
THE VILLAGE OF TINLEY PARK
Cook County, Illinois
Will County, Illinois

RESOLUTION
NO. 2020-R-005

**A RESOLUTION AUTHORIZING A CONTRACT WITH AQUAMIST PLUMBING AND LAWN
SPRINKLING, CO. FOR IRRIGATION MAINTENANCE**

JACOB C. VANDENBERG, PRESIDENT
KRISTIN A. THIRION, VILLAGE CLERK

CYNTHIA A. BERG
WILLIAM P. BRADY
WILLIAM A. BRENNAN
DIANE M. GALANTE
MICHAEL W. GLOTZ
MICHAEL G. MUELLER
Board of Trustees

RESOLUTION NO. 2020-R-005

A RESOLUTION AUTHORIZING A CONTRACT WITH AQUAMIST PLUMBING AND LAWN SPRINKLING, CO. FOR IRRIGATION MAINTENANCE

WHEREAS, the Village of Tinley Park, Cook and Will Counties, Illinois, is a Home Rule Unit pursuant to the Illinois Constitution of 1970; and

WHEREAS, the Corporate Authorities of the Village of Tinley Park, Cook and Will Counties, Illinois, have considered entering into a contract with Aquamist Plumbing and Lawn Sprinkling, Co., a true and correct copy of such Contract being attached hereto and made a part hereof as **EXHIBIT 1**; and

WHEREAS, the Corporate Authorities of the Village of Tinley Park, Cook and Will Counties, Illinois, have determined that it is in the best interests of said Village of Tinley Park that said Contract be entered into by the Village of Tinley Park;

NOW, THEREFORE, Be It Resolved by the President and Board of Trustees of the Village of Tinley Park, Cook and Will Counties, Illinois, as follows:

Section 1: The Preambles hereto are hereby made a part of, and operative provisions of, this Resolution as fully as if completely repeated at length herein.

Section 2: That this President and Board of Trustees of the Village of Tinley Park hereby find that it is in the best interests of the Village of Tinley Park and its residents that the aforesaid "Contract" be entered into and executed by said Village of Tinley Park, with said Contract to be substantially in the form attached hereto and made a part hereof as **EXHIBIT 1**, subject to review and revision as to form by the Village Attorney.

Section 3: That the President and Clerk of the Village of Tinley Park, Cook and Will Counties, Illinois are hereby authorized to execute for and on behalf of said Village of Tinley Park the aforesaid Contract.

Section 4: That this Resolution shall take effect from and after its adoption and approval.

ADOPTED this 21st day of January 2020, by the Corporate Authorities of the Village of Tinley Park on a roll call vote as follows:

AYES: Berg, Brady, Brennan, Galante, Glotz, Mueller

NAYS: None

ABSENT: None

APPROVED this 21st day of January 2020, by the President of the Village of Tinley Park.

ATTEST:


Village Clerk



Village President

EXHIBIT 1

Aquamist Plumbing and Lawn Sprinkling, Co. Contract

STATE OF ILLINOIS)
COUNTY OF COOK) SS
COUNTY OF WILL)

CERTIFICATE

I, KRISTIN A. THIRION, Village Clerk of the Village of Tinley Park, Counties of Cook and Will and State of Illinois, DO HEREBY CERTIFY that the foregoing is a true and correct copy of Resolution No. 2020-R-005, **“A RESOLUTION AUTHORIZING A CONTRACT WITH AQUAMIST PLUMBING AND LAWN SPRINKLING, CO. FOR IRRIGATION MAINTENANCE.”** which was adopted by the President and Board of Trustees of the Village of Tinley Park on January 21, 2020.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of the Village of Tinley Park this 17th day of September, 2019.



KRISTIN A. THIRION, VILLAGE CLERK

VILLAGE OF TINLEY PARK

SERVICE CONTRACT

This contract is by and between the **Village of Tinley Park**, a Illinois home-rule municipal corporation (the "Village"), and **Aquamist Plumbing and Lawn Sprinkling., Co** (the "Contractor"), for the project or work described in Exhibit A, attached hereto and made a part hereof.

