vice president, shall, by affidavit, show his authority to bind the corporation.

Signature

Printed Name

Title

Street Address

City, State, Zip

Approved as to form:

Melissa Schiffel
Delaware County Prosecuting Attorney

FISCAL OFFICER'S CERTIFICATION (RC 5705.41(D)):

The Berkshire Township Fiscal Officer hereby certifies that the funds required to meet the obligation set forth in this Contract have been lawfully appropriated for such purpose and are in the Township treasury or in the process of collection, free from any other encumbrances. The Berkshire Township Fiscal Officer also certifies that she has confirmed with the State of Ohio Auditor that the Contractor has no outstanding findings for recovery issued against it by the State of Ohio.

Melody George
Berkshire Township Fiscal Officer

APPENDIX C

BID SPECIFICATIONS

Final Development Plan for Berkshire Township Recreation Courts

Onsite Geotechnical

The Township shall contract with an onsite geotechnical consultant directly. Contractor shall follow the geotechnical consultant's recommendations should any subgrade, compaction, and/or backfilling issues arise.

SECTION 32 18 26 – TENNIS COURT SURFACING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Textured acrylic surfacing for asphalt tennis court.
- B. Related Sections
 - 1. Division 11 Section "Athletic Field Equipment" for field equipment.
 - 2. Division 32 Section "Asphalt Paving."

1.2 REFERENCES

- A. National Asphalt Paving Association (NAPA)
- B. United States Tennis Association (USTA)
- C. International Tennis Federation (ITF)
- D. American Sport Builders Association (ASBA)

1.3 SUBMITTALS

- A. Product Data: Manufacturer specifications for components, color chart, and installation instructions.
- B. Samples for Initial Selection: Manufacturer's color charts or 3 inch lengths for each surface being bid.
- C. Quality Assurance/Control Submittals
 - 1. Installer Certification: Authorized applicator certificate from the surface system manufacturer.
- D. Closeout Submittals
 - 1. Maintenance Data: Manufacturer's standard maintenance recommendations.
 - 2. Certificate of Warranty

1.4 QUALITY ASSURANCE

- A. All surface coating products shall be supplied by a single manufacturer.
- B. Installer Qualifications:
 - 1. The Contractor shall record the batch number of each product used on the site and maintain it for one year after Substantial Completion.
 - 2. The Contractor shall provide the inspector, upon request, an estimate of the volume of each product to be used on the site.
 - 3. The installer shall be an authorized applicator of the specified system and have at least 3 years experience in the field with similar projects.
- C. Manufacturer Qualifications:
 - 1. System manufacturer shall provide documentation that the surface to be installed has been classified by the ITF as a medium pace surface.

1.5 MATERIAL HANDLING AND STORAGE

- A. Store materials in accordance with manufacturer's specifications.
- B. Deliver products to the site in original, unopened containers with labels attached.
- C. All surfacing materials shall be non-flammable.

1.6 PROJECT CONDITIONS

- A. Do not install when rainfall is imminent or extremely high humidity prevents drying.
- B. Do not apply unless surface and air temperatures are 50 deg F and rising.
- C. Do not apply if surface temperature is in excess of 140 deg F.

1.7 WARRANTY

- A. Special Project Warranty: Submit tennis court Installer's Warranty, on warranty form at the end of this section, signed by installer, covering the work of this section, including delamination, discoloration, and pitting as a result of ferrous materials contained in the bituminous mixture.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Project: Plexipave; California Products Corp. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.
 - 1. Nova Sports
 - 2. Advance Polymer Technologies
 - 3. Kelley Technical Coatings
- B. Products of other manufacturers will be considered for acceptance provided they equal or exceed the material requirements and functional qualities of the specified product. Requests for Architect/Engineer's approval must be accompanied by the "Substitution Request Form" and complete technical data for evaluation. All materials for evaluation must be received by the Project Manager and Specification Department at least 10 days prior to bid due date. Additional approved manufacturers will be issued by Addendum.

2.2 MATERIALS

- A. Patching Mix (California Court Patch Binder): For use in patching cracks, holes, depressions, and other surface imperfections.
 - 1. Court Patch Binder: 100 percent acrylic resin blended with Portland cement and silica sand.
- B. Crack Filler (Plexipave Crack Filler): For use in filling fine cracks.
 - 1. Plexipave Crack Filler: 100 percent resin heavily filled with sand.
- C. Acrylic Filler Course (California Acrylic Resurfacer): For use as a filler for new or existing asphalt surfaces. The 100 percent acrylic filler shall be blended with approved silica sand at the Project site.

1. California Acrylic Resurfacer: 100 percent acrylic resin (no vinyl copolymerization constituent). The product shall contain not less than 3.5 percent attapulgite.
- D. Acrylic Color Playing Surface (Plexichrome/Plexipave Color Base): For use as the finish color and texture. Plexichrome and Plexipave Color Base are blended at the Project site to achieve the correct surface texture. Factory Fortified Plexipave may be used as an alternative material.
 1. Plexichrome: 100 percent acrylic resin (no vinyl copolymerization constituent) with selected light fast pigments. Green shall contain not less than 8 percent chrome oxide.
 2. Plexipave Color Base: 100 percent acrylic resin containing no vinyl copolymerization constituent. Contains not more than 63 percent rounded silica sand.
- E. Textured Line Paint (California Line Paint): For use as the line marking on the court/play surface.
 1. California Line Paint: 100 percent acrylic resin containing no alkyds or vinyl constituents. Texturing shall be rounded silica sand.
- F. Water: For use in dilution/mixing shall be clean and potable.

PART 3 - EXECUTION

3.1 PREPARATION FOR ACRYLIC COLOR PLAYING SYSTEM

- A. Clean surfaces of loose dirt, oil, grease, leaves, and other debris in strict accordance with manufacturer's directions. Pressure washing will be necessary to adequately clean areas to be coated. Any areas previously showing algae growth shall be treated with Clorox or approved product to kill the organisms and then be properly rinsed.
- B. Holes and Cracks: Holes and cracks shall be cleaned and a suitable soil sterilant, as approved by the Owner, shall be applied to kill all vegetation 14 days prior to use of Court Patch Binder according to manufacturer's specifications.
- C. Depression: Depressions holding enough water to cover a nickel shall be filled with Court Patch Binder Patching Mix. Three gallons of Court Patch Binder, 100 lbs. 60-80 silica sand, one gallon Dry Portland Cement (Type I). This step shall be accomplished prior to the squeegee application of Acrylic Resurfacer. The Contractor shall flood all the courts and then allow draining. Define and mark all areas holding water enough to cover a nickel. After defined areas are dry, prime with tack coat mixture of 2 parts water/1 part Court Patch Binder. Allow tack coat to dry completely. Spread Court Patch Binder mix true to grade using a straight edge (never a squeegee) for strike off. Steel trowel or wood float the patch so that the texture matches the surrounding area. Never add water to mix. Light misting on surface and edges to feather in is allowed as needed to maintain work ability. Allow to dry thoroughly and cure.
 1. No work from this stage on shall commence until an inspector has accepted the surface.
- D. Filler Course (Acrylic Resurfacer): Filler course shall be applied to the clean underlying surface in one application to obtain a total quantity of not less than .06 gallon per square yard based on the material prior to any dilution. Acrylic Resurfacer may be used to pre-coat depression and crack/hole repairs to achieve better planarity prior to filler course application.
 1. Over a properly repaired surface of asphalt on existing courts, apply one coat of Acrylic Resurfacer according to the following mix:

Acrylic Resurfacer	55 gallons
Water	20-40 gallons
Sand	600-800 lbs / 60-80 mesh
Liquid Yield	112-138 gallons

On new asphalt, 2 coats of Acrylic Resurfacer shall be used to properly fill all voids in the asphalt surface. Use clean, dry 50-60 mesh sand and clean, potable water to make mixes. The quantity of sand and water in the above mix may be adjusted within above limits to complement the roughness and temperature of the surface.

