VILLAGE OF TINLEY PARK
COOK COUNTY, ILLINOIS
NOTICE TO CONTRACTORS

The Village of Tinley Park will receive sealed bids for the following improvements at the Clerk’s office, 16250 South Oak Park Avenue, Tinley Park, IL 60477, until **1:55PM on April 25th**

**2017 Irrigation Maintenance**
Village of Tinley Park

Proposals will be publicly read aloud at **2:00PM on April 25th 2017.** No bid shall be withdrawn after the opening of the bids without the consent of the Mayor and Board of Trustees for a period of forty-five days after the scheduled time of closing bids.

All bids shall be sealed in an envelope, addressed to the Village of Tinley Park, attention Clerk’s office. The name and address of the bidder and the name of the project shall also appear on the outside of the envelope.

Full copies of the Bid Documents, including specifications, are available on the Village of Tinley Park website at [www.tinleypark.org](http://www.tinleypark.org) under the business tab then “contract opportunities”.

A certified check or bank bond on a solvent bank, payable without condition to the Village of Tinley Park in an amount not less than ten percent (10%) of the bid shall be submitted with each proposal, as a guarantee that, if the proposal is accepted, a contract will be entered into and the performance of the contract is properly secured.

The right is reserved to reject any or all bids, to waive technicalities, to postpone the bid opening, or to advertise for new proposals, if in the judgment of the Mayor and Board of Trustees their best interests will be promoted thereby.

The contractor will be required to pay not less than the prevailing wage rates on this project as established by applicable law. He shall also comply with all applicable Federal, State, and local regulations.

The Village of Tinley Park Local Vendor Purchasing Policy provides local vendors with preferential treatment when competing for contracts with the Village. A local vendor is defined as a business that has an actual business location within the Village of Tinley Park and is licensed by the Village. As such, when considering contracts, the Village of Tinley Park reserves the right to forego the lowest and responsible bid in favor of a local vendor under the following circumstances:

<table>
<thead>
<tr>
<th>Contract Value</th>
<th>Range (up to a maximum of)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0-$250,000</td>
<td>5%</td>
</tr>
<tr>
<td>$250,000-$500,000</td>
<td>4%</td>
</tr>
<tr>
<td>$500,000-$750,000</td>
<td>3%</td>
</tr>
<tr>
<td>$750,000-$1,000,000</td>
<td>2%</td>
</tr>
<tr>
<td>$1,000,000-$2,000,000</td>
<td>1%</td>
</tr>
</tbody>
</table>

Responsible bidders are determined pursuant to the criteria set forth pursuant to the criteria set forth in the Village’s Responsible Bidder Ordinance No. 2009-O-002.
Bidder qualifications and experience will also be included in the basis for determining the lowest responsible bidder.

A performance bond in a sum equal to one hundred percent (100%) of the amount of the bid, with sureties to be approved by the Mayor and Board of Trustees for the faithful performance of the contract must be furnished by the successful bidder. All bids or proposals shall contain an offer to furnish bond upon acceptance of such bid or proposal.

Mayor and Board of Trustees
Village of Tinley Park
PROJECT MANUAL

for

Village of Tinley Park
IRRIGATION MAINTENANCE 2017

located at

Tinley Park, Illinois

for

Village of Tinley Park
16250 South Oak Park Avenue
Tinley Park, Illinois

This Project Manual contains bidding information, bidding and contract forms, drawings, and the Specifications for the Project. The contents of this manual, the accompanying Drawings and any Addenda constitute the Bid Documents for this Project.

Landscape Architect
site design group, ltd.
888 South Michigan Ave #1000
Chicago, Illinois 60605
312-427-7240

Project No. 7955
April 3, 2017
<table>
<thead>
<tr>
<th>Division</th>
<th>Section Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS</strong></td>
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</tr>
<tr>
<td>00115</td>
<td>INSTRUCTIONS TO BIDDERS</td>
<td>7</td>
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<td>00140</td>
<td>BID FORM</td>
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<td>EXHIBIT A - LOCAL VENDOR PURCHASING POLICY</td>
<td>1</td>
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<tr>
<td>EXHIBIT B – RESPONSIBLE BIDDER</td>
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<tr>
<td>CERTIFICATIONS BY CONTRACTOR</td>
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<td>REQUIRED INSURANCE</td>
<td>1</td>
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<tr>
<td>A201</td>
<td>GENERAL CONDITIONS (A-201)</td>
<td>42</td>
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<tr>
<td>00143</td>
<td>SUPPLEMENTARY CONDITIONS (A-503)</td>
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<tr>
<td><strong>DIVISION 01 - GENERAL REQUIREMENTS</strong></td>
<td></td>
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<td>01010</td>
<td>SUMMARY OF WORK</td>
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<tr>
<td><strong>DIVISION 02 - SITE CONSTRUCTION</strong></td>
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<tr>
<td>02925</td>
<td>IRRIGATION MAINTENANCE</td>
<td>10</td>
</tr>
<tr>
<td>328400</td>
<td>PLANTING IRRIGATION SPECIFICATION</td>
<td>23</td>
</tr>
<tr>
<td><strong>APPENDIX</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: IRRIGATION SITE MAPS</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 00115
INSTRUCTIONS TO BIDDERS
Tinley Irrigation Maintenance 2017
Tinley Park, Illinois

1. PROJECT
   A. Sealed Bids are invited for: Tinley Irrigation Maintenance 2017
   B. Location: Scattered sites throughout the Village of Tinley Park, Illinois
   C. Based upon Construction Contract Documents prepared by:
      1. site design group, ltd.
         888 South Michigan Avenue #1000
         Chicago, IL 60605
         312-427-7240 telephone

2. BID DELIVERY AND TIME DEADLINE
   A. Sealed Bids, clearly marked “TINLEY IRRIGATION MAINTENANCE 2017 PACKAGE”
      will be received at the Village of Tinley Park Clerks Office, 16250 S. Oak Park Ave.,
      Tinley Park, IL until 1:55 p.m. (central time) on Tuesday, April 25, 2017.
   B. Proposals will be publicly read aloud at 2:00 p.m. on April 25, 2017. No bid shall be
      withdrawn after the opening of the bids without the consent of the Mayor and Board of
      Trustees for a period of forty-five days after the scheduled time of closing bids.
   C. Bids must be made in full accordance with these "Instructions to Bidders".
   D. All copies of the Bid (and any other documents required to be submitted with the Bid shall
      be enclosed in a sealed opaque envelope.
      1. The envelope shall be addressed to the party receiving the Bid and shall be
         identified with the Project name, the Bidder's name and address.
      2. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate
         mailing envelope with the notation "SEALED BID ENCLOSED" on the face
         thereof.
   E. Bids shall be deposited at the designated location prior to the time and date for receipt of
      Bids indicated above, or any extension thereof made by Addendum. Bids received after
      the time and date for receipt of Bids will be returned unopened.
   F. The Bidder shall assume full responsibility for timely delivery at the location designated
      for receipt of Bids.
   G. Oral, telephonic or telegraphic Bids are invalid and will not receive consideration.

3. APPLICABLE LAWS:
   A. The bidder shall become familiar with all laws, ordinances, regulations and Codes of
      Federal, State, City and other local governmental agencies, which may in any manner
      affect the preparation of proposals or the performance of the Contract.

4. EXAMINATION OF DOCUMENTS AND PROJECT SITE
   A. The Bid Documents, including specifications, are available online at
      The bid documents will be issued at 8:30 AM on Monday, April 3, 2017.
B. Complete sets of Bid Documents shall be used in preparing Bids including issued Addendum. Neither the Owner nor the Architect assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.

C. Pre-Bid Meeting: Recommended Meeting April 18, 2017 at 10:00 AM at Public Works office, 7980 W. 183rd St.

D. Before submitting a Bid, bidders shall carefully examine the Contract Documents and existing conditions and limitations of the jobsite, to assure that all costs to complete the Project under the requirements of these Documents are included in the Bid. The submission of a proposal shall be accepted as evidence that the Bidder has followed the instructions herein and the Bidder shall, therefore, be singularly responsible for any and all errors that may be included in the Proposal resulting from failure or neglect to comply with these instructions.

E. After the Bid Opening, no allowance will be made to any Bidder for any change in the scope or price of the Project due to items which would have been apparent by the Bidder’s proper examination of the Documents and jobsite, during the bidding period.

F. Should Bidders, upon examination of Bid Documents and project site, discover discrepancies, omissions, or duplications in the Bid Documents, or questions of scope or intended quality, they shall immediately report in writing via electronic mail to:

Mitch Murdock
site design group, ltd.
888 South Michigan Avenue #1000
Chicago, IL  60605
mitchell.murdock@site-design.com
646-271-9383

no later than Thursday, April 20, 2017 at 10:00 a.m. prior to the date of Bid Receipt to the following address. site design group, ltd. will respond in one of two ways:

1. By issuing a written statement of explanation
2. By issuing an Addendum

G. Bidder shall acknowledge receipt of any addendum or notices by completing Section 00140, Bid Form, Part I, A, 1 prior to finalizing their bid.

H. Neither site design group ltd. nor the Village of Tinley Park shall be responsible for any oral interpretations.

I. During the bidding, certain revisions to the Contract Documents may be initiated. These revisions shall be issued in writing, as Addenda, and will be numbered. Any and all Addenda shall be incorporated as part of the Documents and shall supersede all previous information in these Documents they affect.

5. ADDENDA

A. Addenda will be e-mailed to all who are known by the Architect to have received a complete set of Bidding Documents.

B. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

C. No Addenda will be issued later than five (5) calendar days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.
D. Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

6. PREPARATION OF BID FORM AND ATTACHMENTS

A. Bids shall be submitted on the Bid Form included with the Contract Documents.
B. All blank spaces on the Bid Form must be filled in, including Addenda, if any are issued during the bid period, in order for the Bid to be valid.
C. Alternate Bids: Spaces for Alternate Bids should be filled in with the amount increased or decreased to the Base Bid.
D. Allowances: Allowances stated in Section "Allowances" shall be included in the Lump Sum Bid.
E. Voluntary Alternate Bids: No voluntary alternates will be considered at this time.
F. Unit Prices: Spaces for unit prices on the attached Bid Form shall be filled in with the amounts for increases or decreases in type of work indicated. Unit prices shall be used for adjusting the Contract Sum in accordance with changes in the work.
G. All bid amount totals shall be given in both words and figures. In the event of a discrepancy between the words and figures, the words shall govern.
H. Each Bidder must base his bid on materials and equipment described in the Contract Documents.
I. The amount of the Base Bid must include, but not be limited to the following:
   1. The Owner is a tax-exempt body and is, therefore, exempt from certain sales and use taxes.
   2. All fees for royalties and patents.
   3. All temporary facilities as required. Contractor may use Owner supplied electric, water and natural gas utilities on the site. All other costs for temporary equipment and temporary utility hookups are the responsibility of the Contractor.
J. Letter certifying no exclusions to plans and specifications.
K. Contractor Personnel: Each bidder must provide a list of key individuals to be assigned to the Project. Include individual’s role and time commitment to the Project.
L. Material suppliers specified shall be used for preparation of the bids. Substitution requests shall not be allowed at the time of bidding.
M. Each copy of the Bid shall include the legal name of the Bidder and a statement that the Bidder is a sole proprietor, partnership, corporation, or other legal entity. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent’s authority to bind the Bidder.

7. OTHER CERTIFICATIONS AND SUBMITTALS

A. All bidders must complete and sign the following certifications and submit them with their bid proposals. FAILURE TO DO SO WILL RESULT IN DISQUALIFICATION OF BIDDER.
   1. Bidder Eligibility Certification and Non-Collusion Affidavit.
4. Certificate of Compliance with Sexual Harassment Policy.
7. Certificate of Compliance with the Village of Tinley Park Responsible Bidder Ordinance.

8. BID SECURITY
   A. A certified check or bid bond on a solvent bank, payable without condition to the Village of Tinley Park in an amount not less than ten percent (10%) of the bid shall be submitted with each proposal, as a guarantee that, if the proposal is accepted, a contract will be entered into and the performance of the contract is properly secured.
   B. The Bid Security of the successful Bidder shall be returned to him immediately after the execution of the Agreement and upon delivery to the Owner of all requested bonds or certificates.
   C. The Bid Security of all unsuccessful Bidders shall be returned to them, after the Bid opening, as soon as is practicable.
   D. In submitting a Bid, the Bidder understands and agrees that if his Bid is accepted, and if bidder fails to enter into an Agreement with the Owner, bidder shall forfeit his Bid Security paid to the Owner, not as a penalty, but as liquidated damages due to such failure.

9. PERFORMANCE AND PAYMENT BOND
   A. Bidder shall furnish Performance and Payment Bond for the full amount of the Contract within seven (7) days of Notification of Award for the Contract. The Bid Form provides space for Performance and Payment bond information.
   B. Bond shall be written on AIA Document A311, "Performance Bond and Labor and Material Payment Bond".
   C. The bond shall be with a surety or sureties with a rating of “A” or better by A.M. Best and Company and such sureties shall be approved by The Village of Tinley Park. Bonds in the form of certified or cashier’s checks shall be made payable to The Village of Tinley Park. The Performance and Payment Bond shall be furnished in the same number of copies as the number of copies of the contract to be executed.

10. BASIS OF AWARD
    A. The Village of Tinley Park reserves the right to reject any or all Bids for any reason and to accept any one Bid deemed most favorable to the best interests of the Village of Tinley Park.
    B. That in order to be considered a “responsible bidder” on any Village of Tinley Park public works projects, a bidder must comply with the following criteria, and submit acceptable evidence of such compliance, in addition to any other requirements as determined from time to time by the village for the specific type of work to be performed:
       1. Compliance with all applicable laws and village codes and ordinances prerequisite to doing business in Illinois and in the Village;
       2. Compliance with:
a. Submittal of federal employer tax identification number or social security number (for individual), and

b. Provisions of section 2000e of chapter 21, title 42 of the United States Code and Federal Executive Order No. 11246 as amended by Federal Executive Order No. 11375 (known as the equal employment opportunity provisions);

3. Furnishing certificates of insurance indicating at least the following coverages at minimum limits established by the village: general liability, workers' compensation, completed operations, automobile, hazardous occupation, product liability, and professional liability;

4. Compliance with all provisions of the Illinois prevailing wage act, including wages, medical and hospitalization insurance and retirement for those trades covered by the act;

5. Participation in apprenticeship and training programs approved by and registered with the United States Department of Labor’s Bureau of Apprenticeship and Training;

6. Compliance with the applicable provisions of the Illinois human rights act and the rules of the Illinois human rights commission, including the adoption of a written sexual harassment policy;

7. Furnishing of required performance and payment bonds;

8. Furnishing certification of no delinquency in the payment of any tax administered by the Illinois department of revenue;

9. Furnishing certification that the bidder is not barred from bidding or contracting as a result of a violation of either section 33e or 33e-4 of chapter 720, article 5 of the Illinois compiled statutes; and

10. Furnishing evidence that the bidder has not only the financial responsibility but also the ability to respond to the needs of the village by the discharge of the contractor’s obligations in accordance with what is expected or demanded under the terms of the contract.

C. The successful Bidder shall be required to enter into a Contract with The Village of Tinley Park, covering the entire work of the Bid, and must furnish to the Owner all bonds, certifications, insurance documents, and other requirements, within seven (7) days after issuance of the Notice of Award of Contract or Letter of Intent.

D. In determining the best Bidder, The Village of Tinley Park shall consider the following:

1. The Base Bid, Unit Prices, Contract Time and the costs for any required bonds or certificates.

2. Competence of the firm and its staff to perform the required construction as indicated by the technical training, education and experience of the Contractor's personnel and subcontractors who are assigned to perform the service.

3. Ability of the Contractor and his subcontractor’s ability to deliver the product competently and on an appropriate schedule to meet the needs of The Village of Tinley Park.

4. The character, integrity, reputation, judgment, experience and efficiency of the Bidder.

5. Past performance as demonstrated by evaluations from previous clients with respect to cost control, quality of work and meeting project schedules. Include
three (3) references with name of project, location, owner and current contact person.

6. The quality of performance of previous contracts or services.

7. The previous and existing compliance by the bidder with the laws and ordinances relating to the contract or service.

8. The sufficiency of the financial resources and ability of the Bidder to perform the contract or provide services.

9. The ability of the Bidder to provide future maintenance and service for use of the subject of the Contract

10. Information which The Village of Tinley Park may obtain through independent investigation.

E. Competence of Subcontractors

1. Each Bidder is required to complete the form attached to the Bid Form listing certain intended subcontractors to be employed on the Project.

2. The competence and responsibility of all subcontractors shall be considered in awarding the Contract. If subcontractors are unknown or their competence is questioned, it is understood that such subcontractor shall file, upon request, evidence of facilities, equipment, experience, financial and other data and references for investigation and qualification.

3. The Village of Tinley Park reserves the right to reject any subcontractor, reserves the right to require the Contractor to provide an alternate subcontractor prior to consideration of bid and/or award of bid, and reserves the right to reject the bid of any Contractor for failure to provide competent subcontractors.