1. In consideration of the compensation stated in paragraph 2, the Contractor shall provide all the services described in the Scope of Services attached hereto as Exhibit "A" and incorporated herein by reference. The express terms of this Contract shall take precedence and control over any term or provision of the Scope of Services (Exhibit A) that in any way conflicts with, differs from, or attempts to alter the terms of this Contract.
2. Except in the event of a duly authorized change order approved by the Village as provided in this Contract, and in consideration of the Contractor's final completion of all work in conformity with this Contract, the Village shall pay the Contractor an amount not to exceed **Forty nine thousand nine hundred and sixty and 00/100 Dollars (\$49,960.00)**. Within **seven (7)** calendar days of completion of the work, the Contractor shall submit his application for payment to the Village, and the Village shall pay Contractor for the work performed no later than **thirty (30)** calendar days from the date of the Village's receipt and the Village's approval of the work and the application for payment. No payment shall be made by the Village until the Contractor has submitted to the Village (i) a Contractor's Affidavit listing all subcontractors and material suppliers utilized on the project and (ii) final waivers of lien from the Contractor, all subcontractors and all material suppliers.
3. No changes shall be made, nor will invoices for changes, alterations, modifications, deviations, or extra work or services be recognized or paid except upon the prior written order from authorized personnel of the Village. The Contractor shall not execute change orders on behalf of the Village or otherwise alter the financial scope of the Project.
4. Written change orders may be approved by the Village Manager or his designee provided that the change order does not increase the amount set forth in paragraph 2 of this Contract to more than \$10,000.00. Changes in excess of this amount must be approved by the Village Board prior to commencement of the services or work. **Any request by the Contractor for an increase in the Scope of Services and an increase in the amount listed in paragraph 2 of this Contract shall be made and approved by the Village prior to the Contractor providing such services or the right to payment for such additional services shall be waived.**
5. **Time is of the essence on this Contract.** The Contractor shall complete all work under this Contract by the dates set forth below:
6. No "Notice to Proceed" may be given nor any work commenced until this Contract is fully executed and all exhibits and other attachments are completely filled out and attached hereto.
7. It is understood and agreed by the parties that the Contractor is an independent contractor retained for the above-mentioned purpose. The Village shall not control the manner nor the means of the Contractor's performance, but shall be entitled to a work product as described herein. The term "subcontractor" shall mean and include only those hired by and

having a direct contract with Contractor for performance of work on the Project. The Village shall have no responsibility to any subcontractor employed by a Contractor for performance of work on the Project, and all subcontractors and material suppliers shall look exclusively to the Contractor for any payments due. The Village will **not** be responsible for reporting or paying employment taxes or other similar levies that may be required by the United States Internal Revenue Service or other State or Federal agencies. Every subcontractor shall be bound by the terms and provisions of this Contract as far as applicable to their work. The Contractor shall be fully responsible to the Village for the acts and omissions of its subcontractors, and shall ensure that any subcontractors perform in accordance with the requirements of this Contract. Nothing contained herein shall create any contractual or employment relations between any subcontractor and the Village. The Contractor is solely responsible for the safety procedures, programs and methods of its employees and agents and shall hold the Village harmless for any and all damages resulting from violations thereof. The Contractor shall comply with all applicable federal, State and local safety laws and regulations.

- 8. It is further agreed that the Contractor shall indemnify, hold harmless, and defend the Village, its officers, agents, and employees from and against any and all claims, losses, damages, causes of action, suits, and liability of every kind, including all expenses of litigation, court costs, and attorneys' fees, for injury to or death of any person or for damage to any property arising out of or in connection with the work done by the Contractor under this Contract. Such indemnity shall apply regardless of whether the claims, losses, damages, causes of action, suits, or liability arise in whole or in part from the negligence of the Village, any other party indemnified hereunder, the Contractor, or any third party.**
- 9. The Contractor assumes full responsibility for the work to be performed hereunder and hereby releases, relinquishes, and discharges the Village, its officers, agents, and employees from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to or death of any person and any loss of or damage to any property that is caused by, alleged to be caused by, arising out of, or in connection with the Contractor's work to be performed hereunder. This release shall apply regardless of whether said claims, demands, and causes of action are covered in whole or in part by insurance and regardless of whether such injury, death, loss, or damage was caused in whole or in part by the negligence of the Village, any other party released hereunder, the Contractor, or any third party. The Contractor shall maintain insurance coverage in an amount and from a carrier suitable to the Village, and the Village shall be named as an additional insured where required. Certificates of Insurance are attached hereto as Exhibit B.**
10. The Village is exempt from payment of state and local sales and use of taxes on labor and materials incorporated into the project. If necessary, it is the Contractor's responsibility to obtain a sales tax permit, resale certificate, and exemption certificate that shall enable the Contractor to buy any materials to be incorporated into the project and then resale the aforementioned materials to the Village without paying the tax on the materials at the time of purchase. In no event will the Village be liable for or pay any sales or use taxes incurred by the Contractor in performing the services under this contract.
11. The Contractor shall comply with all applicable federal, state, and local statutes, regulations, ordinances, and other laws, including but not limited to the Immigration Reform and Control Act (IRCA). The Contractor may not knowingly obtain the labor or services of an unauthorized alien. The Contractor, not the Village, must verify eligibility for employment as required by IRCA.