2. Mix the ingredients thoroughly using accepted mixing devices and use a 70 Durometer rubber bladed squeegee to apply each coat of Acrylic Resurfacer as required.
3. Allow the application of Acrylic Resurfacer to dry thoroughly. Scrape off all ridges and rough spots prior to any subsequent application of Acrylic Resurfacer or subsequent cushion or color surface system.

3.2 APPLICATION OF ACRYLIC COLOR PLAYING SURFACE

- A. General: Strictly adhere to manufacturers written instructions for mixing, transporting, and installing surface coatings system.
- B. All areas to be color coated shall be clean, free from sand, clay, grease, dust, salt, or other foreign matters.
- C. Blend color base and Plexichrome with a mechanical mixer to achieve a uniform Fortified Plexipave mixture. The mix shall be:

Color Base	30 gallons
Plexichrome	20 gallons
Water	20 gallons

- D. Application shall be made by 50 Durometer rubber faced squeegees. The Fortified Plexipave mixture should be poured on to the court surface and spread to a uniform thickness in a regular pattern.
- E. A total of 3 applications of Fortified Plexipave shall be made to achieve a total application rate of not less than .15 gal./sy. No application should be made until the previous application is thoroughly dry.

3.3 LINE PAINTING

- A. Line shall be 2 inches wide unless otherwise noted on the Drawings. Lines shall be carefully laid out in accordance with ASBA and USTA guidelines. The area to be marked shall be taped to insure a crisp line. The California Line Paint shall have a texture similar to the surrounding play surface. Application shall be made by brush or roller at the rate of 150-200 sg./gal. (3/4 gal. per tennis court).

3.4 PROTECTION

- A. Erect temporary barriers to protect coatings during drying and curing.
- B. Lock gates to prevent use until acceptance by the Owner's representative.

3.5 CLEAN UP

- A. Remove all containers, surplus materials, and debris. Dispose of materials in accordance with local, state, and federal regulations.
- B. Leave site in a clean and orderly condition.

3.6 INSTALLER'S WARRANTY

- A. WHEREAS, _____ of _____ herein called "Surfacing Installer," has preformed surface coating and associated work (work") on the following project:
1. Owner: _____
 2. Address: _____
 3. Building Name: _____
 4. Address: _____
 5. Acceptance Date: _____
 6. Warranty Period: _____
 7. Expiration Date: _____
- B. AND WHEREAS, Surfacing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against delamination, discoloration, or pitting as a result of ferrous materials contained in the bituminous mixture, defective materials and workmanship for designated warranty period.
- C. NOW THEREFORE, Surfacing Installer hereby warrants, subject to terms and conditions herein set forth, that during warranty period he/she will, at his/her own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as necessary to maintain said work in same condition as at "Acceptable Date".
- D. This warranty is made subject to the following terms and conditions:
1. Specially excluded from this warranty are damages to work cause by:
 - a. Acts of vandalism
 - b. Failure of substrate, including settlement.
 2. When work has been damaged by any of foregoing causes, warranty shall be null and void only in affected area until such damage can be repaired and until cost and expense there of have been paid by Owner or by another responsible party so designated.
 3. Surfacing Installer is responsible for damage to work covered by this warranty but is not liable for consequential damages that may result from faults or defects of work.
 4. During Warranty Period, if Owner allows alteration of work by anyone other than Surfacing Installer, including cutting, patching and maintenance in connection to additional penetrations, this warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Surfacing Installer to perform said alterations, Warranty shall not become null and void unless Surfacing Installer, before starting work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
 5. During Warranty Period, if original use of surface is changed and it becomes used for, but was not originally specified for a skateboard area, or other use or service more severe than originally specified, this warranty shall become null and void on date of said change, but only to extent said change affects work covered by this Warranty.
 6. Owner shall notify Surface Installer of observed, defects or deterioration and shall afford reasonable opportunity for Surface Installer to inspect work and to examine evidence of defects and deterioration.

7. This Warranty is recognized to be the only warranty of Surface Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of surface failure. Specifically, this Warranty shall not operate to relieve Surface Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____

1. Authorized Signature: _____
2. Name: _____
3. Title: _____

END OF SECTION 32 18 26

SECTION 11 68 33 - ATHLETIC FIELD EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes: Playfields and equipment, including the following:
 - 1. Basketball backstops
 - 2. Basketball equipment
- B. Related Sections include the following:
 - 1. Division 03 Section "Cast-In-Place Concrete": For concrete footings.
 - 2. Division 31 Section "Earth Moving": For excavation for installation of concrete footings.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, field-assembly requirements, and installation details.
- B. Shop Drawings: For items included in this Section. Include types of materials, construction details, sizes and layout, and complete information on hardware and accessories.

1.4 INFORMATIONAL/QUALITY ASSURANCE/CONTROL SUBMITTALS

- A. Qualification Data: For installer.

1.5 QUALITY ASSURANCE

- A. Standards: Provide athletic equipment complying with or exceeding requirements of the National Federation of State High School Associations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Where a model number is used on the Drawings, it refers to the manufacturer and product listed which is specified as the type, size, function, and quality required for this Project.
- B. The Architect will consider for acceptance products of other manufacturers provided they equal or exceed the material requirements and functional qualities of the specified product. Requests for Architect/Engineer's approval must be accompanied by the "Substitution Request Form" and complete technical data for evaluation. All materials for evaluation must be received by the Project Manager and Specification Department at least 10 days prior to bid due date. Additional approved manufacturers will be issued by Addendum.

2.2 MATERIALS

- A. Basketball Backstops: Heavy Duty Basketball Outfit: Rectangular acrylic backboard (3-1/2 feet by 6 feet) including border and target; rims bolt directly to post mounting plate; one by three 3 inch steel channels and adjustable braces on back of board; heavy-duty twin rim goals and nylon net.
 1. Subject to compliance with requirements, provide one of the following:
 - a. Jaypro Corporation, Inc.; Model No. 656-RB-DR, gooseneck 5-9/16 inch, 6 foot offset basketball backstop with trim rim goal and nylon net.
 - b. Patterson-Williams, Inc.; Model No. 1527, gooseneck 5-9/16 inch O.D., 6 foot offset basketball backstop with twin rim goal and nylon net.
 - c. Aalco Equipment; Model G66-701M, 6 foot offset with double rim and nylon net.
 - d. Ultra Play Systems, Inc.; Model No. 5916-FP, gooseneck, 6 foot offset basketball backstop with backboard and Model 39DN goal, double rim and nylon net.
- B. Basketball Equipment (Adjustable Height)
 1. Basis-of-Design: Signature Series-Internal Jack, Model MVP as manufactured by Goalsetter Systems Inc.
 2. Structure
 - a. 6 inch structural steel pole, 3/16 inch thick wall.
 - b. Die formed extension arms and offset pole.
 - c. Zinc plated hardware; fasteners, pivot pins and lock cellars resist corrosion.
 - d. Nylon bushings at each pivot point to prevent steel on steel contact.
 - e. Two finish coats of high gloss and color retention acrylic enamel.
 - f. Universal ground anchor.
 3. Backboard
 - a. 42 inch by 72 inch acrylic backboard.
 - b. Rounded edges and corners.
 - c. Direct rim mounting system.
 - d. 1/4 inch by 7-1/4 inch by 10 inch steel rim mounting plate.
 - e. Regulation border and target area.
 4. Rim: GS Ultra Flex
 - a. 5/8 inch steel rim supported by 3/16 inch by 1-1/2 inch support.
 - b. 15 degree deflection, auto return.
 - c. Durable, baked powder coated finish.
 - d. Include mounting hardware and nylon net.
 - e. 5 year limited warranty.
 5. Height Adjustment: Turn of adjustment handle shall infinitely adjust goal from 6 feet to 10 feet.
 - a. Internal compression height adjustment system.
 - b. Removable handle.
 - c. Keyed pin lock to lock goal at any height.
 - d. Rim height indicator.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install basketball backstops in strict accordance with manufacturer's recommendations and as located on the plans.
- B. Install tetherball assemblies in strict accordance with manufacturer's recommendations and as located on the plans.