F. QUALIFICATIONS OF CONTRACTORS

1. The Contractor shall be required before the award of any contract to show to the complete satisfaction of the Department of Public Works that it has the necessary facilities, ability, and resources to provide the services specified herein in a satisfactory manner and within the required time deadlines. The Contractor shall be required to provide a minimum of three references for similar work. The Department of Public Works reserves the right to reject any proposal if the evidence submitted by, or investigation of, the Contractor fails to satisfy the Department of Public Works that the Contractor is properly qualified to carry out the obligations of the contract and to complete the work described herein. Also, a 24 hour contact name and number shall be required.

G. The Village of Tinley Park Local Vendor Purchasing Policy provides local vendors preferential treatment when competing for contracts within the Village. A local vendor is defined as a business that has an actual business location within the Village of Tinley Park and is licensed by the Village. When considering contracts, the Village reserves the right to forego the lowest bid in favor of a local vendor when the amount of the local bidder exceeds that of the otherwise lowest bid as follows, provided both bidders are found to be responsive and responsible:

<table>
<thead>
<tr>
<th>Contract Value</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 to $250,000</td>
<td>5%</td>
</tr>
<tr>
<td>$250,000 to $500,000</td>
<td>4%</td>
</tr>
<tr>
<td>$500,000 to $750,000</td>
<td>3%</td>
</tr>
<tr>
<td>$750,000 to $1,000,000</td>
<td>2%</td>
</tr>
</tbody>
</table>
$1,000,000 to $2,000,000  1%

1. Maximum amount a local vendor’s bid may exceed lowest responsive and responsible bid: $25,000

11. CHANGES AND WITHDRAWALS OF BID

A. A Bidder may withdraw his bid and bid security, if one is required, at any time before the deadline set for Bid Opening, either personally or by written request. Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

B. No Bid may be withdrawn after the Bid Opening, unless the award of the Contract is delayed for a period exceeding ninety (90) days after the Bid Opening.

12. FINAL COMPLETION

A. The Undersigned hereby affirms and states that, if awarded the Contract for said Work, he will commence Work immediately after receiving Notice to Proceed and will coordinate a schedule with the Owner and AOR to completely perform the work and the agreed upon schedule, based on working regular time in strict accordance with the Contract terms and conditions.

13. CONSTRUCTION PROGRESS AND SCHEDULE

A. Subject to the Village’s issuance of required permits, the Contractor shall be notified to start work by issuance of a written Notice to Proceed by the Village of Tinley Park. Work shall start immediately after the issuance of a Notice to Proceed.

B. Prior to work start, a Pre-Construction Conference will be held at the Public Works Garage located at 7980 West 183rd Street, Tinley Park, Illinois; to be determined.

C. All Work shall be completed within the time period established in the Bid Form under Substantial Completion.

D. A Construction Schedule shall be submitted in accordance with the requirements of these Contract Documents.

END OF INSTRUCTIONS TO BIDDERS
BID FORM

A. DEPARTMENT OF PUBLIC WORKS: STREETS SITES

Contractor's bid to supply annual maintenance services for the Village of Tinley Park Irrigation Maintenance Systems is as follows: Spring Start-up, monthly visits, Winter Shutdown.

General Repairs (all locations)
Labor, Equipment and incidentals Per Crew. Includes all travel expenses.

Crew Per Hour $__________________________

Site Location
1. LaGrange Rd $__________________________ per year
2. Harlem Avenue $__________________________ per year
3. 171 Medians $__________________________ per year

TOTAL BID FOR ALL STREETS SYSTEMS PER YEAR (A) $__________________________

B. DEPARTMENT OF PUBLIC WORKS: FACILITIES SITES

Contractor's bid to supply annual maintenance services for the Village of Tinley Park Irrigation Maintenance Systems is as follows: Spring Start-up, monthly visits, Winter Shutdown.

General Repairs (all locations)
Labor, Equipment and incidentals Per Crew. Includes all ravel time.

Crew Per Hour $__________________________

Site Location
1. Fire Station #4 $__________________________ per year
2. Oak Park Ave Metra Station $__________________________ per year
3. Village Hall $__________________________ per year

Issue for Bid 04/03/2017
7955 Tinley Irrigation Maintenance 2017 00140-1 Bid Form
4. Police Station $_________________ per year

TOTAL BID FOR ALL FACILITIES SYSTEMS PER YEAR (B) $_________________

TOTAL BID FOR ALL STREETS & FACILITIES SYSTEMS PER YEAR (A+B) $_________________

Name of Firm ____________________________________________________________

Address ________________________________________________________________

City __________________ State _______ Zip _________________________________

Office Phone ____________________

Cell Phone ______________________

Email _________________________________________________________________

Authorized Representative (print) Authorized Representative Signature
REPAIR SERVICES

The following will be used as a baseline for additional services or emergency repairs. All rates are to include miscellaneous materials, labor, travel, safety requirements, materials and specified requirements per section 328400 planting irrigation.

In some cases depending on need, the Village reserves the right to ask for a proposal from the contractor if the work is more than minor repairs or emergency repairs.

<table>
<thead>
<tr>
<th>Service Description</th>
<th>Rate</th>
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<tbody>
<tr>
<td>Install 4&quot; spray sprinkler/nozzle, fittings</td>
<td>_______________ EA</td>
</tr>
<tr>
<td>Install 12&quot; spray sprinkler/nozzle, fittings</td>
<td>_______________ EA</td>
</tr>
<tr>
<td>Install 4&quot; rotor sprinkler/nozzle, fittings</td>
<td>_______________ EA</td>
</tr>
<tr>
<td>Install 2.5&quot; isolation valve and smaller, fittings</td>
<td>_______________ EA</td>
</tr>
<tr>
<td>Replace 10&quot; round valve box</td>
<td>_______________ EA</td>
</tr>
<tr>
<td>Replace 12&quot; rectangular valve box</td>
<td>_______________ EA</td>
</tr>
<tr>
<td>Install 2&quot; and smaller mainline PVC, Fittings, signal wires</td>
<td>_______________ LF</td>
</tr>
<tr>
<td>Install 2&quot; and small PE lateral line, fittings</td>
<td>_______________ LF</td>
</tr>
<tr>
<td>Install 1&quot; electric valve, connectors, valve boxes, fittings and wiring</td>
<td>_______________ EA</td>
</tr>
<tr>
<td>Install 1.5&quot; electric valve, connectors, valve boxes, fittings and wiring</td>
<td>_______________ EA</td>
</tr>
<tr>
<td>Install 2&quot; electric valve, connectors, valve boxes, fittings and wiring</td>
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<tr>
<td>Foreman</td>
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<tr>
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<tr>
<td>Trencher</td>
<td>_______________ /hr</td>
</tr>
<tr>
<td>Sod installed per SY</td>
<td>_______________ /hr</td>
</tr>
<tr>
<td>Service Truck (includes mileage)</td>
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</tr>
</tbody>
</table>

Issue for Bid 04/03/2017
7955 Tinley Irrigation Maintenance 2017 00140-3  Bid Form
## Contractor References

1. **Project Name**
   
   **Contact**
   
   **Telephone**
   
   **Email**

2. **Project Name**
   
   **Contact**
   
   **Telephone**
   
   **Email**

3. **Project Name**
   
   **Contact**
   
   **Telephone**
   
   **Email**

4. **Project Name**
   
   **Contact**
   
   **Telephone**
   
   **Email**

## Baseline Control System Reference

1. **Project Name**
   
   **Contact**
   
   **Telephone**
   
   **Email**
Bid Acknowledgement – To be included in the bid

The undersigned, has examined the specifications and all site conditions affecting the specified project. They offer to furnish all services, labor and incidentals specified for the above price.

The Village reserves the right to reject any and all bids and to waive any irregularities and that the price will remain valid for a period of not less than sixty (60) days.

The undersigned certifies that they are not barred from bidding on this contract for any purpose, and is not delinquent in any taxes owed.

We propose to complete the following project as described in the specifications and here within.

Bidding Company Name:_________________________________________________________

Authorized Signature:__________________________________________________________

Date:__________
EXHIBIT A

VILLAGE OF TINLEY PARK LOCAL VENDOR PURCHASING POLICY
The Village of Tinley Park believes it is important to provide local vendors with opportunities to provide goods and services to the Village of Tinley Park. This belief is based upon the fact that the active uses of commercial properties in Tinley Park benefits the community through stabilization of property tax, the creation of local sales tax and the provision of employment opportunities for citizens of the community and surrounding region. In an effort to promote the aforementioned benefits, the Village of Tinley Park wishes to provide local vendors with preferential treatment when competing for contracts with the Village. A local vendor is defined as a business that has an actual business location within the Village of Tinley Park and is licensed by the Village. The Village will not award a contract to a local vendor when the difference between the local vendors bid and the otherwise lowest responsive and responsible bid exceeds the applicable percentage indicated as follows. As such, when considering contracts, the Village of Tinley Park reserves the right to forego the lowest responsive and responsible bid exceeds the applicable percentage indicated as follows. As such, when considering contracts, the Village of Tinley Park reserves the right to forego the lowest responsive and responsible bid in favor of a local vendor under the following circumstances:

<table>
<thead>
<tr>
<th>Contract Value</th>
<th>Range (up to a maximum of)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 to $250,000</td>
<td>5%</td>
</tr>
<tr>
<td>$250,000 to $500,000</td>
<td>4%</td>
</tr>
<tr>
<td>$500,000 to $750,000</td>
<td>3%</td>
</tr>
<tr>
<td>$750,000 to $1,000,000</td>
<td>2%</td>
</tr>
<tr>
<td>$1,000,000 to $2,000,000</td>
<td>1%</td>
</tr>
</tbody>
</table>

Under no circumstances will any contract be awarded to a local vendor when the local vendor's bid exceeds the lowest responsive and responsible bid by $25,000 or more.

This policy shall ONLY apply if formal notice of the aforementioned criteria is provided as part of the bid specifications. In addition, it should be noted that the Village of Tinley Park shall not be obligated to forego the low bidder in favor of the local vendor under any circumstances. However, this policy simply provides the Village with the option of doing so when applicable. Furthermore, this policy shall not apply in any situation where any portion of the contract amount is being paid with funds other than Village monies. Specifically, this policy shall not apply in any situation where the Village has received a grant or otherwise received a source of funds other than its own funds.
RESPONSIBLE BIDDER

For any construction project undertaken by the Village to which the Illinois Prevailing Wage Act, 820 ILCS 130/0.01 et seq. is applicable, in order to be considered a “responsible bidder” on Village Public Works Projects, a bidder must comply with the following criteria, and submit acceptable evidence of such compliance, in addition to any other requirements as determined from time to time by the Village for the specific type of work to be performed:

(a) Compliance with all applicable laws and Village Codes and Ordinances prerequisite to doing business in Illinois and in the Village;

(b) Compliance with:
   a. Submittal of Federal Employer Tax Identification Number or Social Security Number (for individual), and
   b. Provisions of Section 2000e of Chapter 21, Title 42 of the United States Code and Federal Executive Order No. 11246 as amended by Federal Executive Order No. 11375 (known as the Equal Employment Opportunity Provisions);

(c) Furnishing certificates of insurance indicating at least the following coverages at minimum limits established by the Village: general liability, workers’ compensation, completed operations, automobile, hazardous occupation, product liability, and professional liability;

(d) Omitted

(e) Participation in apprenticeship and training programs approved by and registered with the United States Department of Labor’s Bureau of Apprenticeship and Training;

(f) Compliance with the applicable provisions of the Illinois Human Rights Act and the rules of the Illinois Human Rights Commission, including the adoption of a written sexual harassment policy;

(g) Furnishing of required performance and payment bonds;

(h) Furnishing certification of no delinquency in the payment of any tax administered by the Illinois Department of Revenue;

(i) Furnishing certification that the bidder is not barred from bidding or contracting as a result of a violation of either Section 33E or 33E-4 of Chapter 720, Article 5 of the Illinois Compiled Statutes; and

(j) Furnishing evidence that the bidder has not only the financial responsibility but also the ability to respond to the needs of the Village by the discharge of the contractor’s obligations in accordance with what is expected or demanded under the terms of the contract.

(k) Acknowledgement that the Village intends to utilize its standard Professional Services Agreement.
CERTIFICATIONS BY CONTRACTOR

Eligibility to Contract

The undersigned hereby certifies that the Contractor is not barred from bidding on or entering into this contractor as a result of a violation of either the bid-rigging or bid-rotating provisions of Article 33E of the Criminal Code of 1961, as amended.

__________________________  __________________________
Name of Contractor (please print)  Submitted by (signature)

Title

Certificate of Compliance with Illinois Human Rights Act

The undersigned hereby certifies that the Contractor is in compliance with Title 7 of the 1964 Civil Rights Act as amended and the Illinois Human Rights Act as amended.

__________________________  __________________________
Name of Contractor (please print)  Submitted by (signature)

Title

Certificate of Compliance with Illinois Drug-Free Workplace Act

The undersigned, having 25 or more employees, does hereby certify pursuant to section 3 of the Illinois Drug Free Workplace Act (30 ILCS 580/3) that it shall provide a drug-free workplace for all employees engaged in the performance of the work under the contract by complying with the requirements of the Illinois Drug-Free Workplace Act and, further certifies, that it is not ineligible for award of this contract by reason of debarment for a violation of the Illinois Drug-Free Workplace Act.

__________________________  __________________________
Name of Contractor (please print)  Submitted by (signature)

Title
Certificate Regarding Sexual Harassment Policy

The undersigned does hereby certify pursuant to section 2-105 of the Illinois Human Rights Act (775 ILCS 5/2-105) that it has a written sexual harassment policy that includes, at a minimum, the following information: (i) the illegality of sexual harassment; (ii) the definition of sexual harassment under State law; (iii) a description of sexual harassment, utilizing examples; (iv) an internal complaint process including penalties; (v) the legal recourse, investigative and complaint process available through the Department of Human Rights and Human Rights Commission; (vi) direction on how to contact the Department of Human Rights and Human Rights Commission; and (vii) protection against retaliation.

______________________________  ______________________________
Name of Contractor (please print)  Submitted by (signature)

Title

Certificate of Compliance with Substance Abuse Prevention on Public Works Projects Act

The undersigned hereby certifies that:

A. There is in place a written program which meets or exceeds the program requirements of the Substance Abuse Prevention on Public Works Projects Act (P.A. 95-0635), and has provided a written copy thereof to the Village of Tinley Park.

B. There is in place a collective bargaining agreement which deals with the subject matter of the Substance Abuse Prevention on Public Works Projects Act (P.A. 95-0635)

(Cross out either A or B depending upon which certification is correct)

______________________________  ______________________________
Name of Contractor (please print)  Submitted by (signature)

Title
Certificate of Compliance with Prevailing Wage Requirements

The undersigned hereby certifies that:
This contract calls for the construction of a “public work,” within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/.01 et seq. (“the Act”). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the current “prevailing rate of wages” (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The Department publishes the prevailing wage rates on its website at http://www.state.il.us/agency/idol/rates/rates.HTM. The Department revises the prevailing wage rates and the contractor/subcontractor has an obligation to check the Department’s web site for revisions to prevailing wage rates. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor’s website. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage requirements and notice and record keeping duties.

_________________________________________  ____________________________
Name of Contractor (please print)             Submitted by (signature)

_________________________________________
Title

Certificate of Compliance with the Village of Tinley Park Responsible Bidder Ordinance

The undersigned or the entity making the proposal or bid has reviewed and is in compliance with the Village of Tinley Park Responsible Bidder Ordinance No. 2009-O-002.

_________________________________________
Name of Contractor (please print)             Submitted by (signature)

_________________________________________
Title
**Required Insurance**

The selected Proposer, at its sole cost and expense, shall maintain at all times during the course of the Work, the following types of insurance:

1. **Workers Compensation Insurance** to cover full liability under Worker’s Compensation laws of the State in which the project is located with Employers’ Liability coverage in limit not less than $1,000,000.00.

2. **Comprehensive General Liability Insurance** on an “occurrence” basis for the hazards of operations, independent contractors, products and completed operations (for two [2] years after the date of Final Acceptance of the Work by Owner), and contractual liability. Such Comprehensive General Liability insurance must include broad form property damage and afford coverage for “personal injury” liability insurance. All General Liability Insurance shall be per location aggregate. Such insurance shall include an endorsement providing that the insurance afforded under Contractor’s policy is primary insurance as respects Owner and that any other insurance maintained by Owner is excess and noncontributing with the insurance required hereunder. The insurance required shall be in limits not less than the following:

   a) Property damage and bodily injury liability:
      - $1,000,000 each occurrence
      - $2,000,000 aggregate
   b) Personal injury liability:
      - $2,000,000 aggregate

3. **Comprehensive Automobile Liability Insurance** covering all owned, non-owned and hired automobiles. The insurance required shall be in limits not less than:

   a) Property damage and bodily injury liability:
      - $1,000,000 each person
      - $1,000,000 each occurrence

4. **Comprehensive Catastrophe Liability Insurance (Umbrella)** of Two Million Dollars ($2,000,000) on items 1, 2 and 3 above.

5. **Errors and Omissions Insurance** of One Million Dollars ($1,000,000) per claim and One Million Dollars ($1,000,000) aggregate.

6. The Village of Tinley Park and its officers, officials, Village President and Board of Trustees, agents, employees, volunteers, representatives, assigns, successors, transferees, licensees, invitees, and attorneys to be included as an additional insured for insurance coverage required in items 2, 3 and 4 above using the additional insured form ISO form CG 2010 (11/85) or its equivalent.