12. At any time, the Village may terminate this Contract for convenience, upon written notice to the Contractor. The Contractor shall cease work immediately upon receipt of such notice. The Contractor shall be compensated for services performed and accepted by the Village up to the date of termination.
13. No waiver or deferral by either party of any term or condition of this Contract shall be deemed or construed to be a waiver or deferral of any other term or condition or subsequent wavier or deferral of the same term or condition.
14. This Contract may only be amended by written instrument approved and executed by the parties.
15. This Contract and the rights and obligations contained herein may not be assigned by the Contractor without the prior written approval of Village.
16. The parties hereby state that they have read and understand the terms of this Contract and hereby agree to the conditions contained herein.
17. This Contract has been made under and shall be governed by the laws of the State of Illinois. The parties agree that performance and all matters related thereto shall be in Cook County, Illinois.
18. Contractor, its employees, associates or subcontractors shall perform all the work hereunder. Contractor agrees that all of its associates, employees, or subcontractors who work on this Project shall be fully qualified and competent to do the work described hereunder. Contractor shall undertake the work and complete it in a timely manner.
19. If any provision of this Contract shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court of competent jurisdiction finds that any provision of this Contract is invalid or unenforceable, but that by limiting such provision it may become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.
20. This Contract represents the entire and integrated agreement between the Village and Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral.
21. This Contract will be effective when signed by the last party whose signing makes the Contract fully executed.
22. The Contractor agrees to comply with the Illinois Prevailing Wage Act, if the work to be performed under this Contract is covered by said Act.

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://labor.illinois.gov/>. 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.

23. The Contractor agrees to comply with the Illinois Substance Abuse Prevention on Public Works Projects Act.

CERTIFICATIONS BY CONTRACTOR

Eligibility to Contract

The undersigned hereby certifies that the Contractor is not barred from bidding on or entering into this contract 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.

Aquamist Plumbing & Lawn Sprinkling Elizabeth A Martin
Name of Contractor (please print) Co, Inc. Submitted by (signature)

Service Manager
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.

Aquamist Plumbing & Lawn Sprinkling Elizabeth A Martin
Name of Contractor (please print) Co, Inc. Submitted by (signature)

Service Manager
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.

Aquamist Plumbing & Lawn Sprinkling Elizabeth A Martin
Name of Contractor (please print) Co, Inc. Submitted by (signature)

Service Manager
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.

Aquamist Plumbing & Lawn Sprinkling Co., Inc. Elizabeth A. Martin
Name of Contractor (please print) Submitted by (signature)

Service Manager
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.~~ *ELM*
- 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)

Aquamist Plumbing & Lawn Sprinkling Co., Inc. Elizabeth A. Martin
Name of Contractor (please print) Submitted by (signature)

Service Manager
Title

[NAME OF CONTRACTOR]

BY: Elizabeth A. Martin

1/28/2020
Date

Printed Name: Elizabeth A. Martin

Title: Service Manager



VILLAGE OF TINLEY PARK

BY: [Signature]
Mayor
(required if Contract is \$10,000 or more)

1/22/2020
Date

ATTEST:
[Signature]
Village Clerk
(required if Contract is \$10,000 or more)

1/22/2020
Date

VILLAGE OF TINLEY PARK

BY: _____
Village Manager

Date

Exhibit A
SCOPE OF SERVICES

01010 – SUMMARY OF WORK

PART 1 - GENERAL

1.01 Project Description

A. The project consists of landscape irrigation maintenance work throughout the Village of Tinley Park. Project related information is as follows:

1. Project Name: Tinley Park Irrigation Maintenance
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

**Village of Tinley Park
16250 S. Oak Park Ave
Tinley Park, IL**

Seasonal Irrigation System Maintenance

GENERAL 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 two (2) options for renewal for a total of three (3) years possible. First year to be May 1st to December 31st 2020.

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. RPZ 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 damaged 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. Monthly invoicing shall be broken out based on services provided 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 as part of the regular monthly invoicing 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 replaced 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, 2020. Each following year (2 optional) will be January 1st to December 31st.
- B. This contract may be extended at the Village's discretion for two (2), 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.

SECTION 32 84 00- PLANTING IRRIGATION

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

1.1 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.

1.2 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

1.3 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.

1.4 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-Built 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.

1.5 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.

1.6 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.

1.7 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.

1.8 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.

1.9 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 within 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

2.1 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.

2.2 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.