END OF SECTION 11 68 33

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for following:
 - 1. Exterior Concrete
 - 2. Interior Concrete
 - a. Slab-on-ground
 - b. Bases and curbs
 - c. Foundations, footings, pads, piers, columns
 - 3. Provide other cast-in-place concrete and related work as indicated for complete and finished work, except concrete work specifically designated to be provided under Work of other Sections of these Specifications.
- B. Related Sections include following:
 - 1. Division 07 Section "Thermal Insulation" for coordination with under slab insulation.
 - 2. Division 07 Section "Joint Sealants" for sealing joints and penetrations in slab-on-grade or slabs below grade.
 - 3. Division 32 Section "Concrete Paving" for concrete pavement and walks.

1.2 DEFINITIONS

- A. Cementitious Materials: Materials that have cementing value if used in concrete, including Portland cement alone or in combination with one or more of following: fly ash and slag cement (ground granulated blast-furnace slag), silica fume, and medtakaolin; subject to compliance with requirements.
- B. Mineral Fillers: Finely ground inert materials that are used to help the water to powder ratio and are used to supplement cementitious materials.
- C. Water-Cementitious Materials Ratio (w/cm): Ratio by weight of water to cementitious materials, excluding that absorbed by aggregate, stated as a decimal.
- D. Formwork: Total system of support of freshly placed concrete, including mold or sheathing that contacts concrete, as well as supporting members, hardware, and necessary bracing.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate with other trades to maintain protection of concrete surfaces scheduled to remain exposed. Protect concrete surfaces from physical damage and staining that could result from subsequent construction operations and might compromise final concrete finish.
- B. Pre-installation Meeting: Conduct meeting(s) at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Note: In lieu of one pre-installation meeting as work progresses, additional pre-installation meetings might need to take place to facilitate installation sequences i.e., footing and foundations, and slab-on-grade.
 - 1. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including following:
 - a. Contractor's superintendent.
 - b. Independent testing agency for special inspection and testing and inspecting agency procedures for field quality control.
 - c. Ready-mix concrete manufacturer.
 - d. Concrete subcontractor, including finisher.
 - 2. Review the following:
 - a. Construction joints, control joints, and isolation joints.

- b. Concrete mixtures-specification and constructability requirements,
- c. Scheduling and details of placement,
- d. Contract information of responsible persons during placement,
- e. Placement procedures and rate of placement,
- f. Jobsite adjustments permitted and decision process,
- g. Cold and hot weather requirements,
- h. Concrete protection,
- i. Concrete inspection and field quality control,
- j. Testing frequency, sampling location,

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated, including the following, if used for concrete mixtures:
 - 1. Form coatings
 - 2. Portland cement
 - 3. Aggregates
 - 4. Each type of steel reinforcing
 - a. Bar supports
 - 5. Admixtures: Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature of time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.
 - 6. Liquid floor treatments
 - 7. Curing materials
 - 8. Joint fillers
 - 9. Repair materials
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments. Prepare and submit design mixes for each type of concrete and flowable fill. Use an independent testing facility acceptable to A/E for testing compressive strength of proposed mix designs. Submit compression test results for each design mix used to document that proposed mixture will achieve the required average compressive strength and other specified requirement. Test report shall clearly indicate design mix for which it applies. Each design mix shall indicate types of structures in which it is to be used.
 - 1. Field test records for concrete strength test records must be from concrete supplied from the same production facilities proposed for work. Test data shall be from concrete mixtures containing similar materials proposed for work, including:
 - a. Minimum 28-day compressive strength
 - b. Maximum w/cm
 - c. Slump limit
 - d. Air content
 - e. Nominal maximum aggregate size
 - 2. Strength test reports for establishing a standard deviation for each class of concrete or for documenting the required average strength for work shall not be greater than 24 months old and shall be collected over a period not less than 45 days.
 - 3. Indicate amounts of mixing water to be withheld for later addition at Project site.
 - a. Note: A workability retaining admixture may also be used.
 - 4. Sample design mix submittal form is enclosed herein.
- C. Construction Joint Layout: Indicate proposed construction joints required to construct structure.
 - 1. Location of construction joints is subject to approval of A/E.
- D. Concrete Schedule: For each location of each class of concrete indicated in "Concrete Mixtures" article, include following:
 - 1. Location within project.
 - 2. Formed surface finish designation and final finish.
 - 3. Final finish for floors.
 - 4. Curing process.

1.5 INFORMATIONAL/QUALITY ASSURANCE/CONTROL SUBMITTALS

- A. Qualification Data: For installer, manufacturer, and testing agency.
 - 1. Installer: Include copies of applicable ACI certificates or NRMCA Certification.
 - 2. Testing agency retained by the contractor for field quality control: Include conformance to ASTM C1077 or ASTM E329 and copies of ACI certificates of testing technicians.
- B. Material Test Reports: For following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Aggregates. Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.
- C. Floor surface flatness and levelness measurements report, indicating compliance with specified tolerances.
- D. Proposed curing schedule shall include method and duration.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician or equivalent.
 - 1. When requested, the Installer shall furnish a Quality Control Plan.
- B. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities", certification or approval by a state or highway agency or equivalent. Criteria of equal certification shall be included in the submittal.
 - 2. Quality control personnel with responsibility for concrete mixtures certified as an NRMCA Concrete Technologist Level 2, or equivalent. Criteria of equivalent certification shall be included in the submittal.
 - 3. When requested, the manufacturer shall furnish a Quality Control Plan.
- C. Environmental Requirements: Manufacturer and Contractor shall conform to Federal, State, and Local V.O.C. (Volatile Organic Compound) Regulations in area where Project is located. Notify A/E in writing if variations to Specifications herein are required.
- D. Laboratory Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing including mix design.
 - 1. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- E. Regulatory Requirements: Comply with requirements of latest edition or edition approved by authorities having jurisdiction.
 - 1. ACI Publications: Comply with following unless modified by requirements in Contract Documents:
 - a. ACI 301, "Specification for Structural Concrete."
 - b. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
 - c. ACI 347 "Recommended Practice of Concrete Formwork."
 - d. ACI 318, "Building Code Requirements for Structural Concrete."
 - e. ACI PRC-211.1 "Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete."
 - f. ACI PRC-212.3 "Report on Chemical Admixtures for Concrete."
 - g. ACI PRC-302.1 "Guide for Concrete Floor and Slab Construction."
 - h. ACI PRC-304 "Guide for Measuring, Mixing, Transporting, and Placing Concrete."

- i. ACI SPEC-305.1 "Specification for Hot Weather Concreting."
 - j. ACI SPEC-306.1 "Standard Specification for Cold Weather Concreting."
 - k. ACI SPEC-308.1 "Specification for Curing Concrete."
 - l. ACI PRC-311.4 "Guide for Concrete Inspection."
- 2. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".
- 3. ASTM Intl.:
 - a. ASTM A 1064 "Standard Specification for "Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete."
 - b. ASTM C33 "Standard Specification Curing Concrete."
 - c. ASTM C94 "Standard Specification for Ready-Mix Concrete."
 - d. ASTM C260 "Standard Specification for Air Entraining Admixtures for Concrete."
 - e. ASTM C494 "Standard Specification for Chemical Admixtures for Concrete."
 - f. ASTM C309 "Standard Specification for Liquid Membrane – Forming Compounds for Curing Concrete."
 - g. ASTM C779 "Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces."
 - h. ASTM C1315 "Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete."
 - i. ASTM E1155 "Determining Floor Flatness and Levelness Using F-Number System."
 - j. ASTM F609 "Standard Test Method for Using a Horizontal Pull Slip Meter (HPS)."