As evidence of coverage 1, 2, 3 and 4, Owner is to receive a certificate of insurance, setting forth the nature of the coverage, the limits of liability, the name of the insurance carrier, policy number, the date of expiration and listing the additional insured as set forth in item 6 above. Each carrier shall agree to furnish at least thirty- (30) day’s prior written notice of cancellation or material change in coverage.
1. **Introduction:** The following supplements modify AIA Document A201-2007, General Conditions of the Contract for Construction. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

2. Add on the front page, after “for the following PROJECT:”
   
   Tinley Irrigation Maintenance 2017
   Scattered Sites
   Tinley Park, Illinois

3. Add on the front page, after “THE OWNER:"

   OWNER/ CLIENT:
   Village of Tinley Park
   16250 South Oak Park Avenue
   Tinley Park, Illinois  60477

   Contact:
   Ms. Kelly Mulqueeny
   (708) 444-5520
   kmulqueeny@tinleypark.org

4. Add on the front page, after “THE ARCHITECT:"

   site design group, ltd.
   888 South Michigan Avenue Suite 1000
   Chicago, Illinois 60605

   Contact:
   Mr. Mitch Murdock
   646-271-9383 (All questions must be submitted in writing)
   mitchell.murdock@site-design.com

5. Add to Section 3.6 “Taxes"

   § 3.6.1  The Owner is a tax-exempt body and is, therefore, exempt from certain sales and use taxes.

6. Add to Section 3.7 “Permits, Fees, Notices, and Compliance with Laws"

   § 3.7.6  The bidder shall become familiar with all laws, ordinances, regulations and Codes of Federal, State, City and other local governmental agencies, which may in any manner affect the preparation of proposals or the performance of the Contract.

7. Add to Section 10.2.2 “Safety of Persons and Property"

   § 10.2.2.1  The Contractor shall report any and all accidents in writing to the Insurance Company, Owner and Architect within 24 hours of occurrence. The report shall contain the
following information and it shall be the responsibility of the Contractor to have an accident report filled out in triplicate and submitted as required above with (1) Name of Person or Persons and Home Addresses, (2) Location of Occurrence, (3) Time of Day and Date, (4) Description of Occurrence, (5) Statements of Witnesses and (6) Signature of Contractor's Superintendent.

8. Add to Section 11.1.2 "Insurance and Bonds":

§ 11.1.2.1 Each Contractor shall comply with the insurance requirements shown in the attached Exhibit as a minimum. Furnish the Owner with Certificates of Insurance covering same.

§ 11.1.2.2 Hold harmless - To the fullest extent permitted by law, the Contractor shall waive any right of contribution and shall indemnify and hold harmless the Owner and the Architect/Engineer and their agents and employees and consultants from and against all claims, damages, losses and expenses, including but not limited to attorney's fees arising out of or resulting from or in connection with the performance of the work, provided that any such claim, damage, loss or expense is caused in whole or part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this agreement. In any and all claims against the Owner or the Architect/Engineer or any of their agents or employees and consultants by any employees of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph agreement shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

Claims, damages, losses and expenses as these words are used in this agreement shall be construed to include, but not limited to (1) injury or damage consequent upon the failure of or use or misuse by Contractor, its Subcontractors, agents, servants or employees, of any hoist, rigging, blocking, scaffolding, or any and all other kinds of items of equipment, including those covered in the Illinois Structural Work Act whether or not the same be owned, furnished or loaned by Owner; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity or any other indemnity contained in the General Conditions; and (3) time expended by the party being indemnified and their employees, at their usual rates plus costs of travel, long distance telephone and reproduction of documents.

The obligation of the contractor under the agreement shall not extend to the liability of the Owner, and Architect/Engineer, their agents or employees, arising out of their negligence.

The Village of Tinley Park and Architect shall be named as an additional insured on the comprehensive general liability coverage require herein.

END OF SECTION 00143
PART 1 - GENERAL

1.01 Project Description
   A. The project consists of landscape maintenance work throughout the Village of Tinley Park. Project related information is as follows:
      1. Project Name: Tinley Irrigation Maintenance 2017
      2. Project Locations: Seven sites throughout the Village of Tinley Park, Illinois
         a. Village Hall- 16250 Oak Park Avenue
         b. Police Station- 7850 W.183rd St
         c. Fire Station #4- 7801 W.191st St
         d. Oak park Avenue Train Station
         e. Harlem Avenue Medians- 4 sections.
            1) Just north of 163rd St
            2) Between 163rd and 167th Streets
            3) Just south of Hickory St/ Metra Tracks
            4) Just South of 183rd St
         f. 171st St Median- Just east of 80th Ave
         g. LaGrange Rd Medians- From 171st St to 179th St
      3. Owner: Village of Tinley Park (the Village)
      4. Landscape Architect: site design group, ltd. (site)
   B. The irrigation maintenance work consists of, but is not limited to:
      1. Spring startups on Village owned or Village maintained irrigation systems.
      2. Monthly Inspections, adjustments, alignments, routine repairs and reports covering Village owned or Village maintained irrigation systems.
      3. Winterization services on Village owned or Village maintained irrigation systems.
      4. Additional repairs beyond the standard contract scope as approved by the Village.

1.02 Contractor use of Premises
   A. General: During the project period the Contractor shall have full use of the premises for maintenance operations, including use of the sites. The Contractor's use of the premises is limited only by the Owner's right to perform maintenance operations with its own forces or to employ separate contractors on portions of the project.
   B. The Contractor is responsible for the repair and/or replacement of areas damaged by project operations.
   C. All damaged areas shall be restored to the existing condition prior to the damage.

1.03 Contractor Responsibilities
   A. The Contractor's responsibilities include, but are not limited to:
1. Minimizing disruption to curbs, pavement and street traffic.
2. When required, provide traffic protection and control.
3. Secure all required work permits.

END OF SECTION
PART ONE • GENERAL

1.1 SUMMARY

A. The Village of Tinley Park, known as the Owner, requests bids for IRRIGATION SYSTEMS seasonal and preventive maintenance and repairs at various Village sites for a period of one (1) year with four (4) options for renewal for a total of five (5) years possible. First year to be May 1st to December 31st 2017.

1.2 QUALITY ASSURANCE

A. The Contractor warrants to the Owner that the materials used and furnished for the work will be new and that the work will be good quality and free from defects for a period of one year from the date of installation.

B. No service or repairs will be performed without prior approval from the owner that is not included in the seasonal adjustments, start up and winterization. Any additional repair service and/or parts that the winning contractor deems necessary, beyond the original repair request, must first be approved by the owner. All warranty claims shall be completed within 24 – 48 hours at no additional cost to the owner.

C. All repairs and service shall be completed within the time frame as defined by the owner. Any extension of this time must have prior approval from the Owner. Every effort must be made to meet appointment schedules and promised completion times.

1.3 IRRIGATION CONTRACTOR QUALIFICATIONS

A. Each bidder shall have maintained at least 5 (five) irrigation systems of similar
size scope within the last 3 (three) years. The Contractor must submit a list of projects which meet this requirement along with the proper contact name, address and telephone number of the parties that can verify the reference.

B. The Contractor shall be certified by the State of Illinois and the Irrigation Association as a Certified Irrigation Contractor (CIC). The contractor shall provide with submittals, a copy of their current CIC certificate.

C. The Contractor shall designate a competent project superintendent and any necessary assistants to oversee the maintenance for the entire phase of the contract. The superintendent shall have the authority to represent the Contractor in his absence and all directives given to the superintendent shall be as binding as if given to the Contractor. The contractor’s superintendent must be proficient in the use and interpretation of the English language.

D. The contractor is to have experience with Baseline control systems for at least 1 year and have successfully installed and programmed these control systems. The Contractor must submit a list of projects which meet this requirement along with the proper contact name, address and telephone number of the parties that can verify the information.

E. The contractor shall have a tablet or smart phone with web service to access the control systems on-site and remotely. The contractor shall set up the Baseline controllers with the correct email settings for notifications for the client and the contractor. The contractor is to monitor the Baseline system and address any errors that arise.

1.4 CODES AND INSPECTIONS

A. The entire maintenance work shall fully comply with all local and state laws and ordinances, and with all the established codes applicable thereto.

1.5 CONTRACTOR REQUIREMENTS

A. The contractor shall comply with the prevailing wage act and any associated filing requirements.

B. The contractor shall be Licensed and Bonded in the Village of Tinley Park. Contact the Building Department (708)444-5100 for requirements.

PART TWO • EXECUTION

2.1 System Repairs

A. SCOPE OF WORK FOR PREVENTIVE MAINTENANCE AND REPAIR The Village of Tinley Park requests bids for preventive maintenance and repair
and winterization, spring start up, on-call maintenance, and emergency repair support services for existing irrigation systems throughout the Village for a period of one (1) year. All work shall be completed within 48 hours of notice.

B. The services provided are intended to supplement and complement the efforts of the Village maintaining the serviceability of the existing systems. The successful Contractors shall be required to perform base services, and related supplemental services at any of the irrigation zones on an as needed basis, as directed by the Owner.

C. The Contractor shall provide all equipment required to provide preventive maintenance and repair. When needed for sprinkler system repairs such as broken or missing heads, leaking lines, head straightening, malfunctioning controllers, or other problems are included in this bid.

D. For any repairs or product installations, the contractor shall follow the Village's standard section 328400 materials and installation requirements for irrigation systems.

E. Please supply a per-hour rate for crews to perform work on these repairs as they are needed throughout the service period. Materials will be in addition to the labor. The contractor shall carry replacement components and proper tools for execution of the maintenance and repair of the irrigation systems at each site visit.

F. TIME AND MATERIAL HOURS Quotes for any work shall include a cost breakdown submitted by the contractor as follows: labor rate, quantity of hours, materials list, wholesale cost (with evidence of same) and mark up, at applicable contract rates. Each call shall generate a separate invoice detailing the labor charge and the parts/materials as outlined above. All invoices are required to include the proper purchase order number, which can be obtained by calling the owner.

G. HOURLY LABOR RATE The Village does not guarantee any minimum number of hours and will pay only for the actual number of hours authorized and worked at the bid rate. The labor charge should include all travel time. No additional travel will be honored.

H. The work is to be performed at all of the Village of Tinley Park’s sites that have an irrigation system.

1. Police Station- 7850 183rd St
   One controller, One interior RPZ
2. Village Hall- 16250 Oak Park Av
   One controller, Rainbird ESP 32, 32 zones – interior 2” RPZ, small booster
3. Oak Park Av Metra Station- Oak Park Av, North St, South St
   Three controllers, Hunter ProC, 6 zones, 7 zones,12 zones – two exterior RPZ’s, 1” and 1.5”
4. Harlem Ave Medians- From just south of 183rd St to 161st St
Hunter XC Battery operated controllers, five total, 3 stations, 6 stations, 6 stations, 11 stations and 10 stations
Exterior RPZ, 1” (3)
Exterior RPZ 1.5” (1)

5. 171st St Medians - 80th Av to 78th Av
One Controller, Baseline 3200 DC 24v–14 zones, one exterior 1.5” RPZ

6. Fire Station #4- 7801 191st St
One controller, RainBird ESP-LX 12, 12 zones– one interior 1.5” RPZ

7. LaGrange Rd Medians - 171st to 179th
One controller, Baseline web access, 2 wire with Watertronics 5hp booster station – one exterior 2” RPZ built into pump enclosure. 68 zones

I. PERMITS AND RESPONSIBILITIES The Contractor shall be responsible for obtaining all necessary licenses and permits. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor’s negligence and shall take proper safety and health precautions to protect the work, the workers, the public and the property of others. In addition, the Contractor shall be responsible for all materials delivered and work performed until completion and acceptance of the entire work.

The Contractor shall comply with all applicable revisions, additions, changes and/or upgrades to any Federal, state, and municipal laws, codes, and regulations which are in effect on the date of Contract and which affect the performance of the work. The Contractor shall also obtain and pay the costs of any royalties and licenses for any patented or copyrighted items used in the performance of the work.

J. The Contractor shall repair and maintain all equipment covered under this Contract in compliance with the requirements of all local codes and manufacturers installation specifications and guidelines. The Contractor shall perform all services utilizing, at a minimum, the following guidelines:

1. Monitoring – All underground irrigation zones shall be operated and visually checked for leaks, broken heads, heads out of adjustment and improperly functioning electric valves.

2. Broken Irrigation Lines – Broken underground irrigation lines shall be repaired in accordance with all applicable codes.

3. Broken Heads – Broken heads shall be replaced with new identical heads or repaired with original manufacturer’s parts, to function according to the manufacturer’s specifications.

4. Faulty Valves – Faulty valves shall be replaced with new identical valves or repaired to original manufacturer’s specifications.

5. Clogged Heads – Any head that is not properly functioning shall be examined for material(s) lodged in the head. The head shall be disassembled, cleaned, reassembled, and checked.

6. Wiring Problems - An underground wire tracer shall be used to locate wiring breaks. Breaks shall be repaired in accordance with all applicable local codes and with 3M DBY-6 waterproof connectors.

7. Underground Installation repairs – underground main pipe repairs shall be marked with metallic tape or low voltage wires prior to backfill (if applicable). Underground irrigation repairs shall be performed in accordance with applicable codes.

8. The Contractor shall restore landscape to its original condition, including
sodding all disturbed areas, re planting shrubs and mulching.
9. The Contractor shall remove all debris resulting from installation and repair of irrigation systems.

10. All work is to follow Tinley Park’s irrigation section 328400, planting irrigation.

K. SAFETY
1. The contractor is responsible for taking every precaution to protect their employees, the public and Village property.
2. All work to be performed shall comply with all Tinley Park and IDOT flagging, traffic control and protection requirements while working at sites. All work to conform to the applicable Highway Standards, Standard Specifications for Road and Bridge Construction. All traffic control devices shall conform to the Standard Specifications for Traffic Control Devices and the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways. The contractor shall follow all OSHA and EPA standards.
3. The CONTRACTOR is responsible for all site safety, not the Village of Tinley Park. The contractor is responsible for all means, methods and site safety. This is to be incidental in the bid numbers.

2.2 IRRIGATION SEASONAL MAINTENANCE
A. Preseason/Spring start-up completed by May 15th of each calendar year.
   1. Install RPZ devices.
   2. Test RPZ and certify the RPZ by a certified backflow prevention device testing plumber. Provide plumbers license and his certified BPD/backflow prevention or inspectors license. PRZ inspection tag shall be placed on the unit by the inspecting plumber. All plumbing codes must be followed.
   3. Open system valves and fill system.
   4. Check system for leaks.
   5. Replace non-rechargeable batteries (9volt) per controller.
   6. Clean nozzles on all heads.
   7. Align irrigation heads ensuring the heads are at proper elevation and is vertical.
   8. Operate entire system through an abbreviated cycle.
   9. Check operation of rain and/or soil sensors and verify they are working.
   10. Activate program schedule for entire system.
   11. Replace any missing parts such as nozzles or valve box covers.
   12. Inspect the system and prepare a report indicating any repairs that are needed.
   13. Provide a written report to the Village with all that was done to the system and the report shall indicate any repairs that are needed that are beyond normal maintenance and service by the contractor.

B. The Contractor shall provide a minimum of one crew for Spring Start-up and make needed repairs.

   Repairs identified beyond the seasonal services during spring start up inspection may be performed under the additional services portion of this proposal.

   Contractor to get owner’s approval prior to performing and additional services. Neither Spring Start-up nor shall repairs be delayed or postponed due to lack of
Contractor manpower.

If broken and/or damaged parts are found during spring start up inspection, an Owner’s representative and the Contractor shall determine if breakage is the result of freezing caused by faulty Winterization, or if others cause the breakage or damage to the system. If breakage is the result of freezing, due to improper Contractor Winterization, the Contractor shall make the needed repairs at no cost.

1. Provide a written report to the Village by the 15th with all that was done to the system and the report shall indicate any repairs that are needed that are beyond normal maintenance and service by the contractor.

2. If any repairs beyond the contract are needed, prepare a proposal for repairs and get the Village’s approval for such repairs prior to completing them.

C. Monthly inspections

1. Inspections to be completed June, July, August and September. Site inspection are to be completed by the 15th of each month.

2. Monthly inspections to include:
   a. Inspect controllers time and programming.
   b. Make necessary adjustments to controller with approval of owner.
   c. Check operation of sensors.
   d. Walk site to check plant condition related to irrigation.
   e. Check valves for leaks.
   f. Inspect for broken or damage pipes, heads, and components.
   g. Check and clean clogged heads.
   h. Check the irrigation heads in for proper elevation.
   i. Adjust and align all irrigation heads for proper and consistent watering.
   j. Inspect turf for even coverage by irrigation system.
   k. Run system through an abbreviated cycle.
   l. Provide a written report to the Village by the 15th of the month with all that was done to the system and the report shall indicate any repairs that are needed that are beyond normal maintenance and service by the contractor.
   m. If any repairs beyond the contract are needed, prepare a proposal for repairs and get the Village’s approval for such repairs prior to completing them.
D. **Irrigation winterizing**

1. Winterization to be completed by October 15\textsuperscript{th} of each calendar year.
2. Turn water source off.
3. Remove RPZ Devices when outdoors, store for the winter at contractor's facility or as directed by the Village. Cap all ends where the backflow unit is removed.
4. Remove all required filters
5. Blow out all lines with compressed air.
6. Turn off controller.
7. Winterize system and booster pumps or pump stations.
8. The Contractor shall monitor and provide systems adjustment recommendations and physical inspections of the irrigation areas prior to winterization. The Contractor shall make any system adjustments as needed.
9. Provide a written report to the Village by the 15\textsuperscript{th} of the month with all that was done to the system and the report shall indicate any repairs that are needed that are beyond normal maintenance and service by the contractor.
10. If any repairs beyond the contract are needed, prepare a proposal for repairs and get the Village's approval for such repairs prior to completing them.