2.3 SLEEVING

- A. Install separate sleeve beneath paved areas to route each run of irrigation pipe or wiring bundle.
 - 1) Sleeving material beneath pedestrian pavements shall be SDR21 PVC Class 200 pipe with solvent welded joints.
 - 2) Sleeving beneath drives and streets shall be SDR21 PVC Class 200 pipe with solvent welded joints.
 - 3) Sleeving diameter: equal to twice that of the pipe or as 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 sleeving with other trades for the landscaping, building penetrations and interior irrigation piping runs.
 - 7) Minimum sleeve depth to be 18".

2.4 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 2 1/2" 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-reinforced "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.

2.5 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

2.6 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 Bicode #BL-5201 single station bicode 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 Bicode 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 bicoders, 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 bicoder.

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 neededThe 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. LASCOSwing 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,

- Inc.
- 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: 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 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. 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 bicoorders, 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 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.

2.7 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.

2.8 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

3.1 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.

3.2 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.

4.3 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 2 1/2" 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.
- H. Enclose pipe and wiring beneath roadways, walks, curbs, etc., in sleeves. Minimum compaction of backfill for sleeves shall reference geotechnical report for compaction requirements. Use of water for compaction around sleeve, "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.

3.4 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.

3.5 SLEEVING AND BORING

- A. Install sleeving 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.

3.6 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.

3.7 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.

3.8 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.

3.9 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 device 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

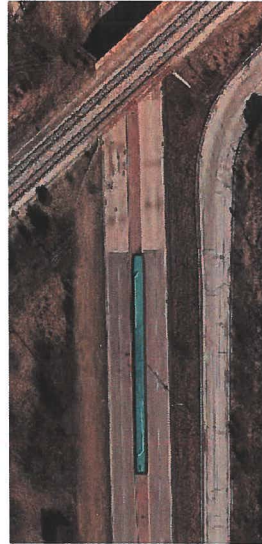
Harlem Av Medians
just north of 163rd St



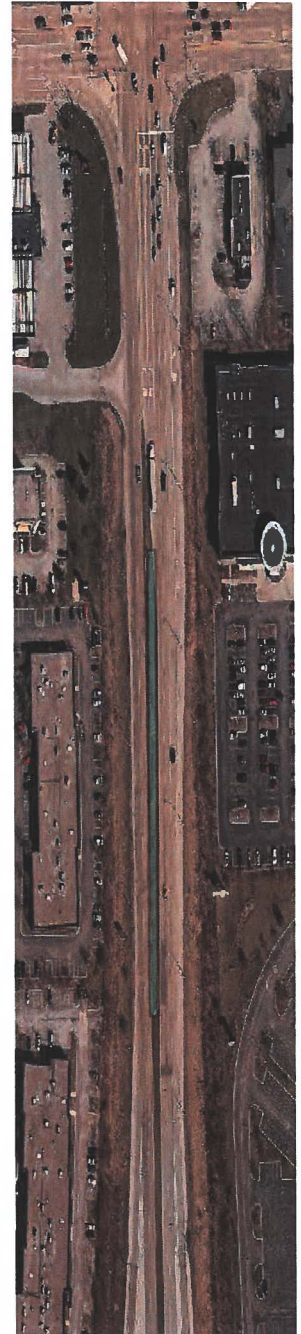
Harlem Av Medians
163rd St to 167th St



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



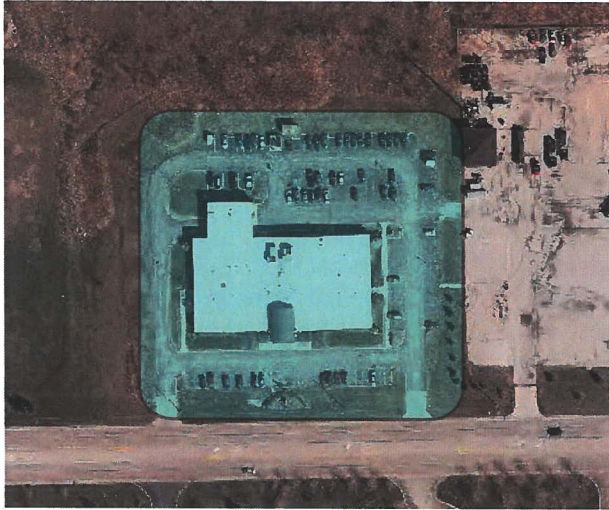
Oak Park Av Train Station- Oak Park Av btw North St & South St