- F. Concrete ramps and curbs shall be provided to conform to Americans with Disabilities Act Accessibility Guidelines (ADAAG) and State and Local Regulations. These requirements supersede Technical Specifications in this Section.
 - 1. Detectable warnings shall conform to ADAAG.

- G. Mockups: Cast concrete slab-on-grade panels to demonstrate typical joints, surface finish, texture, and standard of workmanship.
 - 1. Slab-On-Ground build panel approximately 225 sq.ft. (area within one set of control joints) in location indicated or, if not indicated, as directed by A/E.
 - a. Divide panel into four equal panels to demonstrate saw joint cutting.
 - 2. Approval panels may become part of completed work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Concrete: Comply with ASTM C94 and ACI SPEC-301.
- B. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
 - 1. Store reinforcement to avoid contact with earth.

1.8 FIELD CONDITIONS

- A. Environmental Requirements.
 - 1. Floor and Slab Treatments: Follow manufacturer's recommendations for environmental requirements when using floor and slab treatments.
 - a. Do not apply concrete densifier and chemical hardener when concrete temperature is below 35 degrees F or above 135 degrees F.
- B. Cold-Weather Placement: Comply with ACI SPEC-301 and ACI SPEC-306.1.
- C. Hot-Weather Placement: Comply with ACI SPEC-301 and ACI SPEC-305.1.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with following, unless modified by requirements in Contract Documents:
 - 1. ACI SPEC-301
 - 2. ACI SPEC-117

2.2 FORM-FACING MATERIALS

- A. Smooth-Formed Finished (Exposed) Concrete Form-Facing Material (As-Cast Surface): Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
 - 1. Plywood, metal, fiberglass, or other approved panel materials.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Chamfer Strips: Metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
 - 1. Products:
 - a. Greenstreak 622; Greenstreak
 - b. Vinylex CSN-3/4; Vinylex Corp.
 - c. CHM-75-75-110 Poly-Comp Plastic Chamfer; Sylvan Products
 - d. CS-750 Chamfer Former; BoMetals Inc.
- D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
 - 2. Products: Subject to compliance with requirements, provide one of following:
 - a. MasterFinish RL Series; Master Builders Solutions.
 - b. Crete-Lease 20-VOC; Cresset Chemical Co.
 - c. Clean Strip J1EF; Dayton Superior Corporation
 - d. Asphalt Release; Franmar Chemical, Inc.
 - e. Bio-Form; Leahy-Wolf Co.
 - f. Soy Form Release and Natural Form Oil: Natural Soy, LLC
 - g. SOYsolv; SOYsolv
 - h. Formshield WB; Tamms Industries
 - i. SealTight Duogard II; W.R. Meadows, Inc.
 - j. Easy Strip Form Releaser; Formex
 - k. L&M EZ Strip; Laticrete
- E. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that will leave no corrodible metal closer than 1 inch to plane of exposed concrete surface.

2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615, Grade 60, deformed for bars No. 3 to 11, unless otherwise noted.
- B. Plain-Steel Welded Wire Reinforcement, unless otherwise noted: ASTM A 1064, plain, fabricated from as-drawn steel wire into flat sheets. Note: Roll stock is not acceptable.

2.4 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615, Grade 60, plain-steel bars, cut bars true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
 - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
 - 2. For footings, trench footings, slabs on ground, use precast concrete bricks ($f'_c = 3000$ psi min. at 28 days). (Concrete masonry bricks are not acceptable.)

2.5 CONCRETE MATERIALS

- A. Source Limitations: Obtain each type of class or cementitious material of same brand from same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- B. Cementitious Material: Use cementitious materials, of same type, brand, and source, throughout Project. Supplement cement as necessary to meet project conditions.
 - 1. Portland Cement: ASTM C 150, Type I or III, gray.
 - 2. Inclusion of slag cement, fly ash, or other products replacing portions of Portland cement in cement mix is not recommended.
- C. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, uniformly graded not to exceed 1-1/2 inch nominal size per ACI 301. Provide aggregates from a single source to ensure uniformity in color, size, and shape with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials. Aggregates shall not be potentially reactive as defined in Appendix X1 of ASTM C33.
 - 1. Local aggregates not complying with ASTM C33, but which have shown by special test or actual service to produce concrete of adequate strength and durability, may be used when acceptable to A/E.
 - 2. Fine Aggregate: Clean, sharp, natural sand free from loam, clay lumps, or other deleterious substances.
 - 3. Coarse Aggregate: Clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter, as follows:
 - a. Crushed stone, processed from natural rock or stone.
 - b. Washed gravel, either natural or crushed. Use of pit or bank-run gravel is not permitted.
 - c. Maximum Aggregate Size: Not larger than one-fifth of narrowest dimension between sides of forms, one-third of depth of slabs, nor three-fourths of minimum clear spacing between individual reinforcing bars or bundles of bars.
 - d. Exterior concrete shall have crushed limestone aggregate, complying with ASTM C33, Class 4S or better.
 - 4. Alkali-Silica Reaction: Comply with one of following:
 - a. Expansion Result of Aggregate: 14-day expansion less than or equal to 0.10 percent when tested in accordance with ASTM C 1260, or not more than 0.04 percent at one-year when tested in accordance with ASTM C 1293.
 - b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10 percent at an age of 16 days when tested in accordance with ASTM C 1567.
 - c. Alkali Content in Concrete: Not more than 4 lb./cu.yd. for moderately reactive aggregate or 3 lb./cu.yd. for highly reactive aggregate, when tested in accordance with ASTM C 1293 and categorized in accordance with ASTM C 1778, based on alkali content being calculated in accordance with ACI SPEC-301.

- D. Combined aggregate gradation for slabs and other designated concrete shall be 8%-18% for large, top size aggregates (1-1/2 inch) or 8%-22% for smaller, top size aggregates (1 inch or 3/4 inch) retained on each sieve size below top size and above No. 100.
- E. Water: ASTM C1602.

2.6 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260 as indicated in Article "Concrete Mixtures for Building Elements".
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures, including those used in Polished Concrete, and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Admixtures containing intentionally-added chlorides shall conform to limit consistent with ACI 318 and ACI 301.
 - 1. Water-Reducing Admixture: ASTM C 494, Type A.
 - 2. Retarding Admixture: ASTM C 494, Type B or D.
 - 3. Accelerating Admixture: ASTM C 494, Type C or E.
 - 4. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
 - 5. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
 - 6. Plasticizing and Retarding Admixture: ASTM C 1017, Type II.
 - 7. Workability-Retaining Admixture: ASTM C494, Type S. Shall retain concrete workability without affecting time of setting or early-age strength development.
 - 8. ASR-Inhibiting Admixtures: ASTM C494, Type S. Shall contain a nominal lithium nitrate content of 30 percent.
 - 9. Other Specific Performance Admixtures: ASTM C494, Type S.
 - 10. Admixtures with no standard (ASTM or other) designation shall be used with the permission of the engineer of record when its use for specific properties is required and can be submitted with documentation that demonstrates appropriate testing.

2.7 ACCESSORIES

- A. Drainage Fill (Coarse): Below under slab insulation.
 - 1. Washed, narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading size 57; with 100 percent passing a 1 inch sieve and not more than 8 percent passing a No. 200 sieve.