The Contractor shall provide a minimum of one crew for winterization. The Contractor shall have the capacity to provide a second crew for support and to make any as needed repairs.

The Owner's Maintenance Personnel may make needed repairs to all irrigation zones and systems prior to winterization and spring start up. In the event that all repairs are not made, the Owner may request the Contractor to make the repairs under Additional Services. Neither Winterization nor required repairs shall be delayed or postponed due to a lack of Contractor manpower.

Winterization and preventive maintenance shall include the following procedures that shall be performed in accordance with manufactures specifications for each system zone:

Blow out water using appropriate size air compressor. The compressor shall have a minimum capacity range of 100 to 250 CFM, and shall be regulated to an industry acceptable range of 40-45PSI, by use of a pressure regular. Contractor shall take measures to preclude excessive friction and heat build-up, due in part, to the rapid induction of forced pressurized air into the irrigation system during blowout.
2.3 PAYMENT

A. This work shall be paid for at the contract lump sum rate and shall include all labor, materials, and equipment necessary to complete the work. The payment shall be broken into six (6) equal payments, April through October or as agreed upon with the Village and submitted monthly for approval. Should additional work be required, the approved amounts, should be submitted during the month the work was performed.

2.4 CLEANING THE PREMISES

A. The contractor shall at all times keep the premises on which the work is being done and the adjoining premises clean of rubbish caused by the work, and will be responsible for repair of any damage to Village property caused by his work.

B. The Contractor and each of its employees shall comply with all applicable OSHA and Village rules and practices while on the job site. The Owner reserves the right to inspect all areas for safety violations at its discretion, direct the Contractor to make immediate improvement of necessary conditions and/or procedures, and/or stop the work if other hazards are deemed to exist.

In the event that the Village should elect to stop work because of any type of existing safety hazards after the Contractor has been notified and provided ample time to correct, the Contractor shall bear all costs for eliminating the hazard(s) and shall not be granted compensation for the work stoppage. The Contractor shall pay all additional expenses.

The operation of the Contractor’s vehicles or private vehicles by the Contractor’s employees on or about the property shall conform to posted regulations and safe driving practices. Aisles, passageways, alleyways, entrances or exits to fire protection equipment must be kept unobstructed at all times.

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take all necessary precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to persons, properties, equipment and vehicles. Damage caused by the Contractor to any properties shall be repaired or replace to the satisfaction of the Owner at the expense of the Contractor. The Owner, at its sole direction, may elect to repair or replace the damaged property, and deduct such costs from monies due the Contractor.
PART THREE· CONTRACT TERM

3.1 CONTRACT TERM

A. The term of the Contract shall be from May 1st to December 31, 2017. Each following year (4 optional) will be January 1st to December 31st.

B. This contract may be extended at the Village’s discretion for four (4), one (1) year extensions.

C. The Village reserves the right to cancel and terminate the same at any time giving a 30 day (30) day notice in writing to the contractor. Termination may occur if the Village observes poor performance and/or unacceptable below standards as call for in the contract.
Irrigation System Maintenance Checklist

Controller

- Controller cabinet: Open the cabinet for the irrigation controller and make sure it is free of debris such as cobwebs or dirt.
- Replaced controller battery
- Wiring: Check all wiring connections for wear and breakage. Repair if necessary.
- Time/day settings: Check the time/day settings on your controller to make sure they are correct.

Sprinkler System

- Flush system: Before running the system, remove the last sprinkler head in each line and let the water run for a few minutes to flush out any dirt and debris. Replace the sprinkler heads and turn the system on, running one valve at a time.
- Broken or clogged heads: Look for obviously broken or clogged heads and make the necessary repairs.
- Broken/leaking valve or pipe: Observe the lowest head in each station for leaks.
- High pressure: Look for a very fine mist from spray heads caused by excessive pressure in the system. Correct the problem by turning the flow control down.
- Low pressure: Check to see if the sprinklers are covering the desired area uniformly.
- Incorrect spray arc: Check to see that irrigated areas are being covered completely. Consider adjusting the spray pattern if possible, or replace the spray nozzle(s) with another that has the correct spray pattern.
- Over-spray: Look for over-spray of sprinklers onto sidewalks, driveways, and streets. The sprinklers’ spray patterns should either be adjusted or changed to a pattern that will stay within the planting area.
- Spray pattern blocked or misdirected: Look for blocked spray patterns. Remove vegetation and other obstructions that may be blocking the spray.
- Sunken heads/short pop-ups: Check each head to see that it is at ground level. Raise sunken heads to grade or replace existing short pop-up heads in the lawn with taller pop-ups, as necessary.
- Tilted heads: Heads should be aligned vertically, except in sloped areas. In a sloped area, heads should be aligned perpendicular to the slope to achieve proper coverage. Tilted heads can cause ponding and uneven coverage.
The following specification is related to the underground irrigation sprinkler system. These guidelines are to be followed in either a Design/Build or Design/Bid approach and are considered as minimum standards.

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Attention is directed to the Bidding and Contract Requirements and General and Supplemental Requirements, which are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK

A. Furnish all labor, materials, supplies, equipment, tools, and transportation, and perform all operations in connection with and reasonably incidental to the complete installation of a complete irrigation system, and guarantee/warranty, and as specified herein. The system shall be constructed to grades and conform to areas and locations as shown on the drawings. Removal and or restoration of existing improvements, excavation and back-fill, and all other related work. Contractor to acquire all registrations, inspections and permits, controller fees to complete the irrigation system.

B. Extent of irrigation system work is shown on drawings and by provisions of this Section.

C. Final spacing of the sprinkler heads or quick coupling valves are shown on the final drawing and shall be exceeded only with the permission of the Owner’s authorized representative.

D. The irrigation system shall include a controlled valve distribution system.

E. Items of work specifically included, but not limited to are:
   1) Procurement of all applicable licenses, permits, and fees.
   2) Coordination of all utilities.
   3) Connection of electrical power supply to the irrigation control system.
   4) Sleeving for irrigation pipe and wire.
   5) As-Built Drawings

1.03 QUALITY ASSURANCE

A. Design Criteria
   1. Design sprinklers to provide head to head coverage of areas indicated.
   2. Provide minimum of 30 PSI at base of spray sprinklers and 40 PSI for fixed stream spray sprinkler heads.
   3. Design for prevailing wind of 5 MPH and local soil types.
   4. Adjust sprinkling time to soil type to reduce water runoff.
   5. Follow the Village’s water restriction for allowable watering time.
   6. The system is to be sized to compensate for water restrictions.
   7. Avoid overspray onto adjacent walks, drives, parking areas, and buildings. Throwing over walks is not allowed.
8. Provide 100% head to head full coverage of turf and planting areas. Head to head coverage means that one head throws back to another head with double rows of sprinklers. A single row of sprinklers is not full coverage. It is 50% coverage.
9. Design is to provide 1.5” per week for turf and 1” week for plantings.
10. The system design shall not exceed 5 fps for mainlines or lateral lines.
11. If Design/Build, provide all calculations of pressure losses through the system for each zone.
12. Turf and plantings are to be separated and are not to run on the same zones.
13. Planting areas are to use 12” pop-ups and turf areas are to use 4” pop-ups.
14. Specifications are to use this document as a basis of the section.
15. Drip is to be avoided unless it is the only option to irrigate an area. Discuss with owner the areas and go over the life span and extra maintenance associated with drip irrigation.

B. Drawing Criteria
1. The drawing is to be set up using the Owner’s provided drawings or created sheets. The minimum sheet size shall be 24”x36” and should be readable at 11”x17” sheet size.
2. The drawing is to include all drawing components, legends and scales.
3. The drawing shall at a minimum include:
   a) Mainlines, lateral lines, pipe sizes, sleeving and sizing, electric valves, quick couplers, gate valves, sprinkler heads, wire color charts, run times, controller and sensor locations, electric valve call out numbering and valve sizes and design GPM, system installation details for all major components to be installed.

C. The “Contractor” shall maintain continuously a competent superintendent, satisfactory to the Owner, with authority to act for him in all matters pertaining to the work. The “Contractor” shall coordinate his work with the other trades.

D. The “Contractor” shall confine his operations to the area to be improved and to the areas allotted him by the Owner’s representative for material and equipment storage.

E. The “Contractor” shall have a minimum of 5 years’ experience installing irrigation systems of comparable size and complexity. The contractor shall also have suitable financial status to meet obligations for this project.

F. The contractor shall be a Certified Irrigation Contractor (CIC) in the state of Illinois.

1.04 SUBMITTALS

B. Materials List: At a minimum include the following, valves, sprinklers, controller, wire, wire connectors, pipe, fittings, valve boxes, swing joints, pipe hangers, electric valves, wire splices, sprinklers, nozzles, fusing devices, grounding components and quick couplers to be used on the project prior to purchasing materials. Quantities of material need not be included.

C. Manufacturer’s Data: Submit manufacturer’s catalog cuts, specifications, and operating instructions for the equipment mentioned above and equipment shown on the materials list.

D. Shop Drawings: Submit shop drawings for acceptance, submit written operating and maintenance instructions. Include instruction sheets and parts lists for all operating equipment.

E. Project Record (As-Built) Drawings
1) The CONTRACTOR is to provide the OWNER a scaled drawing of the completed field
“As-Built” of the system.

2) All components of the system are to be drawn and referenced/dimensioned to 2 fixed locations on the site. The contractor may use GPS survey grade data collector to locate all of the system mainline and associated components on the mainline. GPS to use sub-meter accuracy. The contractor may use GPS data collection for the entire system if he finds it is easier in creating the as-built.

3) Components of the system but not limited to, sprinkler heads, electric valves, isolation valves, all PVC piping, quick couplers, PVC pipe sizing, grounding, power wire routes and size and decoder routes from the controller to the electric valves including common wire runs, sensors, grounding locations, decoder fusing devices and any other installed components. For decoders, all decoder ID’s and numbering must be documented and provided to the Owner.

4) All PVC piping shall be referenced in the trench for lengths of run, change in direction and distance and locations of all components referenced in feet from two known points.

5) Two final hard copies of the overall drawings with dimension and notes are to be provided to the OWNER and one copy of the As-Built in AutoCAD 2015 or newer, digital format at the same scale drawing as the original drawings. The contractor is to provide individual controller sequencing sheets in the same format as original drawings and 11” x 17” format. Both submittals shall be laminated and placed as directed by Owner.

6) The contractor is to provide proof of daily field As-Builts and notes with pay submittal for each area the pay submittal is being submitted for. Payment will not be approved if progress drawings are not submitted.

7) The contractor is to provide a daily picture documentation of all work completed and components installed for that day. The picture log shall be provided to the owner in sequential order on a memory stick.

8) The as-built shall also be provided to the owner on the memory stick.

1.05 RULES AND REGULATIONS

A. Work and materials shall be in accordance with the latest edition of the National Electric Code, the Uniform Plumbing Code as published by the Western Plumbing Officials Association, and applicable laws and regulations of the federal, state and local governing authorities.

B. When the contract documents call for materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, provide the quality and size required by the contract documents.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver irrigation system components in manufacturer’s original undamaged and unopened containers with labels intact and legible.

B. Deliver plastic piping in bundles, packaged to provide adequate protection of pipe ends either threaded or plain.

C. Store and handle materials to prevent damage and deterioration.

D. Provide secure, locked storage for valves, sprinkler heads and similar components that cannot be immediately replaced, to prevent installation delays.

1.07 CODES AND STANDARDS
A. The entire installation shall fully comply with local and state laws and ordinances and with all established codes applicable thereto. Contractor to provide final documents with all licenses and certifications needed for the work in this location.

B. Any permits for the installation or construction of the work included under this contract which are required by any of the legally constituted authorities having jurisdiction, shall be obtained and paid for by the “Contractor”, each at the proper time. He shall also arrange for and pay all costs concerning any inspections and examinations required by these authorities.

C. In all cases where inspection of the sprinkler system work is required and/or where portions of the work are specified to be performed under the direction and/inspection of the Owner’s authorized representative, the “Contractor” shall notify the Owner’s authorized representative at least 72 hours in advance of the time and such inspection and/or direction is required.

D. Any necessary re-excavation or alterations to the system needed because of failure of the “Contractor” to have the required inspections, in the opinion of the Owner, shall be performed at the “Contractor’s” own expense.

1.08 TESTING

A. Notify the owner a minimum of three days in advance of testing.

B. Pipelines jointed with rubber gaskets or threaded connections may be subjected to a pressure test at any time after partial completion of backfill. Pipelines jointed with solvent-welded PVC joints shall be allowed to cure at least 24 hours before testing.

C. Subsections of mainline pipe may be tested independently, subject to the review of the Owner’s Representative.

D. Furnish clean, clear water, pumps, labor, fittings, and equipment necessary to conduct test or retests.

E. Volumetric Leakage Test:
   1) Cap riser of mainline components for volumetric pressure tests. Backfill to prevent pipe from moving under pressure. Expose coupling and fitting.
   2) Purge all air from the pipeline before test.
   3) Subject mainline pipe to the anticipated operating pressure of the system. Maintain constant pressure. Test complete system under full line pressure. Pressure must be maintained with less than 2lbs loss in the system for 4 hours. If the system does not hold pressure, repair leaks and retest system until the system maintains pressure.
   4) All necessary testing equipment shall be furnished by CONTRACTOR.
   5) Cement or caulking to seal leaks is prohibited.

F. Operational Test:
   1) Activate each remote control valve in sequence from controller. The owner’s representative will visually observe operation, water application patterns, and leakage.
   2) Replace defective remote control valve, solenoid, wiring, or appurtenance to correct operational deficiencies.
   3) Replace, adjust, or move water emission devices to correct operational or coverage deficiencies.
   4) Replace defective pipe, fitting, joint, valve, sprinkler, or appurtenance to correct leakage
problems. Cement or caulking to seal leaks is prohibited.

5) Repeat test(s) until each lateral passes all tests. Repeat tests, replace components, and correct deficiencies at no additional cost to the owner.

1.09 CONSTRUCTION REVIEW

A. The purpose of on-site reviews by the owner’s representative is to periodically observe the work in progress, the “Contractor’s” interpretation of the construction documents, and to address questions with regard to the installation.

B. Scheduled reviews such as those for irrigation system layout or testing must be scheduled with the Owner’s Representative’s/owner’s representative as required by these specifications.

C. Impromptu reviews may occur at any time during the project.

D. A review may occur at the completion of the irrigation system installation and project record (as-built) drawing submittal.

1.10 GUARANTEE/WARRANTY AND REPLACEMENT

A. It shall be the “Contractor’s” responsibility to ensure and guarantee satisfactory operation of the entire system and the workmanship and restoration of the area. The entire system shall be guaranteed to be complete and perfect in every detail for a period of one year from the final acceptance by the Owner and he hereby agrees to repair or replace any such defects occurring within that year, free of expense to the Owner.

B. Minor maintenance and adjustment shall be by the Owner.

C. For a period of one year from commencement of the final acceptance, fill and repair depressions or settling more than one inch (1”). Restore landscape or structural features damaged by the settlement of irrigation trenches or excavation. Repair damage to the premises caused by a defective item.

D. Make repairs with in seven (7) days of notification from the Owner’s Representative.

E. Contract documents govern replacements identically as with new work. Make replacements at no additional cost to the contract price.

F. Guarantee/warranty applies to originally installed materials, equipment, and replacements made during the guarantee/warranty period. Equipment salvaged and re-used shall not be warranted unless the original warranty is still in effect. The workmanship shall be warranted.

1.11 START-UP AND SEASONAL MAINTENANCE

A. Coordinate the start-up with the Owner’s landscape maintenance personnel.

B. “Contractor” shall provide seasonal maintenance of the system the first year after acceptance as part of this contract, and will provide written instructions to the Owner for future service and maintenance.

D. Return to the site during the subsequent spring season and demonstrate to the Owner the proper procedures for the system start-up, operation and proper maintenance. Repair any damage caused
within the warranty period, adjust pressures, adjust nozzles at no additional cost to the owner.

E. Contractor to train the Owner’s personnel in the operation and maintenance of the system.

1.12 LEED Certification

A. When a project calls out for LEED certification, the design is to attempt to achieve all point available.
   1. LEED Credit WE 1: Submit product data and calculations indicating the irrigation efficiency has reduced the demands of water consumption by 50%.
   2. Submit that the design has used 100% non-potable water.
   3. When directed by the Owner to achieve one or both of these avenues, the design shall provide for a base calculation and a calculated calculation sheet supporting the 50% reduction of water use.
   4. The designer will be required to assist in any water collection and re-use with calculation of water usage to assist in sizing the collection tank.
   5. The designer will need to also assist with the pre-filtration needs.
   6. The pump station, station filtration and UV treatment will be required to be provided by the irrigation designer unless directed otherwise by the Owner.
   7. The designer will be required to assist in assembling the submittal packet that will have all of the necessary irrigation drawings, pump station information and written descriptions of the system and maintenance operations.
   8. The packet will need to be signed by and architect or engineer.