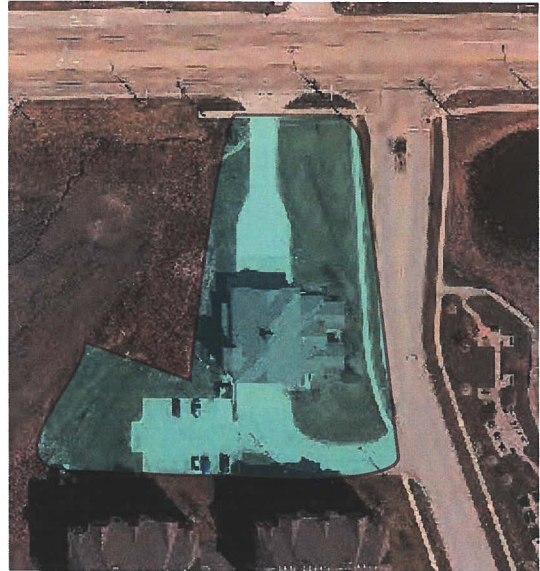
Approximate areas of coverage shown in turquoise

Appendix A: Irrigation Site Maps

Police Station- 7850 W 183rd St



Fire Station #4- 7801 W 191st St



Village Hall- 16250 Oak Park Av



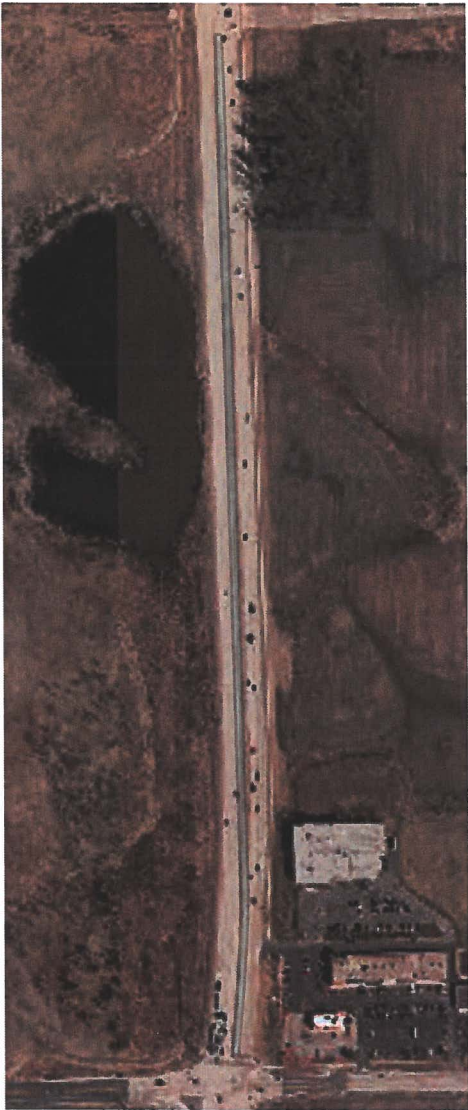
Approximate areas of coverage shown in turquoise

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

Exhibit B

INSURANCE REQUIREMENTS

(See Risk Manager for Insurance Requirements)



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

1/18/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER		CONTACT NAME: Bill Flagler	
Flag Insurance Services Inc		PHONE (A/C, No, Ext): (312) 939-1515	FAX (A/C, No): (312) 939-1516
659 Fairway Lane		E-MAIL ADDRESS: bflagler@flaginsurance.com	
Frankfort IL 60423		INSURER(S) AFFORDING COVERAGE	
INSURED		INSURER A: West Bend	
Aquamist Plumbing & Lawn Sprinkling Co, Inc		INSURER B:	
14526 Chicago Rd		INSURER C:	
Dolton IL 60419-1743		INSURER D:	
		INSURER E:	
		INSURER F:	
		NAIC # 15350	

COVERAGES

CERTIFICATE NUMBER: CL1911806170

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR	X		0132082	4/25/2019	4/25/2020	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 PPAK \$
	GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:						
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO ALL OWNED AUTOS HIRED AUTOS	X		0132082	4/25/2019	4/25/2020	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ PPAK \$
	<input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						
A	<input checked="" type="checkbox"/> UMBRELLA LIAB EXCESS LIAB			0132082	4/25/2019	4/25/2020	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000
	DED <input checked="" type="checkbox"/> RETENTION \$ 10,000	X					
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	0012766	4/25/2019	4/25/2020	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101. Additional Remarks Schedule, may be attached if more space is required)

The Village of Tinley Park and its officers, officials, Village President and Board of Trustees, agents, employees, volunteers, representatives, assigns, successors, transferees, licenences, invitees, and attorneys to be included as an additional insured.

CERTIFICATE HOLDER**CANCELLATION**

Village of Tinley Park
16250 S. Oak Park Ave.
Tinley Park, IL 60477

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

William Flagler/BILLY