2.8 LIQUID FLOOR TREATMENTS

- A. Penetrating Liquid Floor Treatment (LCFH): Clear, chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; colorless; that penetrates, hardens, and densifies concrete surfaces.
 - 1. Products:
 - a. Chemisil Plus; ChemMasters.
 - b. ChemTec One; ChemTec International.
 - c. Sure Hard J-17; Dayton Superior Company.
 - d. Ashford Formula; Curecrete Distribution Inc.
 - e. Euco Diamond Hard; Euclid Chemical Company (The).
 - f. SureHard; Kaufman Products, Inc.
 - g. Seal Hard; Laticrete International, Inc.
 - h. Liqui-Hard; Meadows, W. R., Inc.
 - i. Floorsaver; Metalcrete Industries.
 - j. Duranox; Nox-Crete Products Group, Kinsman Corporation.
 - k. US Spec Industraseal; US Mix Products Company.
 - l. Vexcon StarSeal PS Clear; Vexcon Chemicals, Inc.
 - m. Consolidack; Prosoco Inc.
 - n. MasterKure HD 210 WB; Master Builders Solutions.
 - o. Vapor Lock 1; SPG-Specialty Products Group, Inc.
 - p. SINAK LithoHard; Sinak Corporation
 - 2. Performance Requirements: Minimum testing results on untreated samples.

- a. 50 percent improvement in abrasion resistance in accordance with ASTM C944.
- b. Improved static coefficient of friction of 22 percent dry and 35 percent wet in accordance with ASTM C1028.
- c. Improved rebound number of 10 percent in accordance with ASTM C805.
- d. No failure of adhesion in accordance with ASTM D3359.

2.9 CURING MATERIALS

- A. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
 - 1. Color:
 - a. Ambient Temperature below 50 deg. F.: Black.
 - b. Ambient Temperature between 50 deg F. and 85 deg F.: Any color or clear.
 - c. Ambient Temperature above 85 deg F.: White.
- B. Water: Potable or complying ASTM C1602.
- C. Clear, Waterborne, Membrane-Forming Curing Compound: Do not use.

2.10 SEALERS

- A. Penetrating Anti-Spalling Sealer (Exterior concrete): Sealer shall be a siloxane-based compound or silane modified siloxane emulsion formulated to reduce chloride ion absorption/intrusion by 80 percent when tested in accordance with NCHRP #244, Test Method Series II or IV tests. In addition, sealer-treated concrete shall exhibit no scaling when exposed to 125 cycles of freezing and thawing when tested in accordance with ASTM C 672. Tests shall be by an independent testing laboratory.
 - 1. Products:
 - a. Baracade WB 244; Euclid Chemical Co.
 - b. Saltguard WB; PROSOCO, Inc.
 - c. Aquapel Plus; L & M Construction Chemical Co.
 - d. SpallGuard WB-10; ChemMasters
 - e. Sikagard 701W; Sika Corporation
 - f. Weather Worker S-100 (J29); Dayton Superior Corporation
 - g. Intraguard/Pentreat 244-40; W.R. Meadows
 - h. V-Seal 102 Winter Guard; V-Seal Concrete Sealers and Concrete Coatings.
- B. Floor Sealer: ASTM C1315, Type I, Class A and ASTM C309, Type I, Class A and B. Acrylic water-based urethane clear sealer, non yellowing, resistant to blush, and satin finish as recommended by manufacturer for preventing staining by waterborne and oil substances.
 - 1. Products:
 - a. Everclear VOX (Acrylic Sealer); Euclid Chemical Co.
 - b. MasterKure CC 250 SB; Master Builders Solutions
 - c. Cure and Seal 1315 EF; Dayton Superior
 - d. Polyseal WB; ChemMasters

2.11 RELATED MATERIALS

- A. Expansion and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, ASTM D 1752, cork or self-expanding cork, or ASTM 4819, Type II, or ASTM D 1622 closed-cell compressible foam, 1/4 inch maximum thickness.
- B. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

2.12 REPAIR MATERIALS

- A. Epoxy Crack Injection Adhesive (Repair): ASTM C881, Type I, Grade 1, solvent free.
 - 1. Products:
 - a. Sikadur 35 Hi-Mod LV; Sika Corp.
 - b. Sure-Inject J56; Dayton Superior Corp.

- c. EUCO #452 LV; Euclid Chemical Co.
- d. MasterInject 1380; Master Builders Solutions.
- e. Pro-Poxy 100; Unitex

B. Repair Overlayment (Traffic-Bearing): Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be feathered at edges to match adjacent floor elevations.

- 1. Cement Binder: ASTM C 150, Portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
- 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
- 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
- 4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109.
- 5. Products:
 - a. Level Topping; Dayton Superior
 - b. Duracrete; L & M Construction
 - c. Wearflow; Dependable Chemical Co. Inc.
 - d. Ardex SD-T or K500; Arden Americas.
 - e. Custom Building Products; CustomTech TechLevel-HPT High Performance Topping.

2.13 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on basis of laboratory trial mixture or field test data, or both, according to ACI SPEC-301.

- 1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- 2. The installer and manufacturer shall coordinate to establish properties of the fresh concrete to facilitate placement and finishing with reduced potential for segregation and bleeding. Factors shall include but are not limited to slump or slump flow, setting time, method of placement, rate of placement, hot and cold weather placement, curing, and concrete temperature. Selection of fresh concrete properties shall be notified to the Engineer of Record in the submittal.
- 3. Contractor shall indicate reportable changes in sources of materials and quantities when such changes are necessary to ensure constructability, performance of concrete and compliance with the specification requirements. The Contractor is permitted to make minor adjustments less than the reportable deviations noted in the original submittal to concrete mixtures to ensure uniformity of concrete without a resubmittal for review or approval.

B. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cementitious materials.

C. Admixtures: Use admixtures according to manufacturer's written instructions and approved mix design.

- 1. Use water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
- 2. Use water-reducing and accelerating admixture when required by low temperatures or cold-weather placement conditions.
- 3. Use water-reducing admixture in pumped concrete, and concrete with a water-cementitious materials ratio below 0.50.

2.14 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Exterior Concrete: Proportion normal-weight concrete with following properties:

- 1. Compressive Strength (28 days): Refer to Division 03 Section "Concrete Schedule".
- 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: Refer to Division 03 Section "Concrete Schedule".

3. Slump Limit: 5 inches, plus or minus 1 inch.
 4. Air Content: Refer to Division 03 Section "Concrete Schedule".
- B. Footings: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: Refer to Division 03 Section "Concrete Schedule".
 2. Maximum Water-Cementitious Materials Ratio: Refer to Division 03 Section "Concrete Schedule".
 3. Slump Limit: Not less than one inch and not more than 3 inches.
- C. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: Refer to Division 03, Section "Concrete Schedule".
 2. Slump Limit: 4 inches, plus or minus 1 inch, before adding water-reducing or plasticizing admixtures, with maximum slump less than 6 inches.
 3. Air Content: Do not allow air content of troweled finished floors to exceed 3 percent.