PART 2 – MATERIALS

2.01 GENERAL

Use materials that are new and without flaws or defects of any type, and which are the best of their class and kind. All material overages at the completion of the installation are the property of the “Contractor” and are to be removed from the site.

After completion, testing and acceptance of the system, the “Contractor” will instruct the Owner’s

A. Each major component of equipment shall have manufacturer’s name, address, catalog and serial number permanently attached in a conspicuous place.

B. The same brand or manufacturer shall be used for each specific application of valves, fittings, controls, and other equipment.

C. All materials shall be new and of the quality specified.

D. All equipment shall be listed, approved or rated by a nationally recognized testing and rating bureau of recognized manufacturer’s association responsible for setting industry standards. All electrical equipment and apparatus shall be U.L. listed.

2.02 SUBSTITUTIONS

A. Equipment Substitutions
   1) Whenever a piece of equipment or material is identified by a manufacturer’s trade name, catalog number, etc., it is intended merely to establish a standard; and any equipment of another manufacturer which will perform adequately the requirements of design and is of equal or greater quality than the specifications in the opinion of the Owner’s representative
will be considered equally acceptable.

2) The specifications shall permit use of materials of any nationally recognized manufacturer so long as they are fully equal to quality and performance of named item in opinion of Owner’s representative. Materials or equipment of other manufacturers may be used upon following conditions.
   a. Proposed substitute is equal in design, materials, construction and performance in opinion of OWNER’S REPRESENTATIVE. No compromise in quality level will be allowed.
   b. Service capabilities, availability of service parts, and stability of manufacturer are adequate in opinion of OWNER’S REPRESENTATIVE.
   c. CONTRACTOR assumes responsibility for any modifications required for installation of substitute equipment and for accommodation of such substitution by work of other contractors. Any additional expense on part of other contractors or OWNER due to substitution of equipment shall be borne by CONTRACTOR making such substitution.
   d. Substitute equipment shall fit into space provided with adequate provisions for service and maintenance.

The Contractor shall use materials as specified. Material other than specified will be permitted only after written application by the “Contractor” and written approval by the Owner’s Representative. Substitutions will only be allowed when in the best interest of the Owner. Substitutions shall be approved equal prior to bidding.

2.03 SLEEVING

A. Install separate sleeve beneath paved areas to route each run of irrigation pipe or wiring bundle.
   1) Sleev ing material beneath pedestrian pavements shall be SDR21 PVC Class 200 pipe with solvent welded joints.
   2) Sleev ing beneath drives and streets shall be SDR21 PVC Class 200 pipe with solvent welded joints.
   3) Sleev ing diameter: equal to twice that of the pipe or an indicated on drawings. Minimum wire sleeve to be 2” unless indicated.
   4) **Sleeve pipe and wire separately**, minimum wire sleeve is to be 2”.
   5) All piping in sleeves are to be glued, no gasketed pipe will be allowed in the sleeve.
   6) Contractor to coordinate sleev ing with other trades for the landscaping, building penetrations and interior irrigation piping runs.
   7) Minimum sleeve depth to be 18”.

2.04 PIPE AND FITTINGS

A. Mainline Pipe, Large Sports Field sprinklers and Fittings,
   1) Use rigid, unplasticized polyvinyl chloride (PVC) 1120, 1220 National Sanitation Foundation (NSF) approved pipe, extruded from material meeting the requirements of Cell Classification 12454-A or 12454-B, ASTM Standard D1784, with an integral belled end.
   2) Use Class 200, SDR-21, rated at 200 PSI, conforming to the dimensions and tolerances established by ASTM Standard D2241. Use PVC pipe rated at higher pressures than Class 200 in the case of small nominal diameters that are not manufactured in Class 200.
   3) Use rubber-gasketed pipe equipped with Reiber Gasket System for mainline pipe with a nominal diameter 3-inches and greater. Contractor may also use gasketed pipe on 2.5” if desired. Use rubber-gasketed deep bell ductile iron fitting conforming to ASTM A-536 and ASTM F-477 by LEEMCO or approved equal for all fittings 4” and larger. Use lubricant
approved by the pipe manufacturer. Size slip fitting socket taper to permit a dry unsoftened pipe end to be inserted no more than halfway into the socket. Saddle and cross fittings are not permitted. Mainline pipe going through sleeves shall be solvent weld. No gasketed pipe is allowed in sleeves.

4) Use solvent weld pipe for mainline pipe with a nominal diameter 1.5”, 2” and 2.5” and less or where a pipe connection occurs in a sleeve.

Use Schedule 40, Type 1, PVC solvent weld fittings conforming to ASTM Standard D2466 and D1784. Use primer approved by the pipe manufacturer. Solvent cement to conform to ASTM Standard D2564. S-40 fitting may be used on 3” diameter and less. 4” and larger fittings shall be ductile iron fittings by LEEMCO.

5) Provide pipe homogeneous throughout and free from visible cracks, holes, foreign materials, blisters, wrinkles and dents.

6) Provide pipe continuously and permanently marked with manufacturer’s name and trademark, size schedule and type of pipe working pressure at 73 degrees F. and (NSF) approval.

7) Pipe sizes referenced in the construction documents are minimum sizes, and may be increased at the option of the “Contractor” at no cost to the Owner.

8) All pipes damaged or rejected because of defects shall be removed from the site at the time of said rejection.

9) All mainlines and sleeves are to have a metallic tracer tape placed 3-6” from the surface. The tape shall be 3” wide and indicate “Buried water below”. Sleeves shall have tape brought just below the surface at the ends for ease of locating or terminated in valve boxes. Loop tape into and out of all valve boxes.

B. Lateral Pipe and Fitting (Ground Plain, Spray heads and small rotor heads)

1) Design Criteria: Maximum lateral pipe size is 2”.

2) All sprinkler laterals pipe downstream from the zone valves, sized 21/2” and smaller shall be flexible non-toxic polyethylene (PE) pipe. Use SDR-15, HD100 rated at 100 PSI that is National Sanitation Foundation (NSF) approved, conforming to ASTM Standard D2239. Use Type 1, PVC insert fitting conforming to ASTM Standard D2609 designed for use with flexible polyethylene (PE) pipe. Use stainless steel worm gear clamps (including stainless steel screw) to join pipe and fittings. Saddle fittings are not allowed.

3) Lateral piping on spray heads and small gear drives shall be PE pipe.

C. Specialized Pipe and Fittings:

1) Assemblies calling for threaded pipe connections shall use PVC Schedule 80 nipples and PVC Schedule 40 threaded fittings.

2) Joint sealant: Use only Teflon-type tape on plastic threads.

3) Ductile iron fittings: Joint Restraints – all isolation valves 2” and larger shall have a joint restraint system by LEEMCO or approved equal. All ductile iron fittings shall be slanted, deep bell, gasketed style made in accordance with ASTM-A-536, Grade 65-45-12. Fittings shall have four lugs to accommodate joint restraints and other fittings. Bell sections shall allow 5 degree freedom of pipe deflection within the bell end. Gasket design shall be rib-enforced “U-Cup” configuration to seal and assist in restraining pipe at all pressures. Fittings shall be manufactured by LEEMCO or approved equal.

1) When called for on main lines, use joint restraints on pipe to pipe gasketed joints by LEEMCO or approved equal.

2) Contractor may substitute joint restraints in place of thrust blocks. If joint restraints were to be used, a joint restraint plan must be submitted for approval prior to construction.

D. Thrust Blocks:
1) Use thrust blocks for fitting on pipe utilizing a rubber gasket pipe.
2) Use 3,000 –PSI concrete.
3) Use 2-mil plastic to encapsulate the fitting or valve.
4) Follow pipe manufacturer’s requirements for thrust blocking.

2.05 SPRINKLER COMPONENTS

A. Sprinkler Assembly: as presented in the drawings and installation details. When required use the sprinkler manufacturer’s pressure compensating bodies to achieve operating conditions on each spray head sprinkler and to control excessive operating pressures.
B. DO NOT THROW ON STREETS, BUILDINGS OR HARD SURFACES

2.06 CONTROL SYSTEM COMPONENTS:

Depending on the site application, one of the following controllers are to be used to coincide with the existing Baseline control system the Village has in place. Contractor to add controllers to the Owner’s existing Baseline accounts and activate.

A. Controller 2 wire – Baseline BL-3200XS Stainless steel wall mount controller or BL-3200P pedestal mount with Ethernet connection. Decoder Controller.
   1) If Ethernet is not available, use BL-CM cell modem 3G-X or –P, one per controller.
B. Controller 2 Wire/24 volt – Baseline 3200XS –RXX, 2 wire and 24 volt controller combination stainless steel wall mount controller or 3200P-RXX pedestal controller.
C. Controller 2 Wire – Baseline 3200P-DC 2 wire solar powered controller with BL-DC-85WPanel. Mount panel on black powder coated post.
D. Controller
   1) The controller shall be mounted as directed by the OWNER.
   2) Controller shall operate 2 wire decoders.
   3) Controller is to be installed and grounded per manufacturer recommendations.
   4) Power to the controllers will be provided by the Owner. The contractor will be responsible for making the connection from the power drop to the controller. The controller will be mounted as directed by the Owner. Provide and install a Paige Electric 250090LED lightning surge arrestor on the power to the controller.
   5) Product manufacturer and local distributor are to provide base training for the operation of the controllers at no cost to the owner. The distributor and contractor shall have complete knowledge of the operation and programming background of the Baseline system.
   6) Contractor to fill out the 5 year warranty application and provide approved copies to the owner for all Baseline products prior to final acceptance.
   7) Controllers to have mobile access.
   8) Use Baseline Bicoder #BL-5201 single station bicoder as required.
   9) Contractor to coordinate and provide electrical conduit from controller out to the landscape.

Central Web Based Package
1) Provide and setup Base manager PLUS Web-based service, one per controller.
2) Contractor to coordinate with owner for mobile devices needed, computer hardware required to operate the system from a computer.
3) The contractor is to also set up the Baseline controls on any Web based smart phone and computer that the owner will operate this system from. The controller will operate through the campus Ethernet from the controller to the office computer. Coordinate with owner on the Ethernet connection.
4) The contractor is to provide training of the system to the owner. Contractor/ Distributor to
work with the irrigation consultant in setting up temporary programs during the installation.

E. Control Wire: 2 wire path
   1) Design Criteria: Final wire gauge to be determined by the final design.
   2) 2 wire decoder wire shall be Maxi wire #14 ga minimum by Paige wire or equal. If the controller has more than one direction of 2 wire runs, it shall be color coordinated with more than one different color per leg.
   3) Color: Wire color shall be continuous over its entire length. See drawing for color coding of control wire.
   4) Splices: Use 3M DBR/Y-6 wire connector with waterproof sealant. Wire connector to be of plastic construction.
   5) Wire markers: pre-numbered or labeled with indelible non-fading ink, made of permanent, non-fading material.
   6) All wiring to be installed following existing local and state codes. All wiring within the building is to be in electrical conduit.
   7) Provide and install 2-wire Decoder Cable Switch Device on the 2-wire path for long runs or changes in direction. If a straight short run is provided, then a switching device is not needed. See plans for locations and if they are 2 or 3 way devices. Switches to be located in valve boxes, Use only 3MDBY-R wire connectors. Switches are to be by Paige DCSD2 and DCSD3.

F. Control Wire: 24 volt
   1) All 24 volt wiring shall be done with an UL listed 3M DBY/R-6 splice kit. All wiring is to be installed following existing local and state codes.
   2) All signal wire shall include a solid copper conductor and polyethylene (PE) insulation for direct bury UL Listed. It shall be rated for 600 volts and manufactured by Paige Electric or equal. Minimum wire size shall be #16 gauge.
   3) Multi strand #18 gauge wire is not allowed.
   4) Provide signal wires in the following color chart.
   5) Red, Orange, Blue, Yellow. Repeat colors and zone numbers.
   6) Use white as the common wire.

G. Tracer Wire:
   1) Use a #14 gauge wire as a tracer wire in all mainline runs. Bring wire to valve boxes and label.
   2) Tracer wire shall include a solid copper conductor and polyethylene (PE) insulation for direct bury UL Listed. It shall be rated for 600 volts and manufactured by Paige Electric or equal.
   3) Wire to be continuous in runs, splices are allowed in valve boxes only.

H. Instrumentation:
   1) Design Criteria: Minimum 1 per controller, see below for further direction.
   2) As presented in the drawing and installation details.
   3) Baseline soil sensor BL-5315B; see plan for locations. Similar zones will be tied to the sensors located in landscape for programming.
   4) Hunter Rain Click system. One per controller; hard wire to controller. Use a Baseline Pause Bicoder with the Rain Click system on 2 wire path if the sensor is not directly tied to the controller.
   5) The rain sensor shall be mounted in a location that will be vandal resistant and is able to gather all of the necessary data without interference. Coordinate with Owner for proposed
mounting location. (minimum 1 per controller). If there is sunny turf and plantings on the project, then a soil sensor in the planting and turf will be required. If there are shade turf and plantings, one will be required in each condition.

6) Soils sensors shall be installed in areas open turf or planting areas with head to head coverage. Install planting sensors in beds that have head to head coverage. **It is extremely important that the sensor not be installed any deeper than 2” from the finished surface.**

7) Surge suppression devices at a minimum shall be installed per the manufacturer’s requirements. At a minimum, all dead ends, every 500 feet or twelve bicode, whichever is more restrictive. Use BL-LA01 devices at each location.

I. Power Wire:

1) The owner will provide power to the site, the contractor will need to coordinate this with them. The irrigation contractor will need to run the wire from the point of power drop to the controller.

2) Electric wire from the power source to control unit shall be solid or stranded copper. Type UF single-conductor cable, UL approved for direct underground burial. Power wires shall be black, white and green in color.

3) Splices: Use approved connectors.

4) Conduit: PVC Schedule 80 electrical conduit.

5) Follow all local and state codes.

J. Master Valve / Flow Meter

1) Design Criteria: One per tap location

2) The flow meter and normally open master valve shall be a single unit. It shall be a Baseline BHM series Hydrometer, normally open, with built in BiCoder; tie in to two-wire. Sizing to be determined by the design. Set shut off flow rates in the controller.

3) An alternate to the BHM is a Baseline Flow meter BL-PFS series, sized to the design with a normally open electric valve and if needed a BL-5201MV master valve bicode.

K. Electric Control Valves

1) Design Criteria:  

   1-20 gpm to be 1”

   21-45 gpm to be 1.5”

   46-80gpm to be 2”

2) All valves shall be of globe or globe/angle configuration with a female pipe thread inlet and outlet connections. Diaphragm assembly shall be sonically welded to form a solid-piece component. The diaphragm shall be of rubber construction to retain flexibility and provide maximum sealing throughout its area.

3) Electric valves shall be Hunter PGV-R 1.5 and 2” series electric valves or approved equal. 1” valves shall be Hunter PGV-101G valves. The valve shall have a manual flow control with a hand-operated, rising-type flow control stem with control wheel/handle and an internal manual bleed assembly. Size per plan.

4) All parts shall be serviceable without removing valve from line. Valve may be installed at any angle without affecting valve operation.

5) 22” solenoid lead wires shall be attached to a 24 VAC solenoid with waterproof molded coil capable of being removed by turning coil. Valve shall be held normally closed by internal water pressure with manual bleed screw.

6) The legend and flow arrow shall be applied at all valve locations. Valve numbering shall be located so as to be conspicuous and legible. The controller and valve numbering can be engraved in black on a yellow plastic tag, by Christy’s Enterprise or equal. The tag size shall be standard size of 2.25” x 2.66”.
L. Valve Boxes
1) Valve boxes shall be manufactured by RainBird VB series or approved equal and shall be rectangular, 12”/w 6” extension or 6” and 10” round and have locking “T” lid tops. Valve box lids in turf areas to be green; valve box lids in plantings to be black.
2) Valve box shall be of a size that provides adequate space for valve repairs. For decoder systems and valve boxes with the decoder, two valves per 12” rectangular box, other wise 1 electric valve per smaller valve box. A 10” round valve box may be used for isolation valves, quick couplers and wire drops only. For all decoder valves with the decoder, leave 5’ of excess wire coiled to allow the removal of the decoder. 7” round valve boxes are to be used on the green roof as detailed.
3) The valve box cover shall have the component markings heat stamped into the cover with minimum 1.5” high, maximum 2” high lettering. Use the following symbols for corresponding components in the valve box.
   - GV – for Gate Valves
   - EV – for Electric Valves
   - WS – for Wire Splice
   - QC – for Quick Coupler
   - GR- for Grounding
   - SEN- for sensor connections
   - Other- Label as needed

   The final valve numbering shall also be branded into the tops with electric valves. Contractor may find an example of the branding tool at Brand New Industries Inc., Product # VB2x3.

4) Contractor to coordinate location of valve boxes that are ganged together in clusters of three or more in planting beds with the Owner’s Representative. Receive his approval of locations prior to installation.

M. Quick Coupler Valves
1) Design Criteria: Quick couplers are to be spaced at a maximum of 150’ from one another.
2) There is to be a minimum of one per site. If around a building, there shall be one on each side of the building. Coordinate with Owner as to the final number of quick couplers.
3) Valves shall be 1” Hunter HQ-44LRC-AW series valves or approved equal. The quick coupling shall have a locking vinyl cover. The matching Key shall be Hunter HK44 and HS-1. The quick coupler is to have stabilizer wings. If the valve does not have stabilizers originally installed, use attachable stabilizers manufactured by LEEMCO.