2.15 PROPORTIONING AND DESIGN OF MIXES

- A. Proportion mixes by either laboratory trial batch or field experience methods as specified in ACI SPEC-301, using materials to be employed on project for each class of concrete required.
- B. Submit written reports to A/E of each proposed mix for each type of concrete at least 15 days prior to start of Work. Indicate with each mix design items or structures for which it is to be used. Do not begin concrete production until mixes have been reviewed by A/E. Submit following information:
1. Complete identification of aggregate source of supply.
 2. Tests of aggregates for compliance with specified requirements.
 3. Scale weight of each aggregate.
 4. Absorbed water in each aggregate.
 5. Brand, type, and composition of cement with product information.
 6. Brand, type, and amount of each admixture with product information.
 7. Amounts of water used in trial mixes.
 8. Proportions of each material per cu.yd., including fibrous secondary reinforcement, if used.
 9. Gross weight and yield per cu.yd. of trial mixtures.
 10. Measured slump, with and without water reducer, if used.
 11. Measured air content.
 12. Submit compressive strength results from tests performed by an independent testing agency on at least 30 consecutive strength tests or two groups of tests totaling at least 30 within past 12 months. Supply standard deviation and average strength in accordance with ACI SPEC-301.
 13. Identification number or name of mix to verify agreement with compression test reports.
 14. Water/Cementitious Materials Ratio
- C. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, at no additional cost to Owner and as accepted by A/E. Laboratory test data for revised mix designs and strength results shall be submitted to and must be accepted by A/E before using in work.
- D. Maximum Water-Cementitious Materials Ratio: Concrete mixes shall be limited to water-cement ratios specified in Concrete Schedule in these Specifications (Division 03 Section "Concrete Schedule"). Water reducers and SCM's may be used to increase slump while maintaining or reducing water-cementitious materials ratio at or below maximums specified values, except where specifically prohibited in these specifications.

2.16 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.17 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94, and furnish batch ticket information.
 - 1. Addition of water to batch will be permitted only to regain target slump for particular mix design or with verification that design water/cement ratio has not been exceeded and only under direct control of concrete testing agency field representative. All water added at site to be noted on concrete field inspection report. All tests on concrete to be performed after water is added.
 - 2. When air temperature is between 85 and 90 deg. F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg. F, reduce mixing and delivery time to 60 minutes.
 - 3. Mix proprietary materials in accordance with manufacturer's instructions, including product data and product technical bulletins.
 - a. Once specific mix design and sequencing of raw materials have been established, do not alter. Consistency of raw materials in each phase of mixing is most important element in making quality concrete.
- B. Project-Site Mixing: Not permitted.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive concrete sealer. Do not apply over curing compounds. Notify A/E if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

3.2 PREPARATION

- A. Preplacement Observation: Before placing concrete, observe and complete formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other trades to permit installation of their work; cooperate with other trades in setting such work, as required.
 - 1. Observe soil at bottom of foundation systems, which will be subject to testing for soil bearing value by testing laboratory, as directed by A/E. Place concrete immediately after approval of foundation excavations.
 - 2. Observe underslab drainage course areas that were subject to testing for soil bearing value by testing laboratory as required by A/E. Place concrete immediately after approval of underslab compaction tests.
- B. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:
 - 1. Daily access to the work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Security and protection for samples and for testing and inspection equipment at Project site.
- C. Material placement for interior slabs on grade and exterior concrete stoops.
 - 1. Install and properly support and anchor slab welded wire fabric.
 - 2. Position expansion joint fillers where indicated and as recommended by manufacturer. Special precautions shall be taken to avoid collapse during installation.
- D. Under slabs-on-grade, place drainage course on prepared subbase and as follows:
 - 1. Place drainage course on subgrades free of mud, frost, snow, or ice.
 - 2. Compact drainage course to required cross sections and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.3 FORMWORK INSTALLATION

- A. Concrete Formwork: Design, engineer, erect, shore, brace, and maintain formwork in accordance with ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads, so that resulting concrete conforms to required shapes, lines, and dimensions.
 - 1. Design wood panel forms in accordance with APA's "Concrete Forming Design/Construction Guide."
 - 2. Design formwork to limit deflection of form-facing material to 1/240 of center-to-center spacing of supports.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
 - 1. Class A, 1/8 inch for smooth-formed finished surfaces, where exposed to view.
 - 2. Class C, 1/2 inch for rough-formed finished surfaces, unless otherwise noted.
 - 3. Variation from plumb in lines and surfaces of columns, piers, walls, and arrises; 1/4 inch per 10 feet, but not more than 1 inch. For exposed corner columns, control joint grooves, and other conspicuous lines, 1/4 inch in a bay or 20 feet maximum; 1/2 inch maximum in 40 ft. or more.
 - 4. Variation in sizes and locations of sleeves, floor openings, and wall openings, 1/4 inch.
 - 5. Variations in footings plan dimensions, minus 1/2 inch and plus 2 inches; misplacement or eccentricity, 2 percent of footing width in direction of misplacement but not more than 2 inches; thickness reduction, minus 5 percent.
- D. Construct forms tight enough to prevent loss of concrete mortar.
 - 1. Minimize joints.
 - 2. Exposed Concrete: Symmetrically align joints in forms.
- E. Construct forms for easy removal without hammering or prying against concrete surfaces.
 - 1. Provide crush or wrecking plates where stripping may damage cast concrete surfaces.
 - 2. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 - 3. Install keyways, reglets, recesses, and like, for easy removal.
 - 4. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible.
 - 1. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar.
 - 2. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete, unless otherwise noted.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in Work.
 - 1. Determine sizes and locations from trades providing such items.
 - 2. Obtain written approval of A/E prior to forming openings not indicated on Drawings.
- J. Construction and Movement Joints
 - 1. Construct joints true to line with faces perpendicular to surface plane of concrete.
 - a. Where joints divide footings and walls, joints shall have keyway formed. Keyways shall be 1/3 of thickness of element, shall extend to within 3 inches of ends of element and shall be at least 1-1/2 inch thick, unless otherwise noted.
 - 2. Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by A/E.

3. Place joints perpendicular to main reinforcement.
- K. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection.
 1. Locate ports and openings in bottom of vertical forms, in inconspicuous location, to allow flushing water to drain.
 2. Close temporary ports and openings with tight-fitting panels, flush with inside face of form, and neatly fitted, so joints will not be apparent in exposed concrete surfaces.
- L. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- M. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- N. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.4 EMBEDDED ITEMS INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete.
 1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's 303 "Code of Standard Practice for Steel Buildings and Bridges."
 3. Conduits and pipes of aluminum shall not be embedded in structural concrete unless effectively coated to prevent aluminum-concrete reaction or electrolytic action between aluminum and concrete.
 4. Clean embedded items immediate prior to concrete placement.

3.5 REMOVING AND REUSING FORMS

- A. General: Formwork for Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.
 1. Leave formwork for beam soffits, joists, slabs, and other structural elements that supports weight of concrete in place a minimum of 14 days and not until concrete has achieved its 28-day design compressive strength.
 2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in Work.
 1. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces.
 2. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints.
 1. Align and secure joints to avoid offsets.
 2. Do not use patched forms for exposed concrete surfaces unless approved by A/E.

3.6 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing and supplying reinforcement.
 1. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

- B. Accurately position, support, and secure reinforcement against displacement.
 - 1. Locate and support reinforcement with bar supports to maintain minimum concrete cover.
 - 2. Do not tack weld crossing reinforcing bars.
- C. Preserve clearance between bars of not less than 1 inch, not less than one bar diameter, or not less than 1-1/3 times size of large aggregate, whichever is greater.
- D. Provide concrete coverage in accordance with ACI 318.
- E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- F. Splices: Lap splices as indicated on Drawings.
- G. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging.
 - 1. Support welded-wire reinforcement in accordance with CRSI "Manual of Standard Practice".
 - 2. Lap edges and ends of adjoining sheets at least one mesh spacing plus 2 inches for plain wire and 8 inches for deformed wire.
 - 3. Offset laps of adjoining sheet widths to prevent continuous laps in either direction.
 - 4. Lace overlaps with wire.
- H. Zinc-Coated Reinforcement: Repair cut and damaged zinc coatings with zinc repair material according to ASTM A 780. Use galvanized steel wire ties to fasten zinc-coated steel reinforcement.
- I. Provide sufficient numbers of supports and of strength to support reinforcement in correct position. Do not place reinforcing bars more than 2 inches beyond last leg of continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.
- J. Reinforcing steel installed in continuous footings shall run continuous. This shall include specially shaped components with proper lap where corner reinforcing and step footings occur.
- K. Provide additional reinforcing around required openings in footings and slabs having a one foot least dimension.
- L. Support welded wire fabric in slabs-on-ground with precast concrete bricks at 2 feet spacing in both directions.