4) Quick coupler valves are to be mounted on a Lasco swing joint with brass MIPT threads and placed in a 10” round valve box. The valve box is to be filled with 3/8” clear chip stone gravel.

N. Swing Joints
1) Design Criteria: All large sprinklers and quick couplers
2) The Swing Joint and Heavy Turf Products shall be rated for use with water at 315 p.s.i. maximum working pressure @ 73°F when tested in accordance with A STM D3139 & F1970. LASCO Swing Joint and Heavy Turf Products shall be molded of rigid poly(vinyl) chloride (PVC). Type I, Cell classification 12454-B per ASTM specification D 1784, with pipe sockets per ASTM D 2464.

3) Suggested Swing Joint Specifications Swing Joints shall have modified stub threads with elastomeric O-ring seals at each rotating joint and meets ASTM Standard F2768. Each rotating joint shall be sealed with an elastomeric O-ring, installed pre-compressed in a sealing groove free of parting lines to prevent leakage as manufactured by LASCO Fittings,
4) Warranty LASCO Swing Joint and Heavy Turf Products and their individual component parts are warranted to be free from defects in manufacturing and workmanship for a period of five (5) years from the date of installation. Swing Joints riser assemblies shall have a working pressure rating of 315 psi @73F. The swing joint shall have one O-ring at each swivel joint. The inlet and outlet sockets and threads conforming to ASTM standards D 2467 and D 2464, respectively. The body wall thickness of all components conforming to ASTM D 2464.

5) The sprinkler swing joint shall have a minimum length 10” riser and quick coupler swing joints shall have a minimum 12” riser for quick couplers and be by Lasco or approved equal. The threads shall correlate to sprinklers, quick couplers and related components. Quick Coupler Swing Joints are to have a brass male threaded outlet 90 ell outlet to enter the bottom of the quick coupler.

6) Contractor is responsible for final lay length of the riser to ensure a 45 degree lay angle.

O. Sprinkler Heads – Spray Heads
   1) Design Criteria:                  Radius 2’ to 15’
   2) The spray head sprinklers shall be a 4” or 12” Hunter PROS-PRS30-CV series, 4”or 12” riser spray head or approved equal. Sprinkler shall be mounted flush with final finish grade.
   3) Retraction shall be achieved by a heavy-duty stainless steel retraction spring. Sprinkler shall have a riser seal and a wiper. Sprinkler housing shall be of high impact molded plastic. Sprinkler shall have a large strainer so as to prevent nozzle clogging. Sprinkler shall be constructed such that it is serviceable from top in that drive assembly, screen, and all internal components are accessible throughout top of sprinkler without disturbing case installation. The sprinkler shall have a built-in pressure regulation device to regulate nozzle pressure regardless of the inlet pressure. The sprinkler shall have a drain check valve for up to 14 feet of elevation change.
   4) Type and location of nozzles shall be Rainbird MPR, HEVAN or Hunter Pro-Sprays, PRO adjustable, nozzle patterns vary, see design plan for arcs and radius.
   5) DO NOT THROW ON STREETS, BUILDINGS OR HARD SURFACES

P. Sprinkler heads shall be mounted on funny/flex pipe flexible connection. Maximum funny pipe length to be 18”. Appropriate saddles may be used on lateral piping. Contractor may use a Hunter SJ-012 series swing joint or approved equal in place of the flex pipe and barb fitting.

Q. Sprinkler Heads – MP Rotators
   1) Design Criteria:                  Radius 12’ to 28’
   2) The MP rotator sprinklers shall be a 4” or 12” Hunter PROS-PRS40-CV or approved equal, w/check Series pop up sprinkler or approved equal. Sprinkler shall be mounted flush with final grade.
   3) Retraction shall be achieved by a heavy-duty stainless steel retraction spring. Sprinkler shall have a riser seal and a wiper. Sprinkler housing shall be of high impact molded plastic. Sprinkler shall have a large strainer so as to prevent nozzle clogging. Sprinkler shall be constructed such that it is serviceable from top in that drive assembly, screen, and all internal components are accessible throughout top of sprinkler without disturbing case installation. The sprinkler shall have a built-in pressure regulation devise to regulate nozzle pressure regardless of the inlet pressure. The sprinkler shall have a drain check valve for up to 14 feet of elevation change. Type and location of nozzles shall be Hunter MP Rotator.
   4) MP Nozzles to be 1000, 2000 or 3000. Size per charts. Reduce design radius by 10% to accommodate for actual nozzle throws.
5) DO NOT THROW ON STREETS, BUILDINGS OR HARD SURFACES

R. Sprinkler Heads – Small Rotors
1) Design Criteria:     Radius to be from 25’ to 40’
2) The small diameter gear drive sprinklers shall be 6” Hunter I-20-PRB series w/check pop up and pressure regulation sprinkler or approved equal. Sprinkler shall be mounted flush with final grade.
3) Retraction shall be achieved by a heavy-duty steel retraction spring. Sprinkler shall have a rubber cover. Sprinkler housing shall be of high impact molded plastic. Sprinkler shall have a large strainer so as to prevent nozzle clogging. Sprinkler shall be constructed such that it is serviceable from top in that drive assembly, screen, and all internal components are accessible throughout top of sprinkler without disturbing case installation. The sprinkler shall be capable of stopping water flow through the head without turning off the entire zone. The drive shall be water lubricated and have a drain check valve. Radius reductions shall be adjustable by up to 25% by means of adjustment screws accessible from top of cap when sprinkler is properly installed.
4) Type and location of heads shall be as shown on plan.
5) Match nozzle for matched precipitation as closely as possible.
6) Sprinkler heads shall be mounted on funny pipe, swing pipe or a pre-assembled flexible swing joint. Riser length of pipe to be 18”. Appropriate saddles may be used on lateral piping.
7) DO NOT THROW ON STREETS, BUILDINGS OR HARD SURFACES

S. Sprinkler Heads – Gear Drives 6” Hunter I-25-06-PBR
1) Design Criteria:     Radius to be from 45’ to 50’
2) The large diameter gear drive sprinklers shall be a Hunter I-25 w/check and pressure regulation Series pop up sprinkler or approved equal. Sprinkler shall be mounted flush with final grade.
3) Retraction shall be achieved by a heavy-duty steel retraction spring. Sprinkler shall have a rubber cover. Sprinkler housing shall be of high impact molded plastic. Sprinkler shall have a large strainer so as to prevent nozzle clogging. Sprinkler shall be constructed such that it is serviceable from top in that drive assembly, screen, and all internal components are accessible throughout top of sprinkler without disturbing case installation. The drive shall be water lubricated and have a drain check valve. Radius reductions shall be adjustable by up to 25% by means of adjustment screws accessible from top of cap when sprinkler is properly installed.
4) Type and location of heads shall be as shown on plan.
   Sprinkler heads shall be mounted on a double swing S-80 PVC swing joint by Lasco or approved equal. Riser length of pipe to be minimum 10”. Contractor is responsible to verify lay length and provide the correct riser length for the pipe depth.
5) Depth of lateral pipe to be determined by the swing joint lay length. Swing joints are to have a 45 degree angle providing positive drainage. Minimum latera and mainline depths for systems using I-25 is 22” top of pipe.
6) DO NOT THROW ON STREETS, BUILDINGS OR HARD SURFACES

T. Tree bubblers - for individual trees
1) Design Criteria:     2, 1GPM stream bubblers per tree for 1” to 2”caliber tree.
   3, 1 GPM stream bubbler per tree for 2.5” caliber trees and larger.
2) The tree bubblers shall be Hunter Multi-Stream nozzles, MSBN-10F mounted on a Hunter PROS-00-PRS30 Shrub adapter with inlet Hunter HSBE-050 spiral barb 90 and mount to a Hunter HS-B-Stk stake. Zip tie the shrub adapter to the stake and place at edge of root ball. Stake into root ball, not surrounding soils.

U. Solvent Weld Fittings
1. Solvent weld PVC fittings shall be Schedule 40, ASTM D-2466 and ASTM D-1784. PVC Schedule 40 fittings shall be produced from PVC Type 1, Cell Classification 1245B. Fittings shall be manufactured by Lasco or approved equal. All solvents and cements shall be that recommended by the manufacturer.

2) S-80 PVC fittings may be used and may be threaded or solvent weld. S-80 TOE Nipples with S-80 couplings for plastic to metal connections. (S-80 nipples cut in half will not be allowed)

6) TOE nipples shall be used with s-80 couplings entering the electric valve.

7) TOE nipples shall be used with s-80 couplings when entering a 1.5” and smaller gate valve.

P. Gate/Isolation Valves
1) Design Criteria: Any tee in the mainline isolating each direction and mainline isolation which is further than 200’ inline.
   Ball valves are not allowed.

2) Isolation valves 2”, 2.5”, 3” & 4” shall be ductile iron resilient seated globe valves. Valve body and restraint clamps shall be constructed of ductile iron per ASTM A-536, Grade 65-42-12. Epoxy coating on all interior and exterior surfaces shall be fusion bonded epoxy, 10-12 mil thickness. Valve mechanism and hardware shall be made of 100% 304-series stainless steel. The valve stem shall be fine threaded stainless steel, O-ring sealed for ease of operation. Valve outlet shall be deep bell gasket and equipped with integrally cast joint restraint clamps to securely fasten pipe to the valve. Restraint shall have blunt cast serrations. Valve shall be made by LEEMCO or approved equal.

3) Isolation valves 1.5” and smaller shall be bronze gate valves. The gate valve shall be 200lb rated WOG non-shock, solid disc, non-rising stem with threaded ends. Valve sizes shall be as shown on plan. Connections to the piping shall be made with a S-80 TOE nipple and a S-80 Coupling. Valves shall be Nibco T-113 with handle bronze gate valve or approved equal.

4) Isolation valves 4” and larger, shall be non-rising and conforming to AWWA C-515 standards rated for 250 psi. Valves shall be resilient seat body and bonnet are to be cast iron alloy ASTM A126 Class B or ductile Iron ASTM A536. Valve to be epoxy coated inside and outside. Stems to be stainless steel with a cast iron 2” square operating nut. The valve shall provide full diameter waterway, low torque operation and absolute shut-off. Valves shall be push-on type valves. Valves to be LEEMCO LMV-BB series gate valve with 2” nut or approved equal. Push on valves are to have joint restraints on both ends of the valve. All valves are to be by LEEMCO or approved equal.

Q. Grounding – 2 wire when used
1) Design Criteria: At a minimum, all dead ends, every 500 feet or twelve bicoders, whichever is more restrictive.

2) The contractor will be responsible to provide earth grounding of 2–wire ohm reading of not more than 10 ohms. The contractor is to provide the Paige Electric equipment part # 182007 for the ground rod, part # 182199L for the grounding plate assemble part # 1820039 for the a pre-welded wire to rod and part # 1820058 for the PowerSet earth contact material. This equipment shall be install by the contractor per the Paige Electric instructions. The supplying distributor to check all ohm readings with a megger and provide a document signed by the distributor that all readings are under 10ohms. Contractor is responsible for making adjustments to achieve this reading.
   Use BL-LA01 devices at each location.

3) Grounding rods are to be in 6” round valve boxes.

R. Backflow Unit/Water Meter
1) Design Criteria: Size per design requirements
2) Coordinate with the Village water department and owner as to the RPZ and water meter sizing and who is supplying these items.
3) Installation will be by the irrigation contractor.
4) All plumbing from the tap to through the meter and RPZ is to be completed by a licensed plumber in the state of Illinois.

S. Enclosures
1) Design Criteria: Provide an enclosure that fits over all components.
2) An enclosure will be required for all outdoor RPZ/Meter connections.
3) The enclosure shall be an aluminum enclosure by Watersafe or approved equal.
4) Mount the enclosure on a concrete base and per manufacturer’s requirements.

2.07 PUMP STATION

A. Design Criteria: If after acquiring the static pressure from the Village, a boost in pressure is still required. Provide a booster pump, pump start and all associated plumbing components.
   a. Submit all pump curves with the design for review.
   b. Include the loss calculations for the worst condition zone, including static psi, losses and boost calculations.
1) The pump shall be a Sta-rite or Berkley pump. Coordinate power requirements with the Owner.
2) The pump shall have galvanized or brass unions
3) A pressure gauge on the incoming and discharge sides of the pump.
4) The pump shall have isolation valves.
5) On larger systems over 80 gpm, use a pump station that is set to operate on pressure drop.
6) Pump stations for this application are to be by Watertronics or approved equal.
7) When located outside, it is to be in an aluminum enclosure. The enclosure is to house the irrigation controller, Meter and RPZ in the pump enclosure.

2.08 OTHER COMPONENTS

B. Tools and Extra Equipment
1) The contractor is to provide to the Owner, one (1) sets of tools to repair and work on all equipment specified in this irrigation section.
2) The contractor is to provide the Owner with two (2) sprinkler heads and nozzles of each type specified and used, (1) electric valve of each size used.
3) The contractor shall provide to the Owner, two (2) keys and two (2) hose swivel matching the quick coupling valve installed.
4) Two (2) 5’ 2” nut valve wrenches for gate valves 2” and larger are to be provided.
5) Two (2) 3’ valve wrenches for gate valves 1.5” and larger are to be provided.
6) When used, two (2) decoders of each size used.

C. Other Materials: Provide imported fill material as required to complete this work. Provide other materials or equipment shown on the drawings or installation details, which are part of the irrigation system, although such items may not have been referenced in these specifications.
PART 3 – EXECUTION

3.01 INSPECTION AND REVIEWS

A. Site Inspections:
   1) The bidder acknowledges that he has examined the site, plans and specifications, and the submission of a proposal shall be considered evidence that examination has been made.
   2) Verify construction site conditions and note irregularities affecting work of this section. It shall be the contracting installer’s responsibility to report to the Owner’s authorized representative any deviations between drawings, specifications and the site. Failure to do so before the installing of equipment and resulting in replacing and/or relocation of equipment shall be done at the “Contractor’s” expense.
      a. Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected.
      b. Beginning work of this section implies acceptance of existing conditions.

B. Utility Locations:
   1) The exact location of all existing utilities and structures and underground utilities are not indicated on the drawings; their locations shall be determined by the “Contractor”, and he shall conduct his work so as to prevent interruption of service or damage to them.
   2) Arrange for and coordinate with local authorities the location of all underground utilities.
   3) Repair any underground utilities damaged during construction. Make repairs at no additional cost above the contract price.
   4) The “Contractor” shall protect existing structures and utility services and be responsible for their replacement if damaged by him.

C. Irrigation System Layout Review:
   1) Irrigation system layout review will occur after the staking has been completed unless specifically waived by the Owner’s Representative. Notify the Owner’s Representative one week in advance of review.
   2) The Owner’s Representative at this review will identify modifications.

3.02 LAYOUT OF WORK

A. Stake out the irrigation system. Items staked include: sprinklers, pipe, control valves, manual drains, quick coupling valves, controller, isolation valves and any misc. components.

B. Install all mainline pipe and mainline components inside of project property lines.

C. Minor adjustments in system layout will be permitted to clear existing fixed obstructions. Final system layout shall be acceptable to the Owner’s Representative.

4.03 EXCAVATION, TRENCHING, AND BACKFILLING

A. Excavating shall be considered unclassified and shall include all materials encountered, except materials that cannot be excavated by normal mechanical means.

B. Excavate to permit the pipes to be laid at the intended elevations and to permit work space for installing connections and fittings.
C. Minimum cover (distance from top of pipe or control wire to finish grade):
   1) 12-inch over top of pipe mainline pipe.
   2) 10-inch over control wire, follow local and state requirements if they dictate a deeper bury depth.
   3) 12-inch over top of pipe lateral pipe to sprinklers I-20, PRS30, PRS40 and bubbler zones.
   4) 22” top of lateral line and mainlines for I-25 zones.

D. PVC mainlines or PVC lateral pipes 21/2” and smaller may be pulled into the soil using a vibratory plow device specifically manufactured for pipe pulling, if in the opinion of the Owner’s Representative that conditions are suitable. Minimum burial depths equals minimum cover listed above provided soil moisture content and other conditions are suitable to allow for full depth of the right to determine suitability or conditions.

E. Backfill only after lines have been reviewed and tested.

F. Excavated material is generally satisfactory for backfill. Backfill shall be free from rubbish, vegetable matter, and stones larger than 2 inches in maximum dimension. Remove material not suitable for backfill. Backfill placed next to pipe shall be free of sharp objects, which may damage the pipe.

G. Backfill unsleeved pipe by depositing the backfill material equally on both sides of the pipe in 6-inch layers and compacting each layer to 90% Standard Proctor Density, ASTM D698-78. Use of water for compaction, “puddling,” will not be permitted.


I. Dress backfilled areas to original grade. Incorporate excess backfill into existing site grades.

J. Where utilities conflict with irrigation trenching and pipe work, contact the engineer/landscape architect for trench depth adjustments.

K. Provide approved fine grained earth fill or sand to point 4” above the top of pipe, where soil conditions are rocky or otherwise objectionable.

L. Excavate trenches and install piping and backfill during the same working day. Do not leave open trenches or partially-filled trenches open over night.