3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete. Place joints at ends of pours and where placement operations are stopped for more than 1/2 hour, except where such pours terminate at expansion joints.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by A/E.
 - 1. Place joints perpendicular to main reinforcement.
 - 2. Continue reinforcement across construction joints, unless otherwise indicated.
 - 3. Do not continue reinforcement through sides of strip placements of floors and slabs.
- C. Control (Contraction) Joints in Slabs-on-Grade: Form weakened-plane control (contraction) joints, sectioning concrete into areas as indicated. Construct control (contraction) joints for a depth equal to at least one-fourth of concrete thickness as follows:
 - 1. Sawed Joints: Form control (contraction) joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades with a triangular arbor configuration. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random control (contraction) cracks.

- a. For most concrete mixtures, this means sawing should be completed within first six to 18 hours and never delayed more than 24 hours. Early-entry saws are available which may allow cutting to begin within a few hours after placement.
2. Control (contraction) joints shall be filled with self-leveling traffic grade sealant as specified in Division 07 Section "Joint Sealants" for following locations, unless otherwise noted:
 - a. Exposed and concealed concrete slabs on grade with no additional floor finish or sealed concrete finish only.
 - 1) Sealant color shall match sealed concrete color.
3. Locate control (contraction) joints in slabs-on-ground, as indicated, if not shown, then so as to divide slab into sections with a maximum distance of 12 feet between control joints both directions, unless otherwise noted.

- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
 2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Division 07 Section "Joint Sealants," are indicated.
 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.8 CONCRETE PLACEMENT

- A. General: Comply with ACI SPEC-301.
- B. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- C. Notify A/E and testing and inspection agencies 24 hours prior to commencement of concrete placement.
- D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301, but not to exceed amount indicated on concrete delivery ticket.
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI SPEC-301.
 - a. Do not use vibrators to transport concrete inside forms.
 - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer.
 - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
 - d. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
 3. Concrete shall be completely discharged within 1-1/2 hours after entering conveying drum.

4. Pumping methods using steel or plastic pipelines will be permitted. Aluminum alloy lines shall not be used. Minimum pipe diameter allowed for pumping shall be 3 inches.
5. Pumped Concrete: Comply with ACI 304R.

- F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Do not place concrete floors and slabs in a checkerboard sequence.
 2. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 3. Maintain reinforcement in position on chairs during concrete placement.
 4. Screed slab surfaces with a straightedge and strike off to correct elevations.
 5. Level concrete, cut high areas, and fill low areas.
 6. Slope surfaces uniformly to drains where required.
 7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleed-water appears on surface. Do not further disturb slab surfaces before starting finishing operations.
 8. Do not further disturb slab surfaces before starting finishing operations.

3.9 FINISHING FORMED SURFACES

- A. Rough-Formed Finish (SF-1.0): ACI SPEC-301 surface finish as-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Apply to concrete surfaces not exposed to public view.
 - a. Patch voids larger than 1-1/2 inches wide or 1/2 inch deep.
 - b. Remove projections larger than 1 inch.
 - c. Tie holes do not require patching.
 - d. Surface Tolerance: ACI SPEC-117 Class D.
- B. Smooth-Formed Finish (SF-2.0): ACI SPEC-301 surface finish as-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Patch voids larger than 3/4 inch wide or 1/2 inch deep.
 2. Remove projections larger than 1/4 inch.
 3. Patch holes.
 4. Surface Tolerance: ACI 117 Class B.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.10 FINISHING FLOOR AND SLABS

- A. General Information (Slabs-on-Grade): Requirements indicated are based upon latest FF/FL method. Bids for this work shall reflect these requirements and enforcement can be expected.
1. Comply with ACI 302.1R recommendations for screeding, restraighening and finishing operations for concrete surfaces. Do not wet concrete surfaces.
 - a. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Finished surface is to be free of trowel marks, uniform in texture and appearance and with surface leveled to tolerances indicated. Do not burnish trowel surface.
 - b. Elevated slabs shall comply with following floor flatness (FF) values. Floor levelness values will not apply to elevated slabs.
 2. Finish surfaces to the following tolerances, in accordance with ASTM E 1155.

- B. Float Finish (Flt-Fn): When bleed water sheen has disappeared and concrete has stiffened sufficiently to permit operation of specific float apparatus, consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Re-straighten, cut down high spots, and fill low spots. Repeat float passes and re-straightening, until surface is left with uniform, smooth, granular texture and complies with ACI SPEC-117 tolerances for conventional concrete.
 - 1. Specified Overall Value: FF 20/FL 15.
 - 2. Minimum Local Value: FF 14/FL 10.
 - 3. Apply float finish to monolithic slab surfaces that are to receive a trowel finish.
- C. Trowel Finish; General: After applying float finish, apply first troweling and consolidate concrete by hard or power-driven trowel. Continue troweling passes and re-straighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor covering. Do not add water to concrete surface.
 - 1. Trowel Finish 1 (Tr-Fn1): Floors, unless otherwise noted.
 - a. Specified Overall Value: FF 25/FL 20.
 - b. Minimum Local Value: FF 17/FL 14.
 - c. Apply trowel finish to monolithic slab surfaces where slabs remain exposed, unless otherwise noted.
 - 2. Exposed Surfaces: Use steel-reinforced plastic power trowel blades (in lieu of steel) to control dark burnish marks on plain concrete or surface to receive: stain, dye, shake-on, integral pigments, polished, or clear sealed.
- D. Nonslip Broom Finish (NsBrm-Fn): Apply nonslip broom finish to exterior concrete platforms, steps and ramps, and elsewhere as indicated.
 - 1. Immediately after float finishing, slightly roughen concrete surface by brooming with fiber bristle broom, perpendicular to main traffic route. Coordinate required final finish with A/E before application.

3.11 MISCELLANEOUS CONCRETE ITEMS INSTALLATION

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations:
 - 1. Coordinate sizes and locations of concrete bases with actual equipment provided.
 - 2. Construct concrete base a minimum of 4-inches high unless otherwise indicated; and extend base not less than 6 inches in each direction beyond maximum dimensions of supported equipment unless otherwise indicated.
 - 3. Minimum Compressive Strength: 4,000 psi at 28 days, unless otherwise indicated.
 - 4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around full perimeter of concrete base.
 - 5. For supported equipment, install anchor bolts that extend through concrete base, and anchor into structural concrete substrate.
 - 6. Prior to pouring concrete, place and secure anchorage devices.
 - a. Use setting drawings, templates, diagrams, instructions and directions furnished with items to be embedded.
 - b. Cast anchor-bolt insert into bases.
 - c. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.12 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI SPEC-301 and ACI SPEC-306.1 for cold-weather protection and ACI SPEC-305.1 for hot-weather protection during curing. Maintain moisture loss no more than 0.2 lb./sq.ft. x h, calculated in accordance with ACI 305.1, before and during finishing operations.
- B. Curing Formed Surfaces: Comply with ACI SPEC-308.1.
- C. Curing Unformed Surfaces: Cure concrete according to ACI SPEC-308.1, by one or a combination of following methods:
 - 1. Begin curing immediately after finishing concrete.
 - 2. Interior Concrete Floors:
 - a. Floors to Receive Penetrating Liquid Floor Treatments or Sealers: Contractor has option of following:
 - 1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install pre-wetted absorptive cover over entire area of floor.
 - a) Lap edges and ends of absorptive cover not less than 12 inches.
 - b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.
 - 2) Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive.
 - a) Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
 - b) Cure for not less than seven days.
 - 3) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, following:
 - a) Water.
 - b) Continuous water-fog spray.

3.13 TOLERANCES

- A. Conform to ACI 117.

3.14 SEALER INSTALLATION

- A. Anti-Spalling Sealer: All exterior slabs, unless otherwise noted, shall be sealed with specified penetrating anti-spalling sealer. Surface preparation of slabs and sealer application shall be in strict accordance with directions of manufacturer. Field service shall be provided, upon 5 days' notice, by manufacturer of sealer to assist contractor in obtaining maximum benefits of product under prevailing jobsite conditions. In addition, sealer representative shall attend pre-installation meeting with A/E and contractor to discuss proper equipment and procedures.
- B. Floor Sealing Coat: Apply to all exposed slabs that received curing and sealing compounds before turning over building to Owner.
 - 1. Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product carton instructions, including slab preparation requirements. .
 - 2. Application. Apply at a uniform coverage with an individual handheld pump-up or airless sprayer, or by roller. Common garden-type sprayers should not be used. If applying by roller, use a short 3/8-inch nap, solvent resistant roller cover. First coat acts as a primer for second coat. Allow first coat to dry tack-free before applying second coat.
 - a. Follow manufacturer's prescribed coverage rates.

3.15 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
 - 1. Defer joint filling until concrete has aged at least one month.
 - 2. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Fill control joints with self-leveling traffic grade sealant at following locations:
 - 1. Exposed slabs with no additional floor finish.

3.16 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by A/E. Remove and replace concrete that cannot be repaired and patched to A/E's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins, and other projections on surface, and stains and other discolorations that cannot be removed by cleaning.
 - 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension in solid concrete, but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 - 2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 - 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by A/E.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
 - 1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 - 2. After concrete has cured at least 14 days, correct high areas by grinding.
 - 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 - 4. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.

5. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 6. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Repair materials and installation not specified above may be used, subject to A/E's approval.

3.17 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a special inspector to perform field tests and inspections and prepare test reports.
- B. Batch Tickets (Delivery): For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added to Project site.
- C. Inspections: Refer to Structural Drawings for list of "Special Inspections".
- D. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to following requirements:
 1. Testing Frequency: Obtain at least one composite sample for each 150 cu. yd. or fraction thereof of each concrete mixture placed each day.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change and as needed to monitor control of batches.
 3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture. Additional tests as needed to monitor control of batches.
 4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when 90 deg F and above, and one test for each composite sample.
 5. Compression Test Specimens: ASTM C 31.
 - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
 - 1) Strength test results at the designated age shall be the average of two 6 x 12 inch or three 4 x 8 inch specimens.
 - 2) Transport specimens to lab within 48 hours after casting and cure them in accordance with final curing requirements of ASTM C31 until tested.
 6. Compressive Strength Tests: ASTM C39.
 - a. Test specimens for compressive strength at 7 days or at an alternative early age as required and one set at 28 days.
 - b. Acceptance of concrete shall be based on strength test results of standard cured cylinders in accordance with ASTM C31 and tested at 28 days in accordance with ASTM C39. Strength test results at the designated age shall be the average of two 6 x 12 inch or three 4 x 8 inch specimens.
 - c. When strength cylinders are made, test of slump, air content, temperature and density shall be made and recorded with the strength test results.

- d. Strength of each concrete class shall be deemed satisfactory when both of the following criteria are met:
 - 1) The average of three consecutive compressive-strength tests equal or exceeds specified compressive strength.
 - 2) Any individual compressive-strength test result does not fall below specified compressive strength, f'_c .
 - a) By more than 500 psi when $f'_c \leq 5000$ psi.
 - b) By more than $0.1 f'_c$ when $f'_c > 5000$ psi.
- e. When compressive strength tests fail to meet the provisions of (d), follow procedure in ACI 301 for evaluation of concrete strength tests.
- f. When it is deemed necessary to evaluate the adequacy of concrete strength, at least 3 cores shall be obtained from the portion of the structure represented by the low strength tests. Cores shall be removed and conditioned in accordance with ASTM C42. The strength of cores shall comply with the following:
 - 1) Average strength of 3 cores $\geq 0.85 f'_c$.
 - 2) Individual core strength $\geq .75 f'_c$.
- 7. Test results shall be reported in writing to A/E, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- 8. Nondestructive Testing: Rebound hammer, ultrasonic, or other nondestructive device may be permitted by A/E but will not be used as sole basis for approval or rejection of concrete.
- 9. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by A/E. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by A/E.
- 10. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- 11. Correct deficiencies in Work that test reports and inspections indicate do not comply with Contract Documents.

E. Contractor shall measure floor and slab flatness and levelness according to ASTM E 1155 within 48 hours of finishing.

3.18 CONCRETE WASTE DISPOSAL

A. Salvageable Materials: Unless otherwise indicated, excess concrete materials are Contractor's property. At completion of work, remove from Project site.

3.19 PROTECTION

A. General, protect concrete surfaces as follows:

- 1. Protect from petroleum stains.
- 2. Diaper hydraulic equipment used over concrete surfaces.
- 3. Prohibit vehicles from interior concrete slabs.
- 4. Prohibit use of pipe-cutting machinery over unprotected concrete surfaces.
- 5. Prohibit placement of steel items directly on concrete surfaces.
- 6. Prohibit use of acids or acidic detergents over concrete surfaces.

B. Protect concrete that will remain exposed and has or will receive a floor or slab treatment or a curing and sealing compound with protective cover.

C. Slab Protection: Where concrete surface is scheduled remain exposed.

- 1. Floor must be protected from following:

- a. Silicone chalks should not be used if at all possible. Red and yellow chalks are permanent dyes. Red chalks, black markers, wax pencils should not be used for framing. White or blue chalks are ok. Do not over mark for framing. Do not use silicone sprays to hold lines. Sprays repel stain and leave harsh, permanent scars on floor.
- b. Do not use, tape, glue, solvents, pine-sol, varnish, non-breathing plastics, liquid nail, silicone, plastics, nails, plumbers glue, foam insulation, bond release agents, flux, oils, grease, polyurethane, paint, markers (framers often write dimensions of doorways in marker on slab. They need to make notes on framing instead), grease sticks, spray paints, crayons, muriatic acid, and other chemicals both before and after staining.
- 2. Do not allow to spill or sit on floor.
 - a. It is important that wood, sheet goods, insulation boards, plywood, press board, drywall, sections of framing and like not lay on slab for extended periods of time. They can transfer resins and tannins into slab. This will alter moisture content in slab which leaves a pattern in finished floor. Cardboard should be placed between slab and stacked material to minimize any unwanted transfer. Also food, beverages, oil, glass, metal, paint, chalk, or primers. Be sure to check lifts tires for nails and screws, diaper all equipment from oil and grease drips, don't allow pipe cutting equipment on slab without protection.
- 3. After Polish Protection
 - a. It is extremely important that you do not tape floor! When covering floor, overlap sheets tape first sheet to wall then overlap second sheet to first and tape it to paper. Do not tape to floor. Duct tape, masking tape, packing tape, strap tape, blue tape, green tape, and electrical tape there are not exceptions. Tape alters natural curing process and transfers chemicals to and from slab. Tapes, plastics, and other adhesives can contribute to plasticizer migration. This will show in finished product.

END OF SECTION 03 30 00

2025 REQUEST FOR BIDS

BY THE

BERKSHIRE TOWNSHIP BOARD OF TRUSTEES, DELAWARE COUNTY, OHIO

FOR

Construction of Recreation Courts at 1454 Rome Corners Road

**Berkshire Township Board of Trustees
1454 Rome Corners Road
Galena, Ohio 43021**

(740) 965-2992