M. The CONTRACTOR will be responsible for all finish and fine grading of trenches, disturbed areas around sprinklers heads, electric valves and any other excavated or disturbed areas by the CONTRACTOR. Contractor will also be responsible for all trench settling throughout the project during the one-year warranty period. If settling occurs, the contractor will repair and bring back to originally set grade.

N. When working in existing conditions, sod cut trenches and re-sod with cut sod, roll and water in until the irrigation system is operational. Timing is critical with this as to not heat up the sod. If this occurs, the contractor will be responsible for sod replacement. Sod around heads and valve box excavations.

O. When additional backfill material is needed to replace the unsuitable materials, it will be the
CONTRACTOR’S responsibility and expense to supply such material.
It will also be the CONTRACTOR’S responsibility to dispose of the unsuitable material.

3.04 WORKMANSHIP

A. All work shall be done by qualified irrigation installers that are knowledgeable and experienced in operations they are performing. Installation methods, procedures and materials shall be in accordance with accepted industry practice and with standards of manufacturing and contracting associations applicable to the work. All work shall be neatly done with special emphasis on appearance of work exposed to view.

3.05 SLEEVING AND BORING

A. Install sleev ing at a depth that permits the encased pipe or wiring to remain at the specified burial depth.

B. Extend sleeve ends 2 feet beyond the edge of the paved surface. Cover pipe ends and mark with stakes. Place a small chiseled “X” on the vertical side of the hard surface to mark the location of the sleeve.

C. Bore for sleeves under obstructions that cannot be removed. Employ equipment and methods designed for horizontal boring.

3.06 ASSEMBLING PIPE AND FITTING:

A. General:
   1) Keep pipe free from dirt and pipe scale. Cut pipe ends square and debur. Clean pipe ends.
   2) Keep ends of assembled pipe capped. Removed caps only when necessary to continue assembly.
   3) All mainline and continuously pressurized pipe is to be installed using open trenches. Lateral pipe may be installed by “Plowing” if soil conditions permit, and soils do not contain gravel, rock, construction debris, or other potential damaging material.
   4) Trenches may be curved to change direction or avoid obstructions within the limits of the curvature of the pipe.

B. Mainline, lateral piping and Fittings:
   1) Use only strap-type friction wrenches for threaded plastic pipe.
   2) PVC Rubber-Gasketed Pipe:
      a. Use pipe lubricant. Join pipe in the manner recommended by manufacturer and in accordance with accepted industry practices.
      b. Epoxy-coated steel fittings shall not be struck with a metallic tool. Cushion blows with a wood block or similar shock absorber.
   3) PVC Solvent Weld Pipe:
      a. Use a primer and solvent cement. Join pipe in a manner recommended by the manufacturer and in accordance with accepted industry practices.
      b. Cure for 30 minutes before handling and 24 hours before allowing water in pipe.
      c. Snake pipe from side to side within the trench.
   4) Fittings: the uses of cross type fittings are not permitted.
   5) Install thrust blocks on the mainline pipe work in accordance with pipe manufacturer’s written instructions.
D. Specialized Pipe and Fitting:
   1) Low-Density Polyethylene Hose: Install per manufacturer’s recommendations.
   2) PVC Threaded Connections:
      a. Use only factory-formed threads. Field-cut threads are not permitted.
      b. Use only Teflon-type tape.
   3) Threaded Connections:
      a. Make metal-to-metal, threaded connections with Teflon-type tape applied to the 
      male threads only.

C. Thrust Blocks:
   1) Use cast-in-place concrete bearing against undisturbed soil.
   2) Orientation and placement shall be as shown on the installation details, size per 
      manufacturer’s recommendations.
   3) Wrap fitting with plastic to protect bolts, joint and fitting from concrete.

3.07 INSTALLATION OF SPRINKLER AND IRRIGATION COMPONENTS:

A. Remote Control Valve (RCV) Assembly:
   1) Flush mainline before installation of RCV assembly.
   2) Install where indicated on the drawing. Wire connectors and waterproof sealant shall be 
      used to connect control wires to remote control valve wire. Install connectors and sealant per the manufacturer’s recommendations.
   3) Install only one RCV to a valve box. Locate valve box at least 12 inches from and align 
      with nearby walls and edges of paved areas. Group RCV assemblies together where 
      practical. Arrange grouped valve boxes in rectangular patterns. Allow at least 12 inches 
      between valve boxes.
   4) Adjust RCV to regulate the downstream operating pressure.
   5) Attach ID tag with controller station number to control wiring.

B. Sprinkler Assembly:
   1) Flush lateral pipe before installing sprinkler assembly.
   2) Install per the installation details at locations shown on the drawings.
   3) Locate rotor sprinklers 6 inches from adjacent walls, fences or edges of paved areas.
   4) Locate spray sprinklers 3 inches from adjacent walls, fences or edges of paved areas.
   5) Install sprinklers perpendicular to the finish grade.
   6) Supply appropriate nozzle or adjust arc of coverage of each sprinkler for best performance.
   7) Adjust the radius of throw of each sprinkler for best performance.

3.08 INSTALLATION OF CONTROL SYSTEM COMPONENTS:

A. Irrigation Controller Unit:
   1) The location of the controller unit as depicted on the drawings is approximate the Owner’s 
      Representative will determine the exact site location during sprinkler layout review.
   2) Attach wire markers to the ends of control wires inside the controller unit housing. Label 
      wires with the identification numbers (see drawings) of the remote control valve to which 
      the control wire is connected.
   3) Connect control wires to the corresponding controller terminal.

B. Control Wire:
   1) For decoder systems, bundle control wires where two or more are in the same trench. 
      Bundle with pipe wrapping tape at 15-foot intervals.
2) Control wiring may be chiseled into the soil using a vibratory plow device specifically manufactured for pipe pulling and wire installation. Appropriate chisel must be used so that wire is fed into a chute on the chisel, and wire is not subject to pulling tension. Minimum burial depth must equal minimum cover previously listed.

3) Provide a 24-inch excess length of wire in an 8-inch diameter loop at 90-degree change of direction, at both ends of sleeves and at 100-foot intervals along continuous runs of wiring. Do not tie wiring loop. Coil 24-inch length of wire within each remote control valve box.

4) If a control wire must be spliced, make splice with wire connectors and waterproof sealant, installed per the manufacturer’s instructions. Locate splice in a valve box that contains an irrigation valve assembly, or in a separate 10-inch round valve box.

5) Use same procedure for connection to valves as for in-line splices.

6) Protect wire not installed with PVC mainline pipe with a continuous run of warning tape placed in the backfill six inches above the wiring.

7) Allow 5 feet of extra wire on the decoder cable and allow 5’ of extra wire for decoder to solenoid wiring to allow for above grade maintenance.

C. Instrumentation:
   1) Install sensor per the installation details and manufacturer’s recommendations. Install at locations shown on the drawings.
   2) Install electrical connections between central control unit components and sensors per manufacturer’s recommendations.

3.09 INSTALLATION OF OTHER COMPONENTS:

A. Tools and Spare Parts: Prior to the review at completion of construction, supply to the owner operating keys, servicing tools, spare parts, test equipment and any other items indicated in general notes on the drawings.

B. Other Materials: Install other materials or equipment shown on the drawings or installation details which are part of the irrigation system, even though such items may not have been referenced in these specifications.

3.10 BALANCING AND ADJUSTING

A. The Contractor will be responsible for the balancing and adjustments of the various components of the system so the overall operation of the system is the most efficient. Including, but not limited to, the synchronization of the controllers, adjustments to the pressure regulator valves and sprinkler adjustments. Coordinate controller setup with Owner’s Representative.

3.11 REQUIREMENT FOR SUBSTANTIAL COMPLETION

A. Cleaning Equipment and Premises
   1) Thoroughly clean all parts of the piping, valves and equipment.
   2) Remove all construction debris, excess materials and equipment.

B. Operating and Maintenance Manuals
   1) CONTRACTOR shall furnish to OWNER’S REPRESENTATIVE two operating manuals for furnished equipment. Information sheets shall be bound in standard three-ring binders labeled to show contractor’s name, address, regular business phone number, emergency phone number and date. Operating manuals shall be submitted prior to completion of work to allow time for review. Manual shall contain following information:
List (keyed with identification numbers used) each item of equipment which requires service, giving the name of the item, model number, manufacturer’s name and address, and providing the name, address and phone number of the nearest representative of authorized service organization.
Cut sheets to be included for the following, but not limited to: electric valves, isolation valves, swing joints, valve boxes, controllers and sprinkler heads.

2) A copy of the shop drawing for each item.
3) A complete operating and maintenance manual, parts list, wiring diagrams, lubrication requirements, and service instructions for each major item.
4) Complete control diagrams with description of all operation sequences and control devices.
5) Properly executed registrations and registered manufacturer’s warranties.
6) After completion of work and when OWNER has had sufficient time to examine operating manuals and become somewhat familiar with operation of equipment, a meeting will be arranged by the Contractor with the Owner for purpose of instructing OWNER in proper maintenance of system and to answer questions he/she may have regarding its operation. Prior to this meeting, contractor shall have programmed a base program for all stations and run times.
7) Contractor to complete the irrigation submittal for all irrigation systems to the IL State Public Health. Provide the owner with a copy of the submitted form.

3.12 MAINTENANCE:
A. Upon completion of construction and review by the Owner’s Representative, maintain irrigation system for duration of 30 calendar days. Make periodic examinations and adjustments to irrigation system components to achieve the most desirable application of water.

B. Following completion of the “Contractor’s” maintenance period, the owner will be responsible for maintaining the system in working order during the remainder of the guarantee/warranty period, for performing necessary minor maintenance, for trimming around sprinklers, for protecting against vandalism, and for preventing damage after the landscape maintenance operation.

3.13 OBSERVATION AND ACCEPTANCE:
A. Periodic site visits will be made by the Owner’s representative to review the quality and progress of the work. Work found to be unacceptable must be corrected within five (5) calendar days. Remove rejected materials promptly from the project.

B. Upon completion of the work, the Architect or Irrigation Consultant will issue a punch list for work to be corrected. Where work does not comply with requirements, replace rejected Work.

C. It will be the responsibility of the Irrigation Contractor to provide a reliable communication system (i.e.: Two way radios or remote radio control activation system) for Substantial Completion, final acceptance and all periodic site visits. Once the controllers are operational, the contractor will be required to have a tablet devise on site to operate the system. This tablet is to be accessible to the designer for any walk troughs that are scheduled.

D. If a site visit to verify Substantial Completion and final acceptance has been scheduled and the Owner’s representative arrives at the site and determines that the irrigation system is not substantially complete or ready for final acceptance (all system components in place, operational and checked and arc and radius adjustments made) the Contractor shall be responsible for all costs incurred by the Architect or Irrigation Consultant to visit the site. Reimbursable expenses include but are not limited...
to the following: Mileage, airfare, consultants’ time, parking fee, meals, rental car, etc. All incurred expenses will be deducted from the final contract amount.

3.14 CLEANING

A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soils, debris and equipment. Repair damage resulting from sprinkler system installation.

END OF SECTION 328400
Appendix A: Irrigation Site Maps

Harlem Av Medians just north of 163rd St
Harlem Av Medians 163rd St to 167th St
Harlem Av Medians just south of Hickory St/ Metra
Harlem Av Medians just south of 183rd St

Approximate areas of coverage shown in turquoise
Appendix A: Irrigation Site Maps

171st St Median - Just East of 80th Av

Oak Park Av Train Station - Oak Park Av btw North St & South St

Approximate areas of coverage shown in turquoise
Appendix A: Irrigation Site Maps

Police Station- 7850 W 183rd St

Fire Station #4- 7801 W 191st St

Village Hall- 16250 Oak Park Av

Approximate areas of coverage shown in turquoise
Appendix A: Irrigation Site Maps

LaGrange Rd- 171st St to 175th St

LaGrange Rd- 175th St to 179th St

Approximate areas of coverage shown in turquoise
ADDENDUM NO. 1
2017 Tinley Irrigation Maintenance
Tinley Park, Illinois 60477

site Project Number 7955
April 20, 2017

This addendum forms part of the Contract Documents for the above named project and contains the following:

1) Clarifications

a. Prevailing wage information- The contract work consists of maintenance work and routine repairs. Any new installations or landscape work done as part of a new project or proposal would not be included in this contract.

b. As-built drawings are available for some of the irrigation systems. The available info will be provided to the contractor, but the Village does not guarantee that information will be available for each and every site.

c. On the bid form, monthly inspections and site visits are included as part of the costs per site under sections A & B.

2) Changes

a. Cost escalation clause- The bid tab has been updated to provide a section where any proposed cost escalations can be noted, as the contract has 4, one-year renewal options and could last a maximum of five contract years. The updated bid tab is included as part of this addendum package.

b. Under the "repair services" section of the bid form, the "trencher" line item has been expanded to include "trencher/plow machine with operator".

c. On page 02925-7 under the irrigation winterization spec, in reference to RPZ storage item 3 notes "store for the winter at contractor’s facility or as directed by the Village." The Village direction on that item is that RPZs should be kept in storage by the Village. The text has been updated accordingly.

d. On page 02925-7 under the irrigation winterization spec, item 11 was added to note: remove pressure transducer (if applicable) and store as directed by the Village. An updated document 02925 is included as part of this addendum.

e. On page 02925-8 under the payment section, the word "equal" has been removed to allow flexibility to vary amounts on monthly pay requests according to the work completed in that time period.

END OF ADDENDUM NO. 1
BID FORM

A. DEPARTMENT OF PUBLIC WORKS: STREETS SITES

Contractor’s bid to supply annual maintenance services for the Village of Tinley Park Irrigation Maintenance Systems is as follows: Spring Start-up, monthly visits, Winter Shutdown.

General Repairs (all locations) Labor, Equipment and incidentals Per Crew. Includes all travel expenses.

Crew PerHour $_______________________________

Site Location

1. LaGrange Rd $________________________ per year

2. Harlem Avenue $________________________ per year

3. 171 Medians $________________________ per year

TOTAL BID FOR ALL STREETS SYSTEMS PER YEAR (A) $_____________________________

B. DEPARTMENT OF PUBLIC WORKS: FACILITIES SITES

Contractor’s bid to supply annual maintenance services for the Village of Tinley Park Irrigation Maintenance Systems is as follows: Spring Start-up, monthly visits, Winter Shutdown.

General Repairs (all locations) Labor, Equipment and incidentals Per Crew. Includes all travel time.

Crew PerHour $_______________________________

Site Location

1. Fire Station #4 $________________________ per year

2. Oak Park Ave Metra Station $________________________ per year

3. Village Hall $________________________ per year

Issue for Bid 04/03/2017
7955 Tinley Irrigation Maintenance 2017 00140-1 Bid Form
4. Police Station  

$__________________________ per year

TOTAL BID FOR ALL FACILITIES SYSTEMS PER YEAR (B)  
$__________________________

TOTAL BID FOR ALL STREETS & FACILITIES SYSTEMS PER YEAR (A+B)  
$__________________________

COST ESCALATION

If contract renewal options are exercised, proposed cost increases for each year are as follows. The cost increases would apply to the total bid for all streets & facilities systems per year (A+B) as well as repair services line items. The percentage increase is to be calculated from the 2017 cost, and not from the previous year for years 2019-2021.

2018: __________% increase over 2017 cost

2019: __________% increase over 2017 cost

2020: __________% increase over 2017 cost

2021: __________% increase over 2017 cost

Name of Firm

Address

City ____________ State ____________ Zip ____________

Office Phone __________________________

Cell Phone __________________________

Email ________________________________

Authorized Representative (print) __________________________  
Authorized Representative Signature __________________________
REPAIR SERVICES

The following will be used as a baseline for additional services or emergency repairs. All rates are to include miscellaneous materials, labor, travel, safety requirements, materials and specified requirements per section 328400 planting irrigation.

In some cases depending on need, the Village reserves the right to ask for a proposal from the contractor if the work is more than minor repairs or emergency repairs.

Install 4” spray sprinkler/nozzle, fittings ________________ EA

Install 12” spray sprinkler/nozzle, fittings ________________ EA

Install 4” rotor sprinkler/nozzle, fittings ________________ EA

Install 2.5” isolation valve and smaller, fittings ________________ EA

Replace 10” round valve box ________________ EA

Replace 12” rectangular valve box ________________ EA

Install 2” and smaller mainline PVC, Fittings, signal wires ________________ LF

Install 2” and small PE lateral Line, fittings ________________ LF

Install 1” electric valve, connectors, valve boxes, fittings and wiring ________________ EA

Install 1.5” electric valve, connectors, valve boxes, fittings and wiring ________________ EA

Install 2” electric valve, connectors, valve boxes, fittings and wiring ________________ EA

Foreman ________________ /hr

Laborer ________________ /hr

Trencher/ plow machine with Operator ________________ /hr

Sod installed per SY ________________ /hr

Service Truck (includes mileage) ________________ /hr

Issue for Bid 04/03/2017
7955 Tinley Irrigation Maintenance 2017 00140-3 Bid Form
Contractor References

1. Project Name
   Contact
   Telephone
   Email

2. Project Name
   Contact
   Telephone
   Email

3. Project Name
   Contact
   Telephone
   Email

4. Project Name
   Contact
   Telephone
   Email

Baseline Control System Reference

1. Project Name
   Contact
   Telephone
   Email
Bid Acknowledgement – To be included in the bid

The undersigned, has examined the specifications and all site conditions affecting the specified project. They offer to furnish all services, labor and incidentals specified for the above price.

The Village reserves the right to reject any and all bids and to waive any irregularities and that the price will remain valid for a period of not less than sixty (60) days.

The undersigned certifies that they are not barred from bidding on this contract for any purpose, and is not delinquent in any taxes owed.

We propose to complete the following project as described in the specifications and here within.

Bidding Company Name:__________________________________________

Authorized Signature:___________________________________________

Date:
Village of Tinley Park
16250 S. Oak Park Ave
Tinley Park, IL

Seasonal Irrigation System Maintenance

GENERAL IRRIGATION MAINTENANCE SPECIFICATIONS

PART ONE • GENERAL

1.1 SUMMARY

A. The Village of Tinley Park, known as the Owner, requests bids for IRRIGATION SYSTEMS seasonal and preventive maintenance and repairs at various Village sites for a period of one (1) year with four (4) options for renewal for a total of five (5) years possible. First year to be May 1st to December 31st 2017.

1.2 QUALITY ASSURANCE

A. The Contractor warrants to the Owner that the materials used and furnished for the work will be new and that the work will be good quality and free from defects for a period of one year from the date of installation.

B. No service or repairs will be performed without prior approval from the owner that is not included in the seasonal adjustments, start up and winterization. Any additional repair service and/or parts that the winning contractor deems necessary, beyond the original repair request, must first be approved by the owner. All warranty claims shall be completed within 24 – 48 hours at no additional cost to the owner.

C. All repairs and service shall be completed within the time frame as defined by the owner. Any extension of this time must have prior approval from the Owner. Every effort must be made to meet appointment schedules and promised completion times.

1.3 IRRIGATION CONTRACTOR QUALIFICATIONS

A. Each bidder shall have maintained at least 5 (five) irrigation systems of similar
size scope within the last 3 (three) years. The Contractor must submit a list of projects which meet this requirement along with the proper contact name, address and telephone number of the parties that can verify the reference.

B. The Contractor shall be certified by the State of Illinois and the Irrigation Association as a Certified Irrigation Contractor (CIC). The contractor shall provide with submittals, a copy of their current CIC certificate.

C. The Contractor shall designate a competent project superintendent and any necessary assistants to oversee the maintenance for the entire phase of the contract. The superintendent shall have the authority to represent the Contractor in his absence and all directives given to the superintendent shall be as binding as if given to the Contractor. The contractor’s superintendent must be proficient in the use and interpretation of the English language.

D. The contractor is to have experience with Baseline control systems for at least 1 year and have successfully installed and programmed these control systems. The Contractor must submit a list of projects which meet this requirement along with the proper contact name, address and telephone number of the parties that can verify the information.

E. The contractor shall have a tablet or smart phone with web service to access the control systems on-site and remotely. The contractor shall set up the Baseline controllers with the correct email settings for notifications for the client and the contractor. The contractor is to monitor the Baseline system and address any errors that arise.

1.4 CODES AND INSPECTIONS

A. The entire maintenance work shall fully comply with all local and state laws and ordinances, and with all the established codes applicable thereto.

1.5 CONTRACTOR REQUIREMENTS

A. The contractor shall comply with the prevailing wage act and any associated filing requirements.

B. The contractor shall be Licensed and Bonded in the Village of Tinley Park. Contact the Building Department (708)444-5100 for requirements.

PART TWO • EXECUTION

2.1 System Repairs

A. SCOPE OF WORK FOR PREVENTIVE MAINTENANCE AND REPAIR The Village of Tinley Park requests bids for preventive maintenance and repair
and winterization, spring start up, on-call maintenance, and emergency repair support services for existing irrigation systems throughout the Village for a period of one (1) year. All work shall be completed within 48 hours of notice.

B. The services provided are intended to supplement and complement the efforts of the Village maintaining the serviceability of the existing systems. The successful Contractors shall be required to perform base services, and related supplemental services at any of the irrigation zones on an as needed basis, as directed by the Owner.

C. The Contractor shall provide all equipment required to provide preventive maintenance and repair. When needed for sprinkler system repairs such as broken or missing heads, leaking lines, head straightening, malfunctioning controllers, or other problems are included in this bid.

D. For any repairs or product installations, the contractor shall follow the Village’s standard section 328400 materials and installation requirements for irrigation systems.

E. Please supply a per-hour rate for crews to perform work on these repairs as they are needed throughout the service period. Materials will be in addition to the labor. The contractor shall carry replacement components and proper tools for execution of the maintenance and repair of the irrigation systems at each site visit.

F. TIME AND MATERIAL HOURS Quotes for any work shall include a cost breakdown submitted by the contractor as follows: labor rate, quantity of hours, materials list, wholesale cost (with evidence of same) and mark up, at applicable contract rates. Each call shall generate a separate invoice detailing the labor charge and the parts/materials as outlined above. All invoices are required to include the proper purchase order number, which can be obtained by calling the owner.

G. HOURLY LABOR RATE The Village does not guarantee any minimum number of hours and will pay only for the actual number of hours authorized and worked at the bid rate. The labor charge should include all travel time. No additional travel will be honored.

H. The work is to be performed at all of the Village of Tinley Park’s sites that have an irrigation system.
   1. Police Station- 7850 183rd St
      One controller, One interior RPZ
   2. Village Hall- 16250 Oak Park Av
      One controller, Rainbird ESP 32, 32 zones – interior 2” RPZ, small booster
   3. Oak Park Av Metra Station- Oak Park Av, North St, South St
      Three controllers, Hunter ProC, 6 zones, 7 zones, 12 zones – two exterior RPZ’s, 1” and 1.5”
   4. Harlem Ave Medians- From just south of 183rd St to 161st St
Hunter XC Battery operated controllers, five total, 3 stations, 6 stations, 6 stations, 11 stations and 10 stations
Exterior RPZ, 1" (3)
Exterior RPZ 1.5" (1)

5. 171st St Medians- 80th Av to 78th Av
One Controller, Baseline 3200 DC 24v–14 zones, one exterior 1.5" RPZ

6. Fire Station #4- 7801 191st St
One controller, RainBird ESP-LX 12, 12 zones– one interior 1.5" RPZ

7. LaGrange Rd Medians- 171st to 179th
One controller, Baseline web access, 2 wire with Watertronics 5hp booster station – one exterior 2" RPZ built into pump enclosure. 68 zones

I. PERMITS AND RESPONSIBILITIES The Contractor shall be responsible for obtaining all necessary licenses and permits. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's negligence and shall take proper safety and health precautions to protect the work, the workers, the public and the property of others. In addition, the Contractor shall be responsible for all materials delivered and work performed until completion and acceptance of the entire work.

The Contractor shall comply with all applicable revisions, additions, changes and/or upgrades to any Federal, state, and municipal laws, codes, and regulations which are in effect on the date of Contract and which affect the performance of the work. The Contractor shall also obtain and pay the costs of any royalties and licenses for any patented or copyrighted items used in the performance of the work.

J. The Contractor shall repair and maintain all equipment covered under this Contract in compliance with the requirements of all local codes and manufacturers installation specifications and guidelines. The Contractor shall perform all services utilizing, at a minimum, the following guidelines:

1. Monitoring – All underground irrigation zones shall be operated and visually checked for leaks, broken heads, heads out of adjustment and improperly functioning electric valves.

2. Broken Irrigation Lines – Broken underground irrigation lines shall be repaired in accordance with all applicable codes.

3. Broken Heads – Broken heads shall be replaced with new identical heads or repaired with original manufacturer's parts, to function according to the manufacturer's specifications.

4. Faulty Valves – Faulty valves shall be replaced with new identical valves or repaired to original manufacturer's specifications.

5. Clogged Heads – Any head that is not properly functioning shall be examined for material(s) lodged in the head. The head shall be disassembled, cleaned, reassembled, and checked.

6. Wiring Problems - An underground wire tracer shall be used to locate wiring breaks. Breaks shall be repaired in accordance with all applicable local codes and with 3M DBY-6 waterproof connectors.

7. Underground Installation repairs – underground main pipe repairs shall be marked with metallic tape or low voltage wires prior to backfill (if applicable). Underground irrigation repairs shall be performed in accordance with applicable codes.

8. The Contractor shall restore landscape to its original condition, including
sodding all disturbed areas, re planting shrubs and mulching.

9. The Contractor shall remove all debris resulting from installation and repair of irrigation systems.

10. All work is to follow Tinley Park’s irrigation section 328400, planting irrigation.

K. SAFETY

1. The contractor is responsible for taking every precaution to protect their employees, the public and Village property.

2. All work to be performed shall comply with all Tinley Park and IDOT flagging, traffic control and protection requirements while working at sites. All work to conform to the applicable Highway Standards, Standard Specifications for Road and Bridge Construction. All traffic control devices shall conform to the Standard Specifications for Traffic Control Devices and the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways. The contractor shall follow all OSHA and EPA standards.

3. The CONTRACTOR is responsible for all site safety, not the Village of Tinley Park. The contractor is responsible for all means, methods and site safety. This is to be incidental in the bid numbers.

2.2 IRRIGATION SEASONAL MAINTENANCE

A. Preseason/Spring start-up completed by May 15th of each calendar year.

1. Install RPZ devices.

2. Test RPZ and certify the RPZ by a certified backflow prevention device testing plumber. Provide plumbers license and his certified BPD/backflow prevention or inspectors license. PRZ inspection tag shall be placed on the unit by the inspecting plumber. All plumbing codes must be followed.

3. Open system valves and fill system.

4. Check system for leaks.

5. Replace non-rechargeable batteries (9volt) per controller.

6. Clean nozzles on all heads.

7. Align irrigation heads ensuring the heads are at proper elevation and is vertical.

8. Operate entire system through an abbreviated cycle.

9. Check operation of rain and/or soil sensors and verify they are working.

10. Activate program schedule for entire system.

11. Replace any missing parts such as nozzles or valve box covers.

12. Inspect the system and prepare a report indicating any repairs that are needed.

13. Provide a written report to the Village with all that was done to the system and the report shall indicate any repairs that are needed that are beyond normal maintenance and service by the contractor.

B. The Contractor shall provide a minimum of one crew for Spring Start-up and make needed repairs.

Repairs identified beyond the seasonal services during spring start up inspection maybe performed under the additional services portion of this proposal.

Contractor to get owner’s approval prior to performing and additional services. Neither Spring Start-up nor shall repairs be delayed or postponed due to lack of
Contractor manpower.

If broken and/or damaged parts are found during spring start up inspection, an Owner’s representative and the Contractor shall determine if breakage is the result of freezing caused by faulty Winterization, or if others cause the breakage or damage to the system. If breakage is the result of freezing, due to improper Contractor Winterization, the Contractor shall make the needed repairs at no cost.

1. Provide a written report to the Village by the 15th with all that was done to the system and the report shall indicate any repairs that are needed that are beyond normal maintenance and service by the contractor.

2. If any repairs beyond the contract are needed, prepare a proposal for repairs and get the Village’s approval for such repairs prior to completing them.

C. Monthly inspections

1. Inspections to be completed June, July, August and September. Site inspection are to be completed by the 15th of each month.

2. Monthly inspections to include:
   a. Inspect controllers time and programming.
   b. Make necessary adjustments to controller with approval of owner.
   c. Check operation of sensors.
   d. Walk site to check plant condition related to irrigation.
   e. Check valves for leaks.
   f. Inspect for broken or damage pipes, heads, and components.
   g. Check and clean clogged heads.
   h. Check the irrigation heads in for proper elevation.
   i. Adjust and align all irrigation heads for proper and consistent watering.
   j. Inspect turf for even coverage by irrigation system.
   k. Run system through an abbreviated cycle.
   l. Provide a written report to the Village by the 15th of the month with all that was done to the system and the report shall indicate any repairs that are needed that are beyond normal maintenance and service by the contractor.
   m. If any repairs beyond the contract are needed, prepare a proposal for repairs and get the Village’s approval for such repairs prior to completing them.
D. Irrigation winterizing

1. Winterization to be completed by October 15th of each calendar year.
2. Turn water source off.
3. Remove RPZ Devices when outdoors, store for the winter as directed by the Village. Cap all ends where the backflow unit is removed.
4. Remove all required filters
5. Blow out all lines with compressed air.
6. Turn off controller.
7. Winterize system and booster pumps or pump stations.
8. The Contractor shall monitor and provide systems adjustment recommendations and physical inspections of the irrigation areas prior to winterization. The Contractor shall make any system adjustments as needed.
9. Provide a written report to the Village by the 15th of the month with all that was done to the system and the report shall indicate any repairs that are needed that are beyond normal maintenance and service by the contractor.
10. If any repairs beyond the contract are needed, prepare a proposal for repairs and get the Village's approval for such repairs prior to completing them.
11. Remove pressure transducer (if applicable) and store as directed by the Village.

The Contractor shall provide a minimum of one crew for winterization. The Contractor shall have the capacity to provide a second crew for support and to make any as needed repairs.

The Owner’s Maintenance Personnel may make needed repairs to all irrigation zones and systems prior to winterization and spring start up. In the event that all repairs are not made, the Owner may request the Contractor to make the repairs under Additional Services. Neither Winterization nor required repairs shall be delayed or postponed due to a lack of Contractor manpower.

Winterization and preventive maintenance shall include the following procedures that shall be performed in accordance with manufactures specifications for each system zone:

Blow out water using appropriate size air compressor. The compressor shall have a minimum capacity range of 100 to 250 CFM, and shall be regulated to an industry acceptable range of 40-45PSI, by use of a pressure regular. Contractor shall take measures to preclude excessive friction and heat build-up, due in part, to the rapid induction of forced pressurized air into the irrigation system during blowout.
2.3 PAYMENT

A. This work shall be paid for at the contract lump sum rate and shall include all labor, materials, and equipment necessary to complete the work. The payment shall be broken into six (6) payments, April through October or as agreed upon with the Village and submitted monthly for approval. Should additional work be required, the approved amounts, should be submitted during the month the work was performed.

2.4 CLEANING THE PREMISES

A. The contractor shall at all times keep the premises on which the work is being done and the adjoining premises clean of rubbish caused by the work, and will be responsible for repair of any damage to Village property caused by his work.

B. The Contractor and each of its employees shall comply with all applicable OSHA and Village rules and practices while on the job site. The Owner reserves the right to inspect all areas for safety violations at its discretion, direct the Contractor to make immediate improvement of necessary conditions and/or procedures, and/or stop the work if other hazards are deemed to exist.

In the event that the Village should elect to stop work because of any type of existing safety hazards after the Contractor has been notified and provided ample time to correct, the Contractor shall bear all costs for eliminating the hazard(s) and shall not be granted compensation for the work stoppage. The Contractor shall pay all additional expenses.

The operation of the Contractor’s vehicles or private vehicles by the Contractor’s employees on or about the property shall conform to posted regulations and safe driving practices. Aisles, passageways, alleyways, entrances or exits to fire protection equipment must be kept unobstructed at all times.

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take all necessary precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to persons, properties, equipment and vehicles. Damage caused by the Contractor to any properties shall be repaired or replace to the satisfaction of the Owner at the expense of the Contractor. The Owner, at its sole direction, may elect to repair or replace the damaged property, and deduct such costs from monies due the Contractor.
PART THREE· CONTRACT TERM

3.1 CONTRACT TERM

A. The term of the Contract shall be from May 1st to December 31, 2017. Each following year (4 optional) will be January 1st to December 31st.

B. This contract may be extended at the Village’s discretion for four (4), one (1) year extensions.

C. The Village reserves the right to cancel and terminate the same at any time giving a 30 day (30) day notice in writing to the contractor. Termination may occur if the Village observes poor performance and/or unacceptable below standards as call for in the contract.
Irrigation System Maintenance Checklist

Controller

- Controller cabinet: Open the cabinet for the irrigation controller and make sure it is free of debris such as cobwebs or dirt.
- Replaced controller battery
- Wiring: Check all wiring connections for wear and breakage. Repair if necessary.
- Time/day settings: Check the time/day settings on your controller to make sure they are correct.

Sprinkler System

- Flush system: Before running the system, remove the last sprinkler head in each line and let the water run for a few minutes to flush out any dirt and debris. Replace the sprinkler heads and turn the system on, running one valve at a time.
- Broken or clogged heads: Look for obviously broken or clogged heads and make the necessary repairs.
- Broken/leaking valve or pipe: Observe the lowest head in each station for leaks.
- High pressure: Look for a very fine mist from spray heads caused by excessive pressure in the system. Correct the problem by turning the flow control down.
- Low pressure: Check to see if the sprinklers are covering the desired area uniformly.
- Incorrect spray arc: Check to see that irrigated areas are being covered completely. Consider adjusting the spray pattern if possible, or replace the spray nozzle(s) with another that has the correct spray pattern.
- Over-spray: Look for over-spray of sprinklers onto sidewalks, driveways, and streets. The sprinklers’ spray patterns should either be adjusted or changed to a pattern that will stay within the planting area.
- Spray pattern blocked or misdirected: Look for blocked spray patterns. Remove vegetation and other obstructions that may be blocking the spray.
- Sunken heads/short pop-ups: Check each head to see that it is at ground level. Raise sunken heads to grade or replace existing short pop-up heads in the lawn with taller pop-ups, as necessary.
- Tilted heads: Heads should be aligned vertically, except in sloped areas. In a sloped area, heads should be aligned perpendicular to the slope to achieve proper coverage. Tilted heads can cause ponding and uneven coverage.