

 SHAWNEE MISSION UNIFIED SCHOOL DISTRICT NO. 512 Return sealed envelope to: Shawnee Mission Unified Schools Purchasing Department 7235 Antioch Shawnee Mission, Kansas 66204 ATTN: EVERETT MORGAN E-MAILED OR FAXED BIDS WILL NOT BE ACCEPTED.	DATE: February 16, 2017 BID NO. 17-004 BID TITLE: BENNINGHOVEN ELEMENTARY LANDSCAPING Bids will be accepted until and then publicly opened on: Date: March 7, 2017 Day: Tuesday Time: 11:00 am C.S.T. Terms, conditions and specifications under which bids are requested are included. Please review thoroughly.
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You are invited to bid on: **BENNINGHOVEN ELEMENTARY LANDSCAPING** for the Shawnee Mission Unified Schools per the enclosed terms, conditions and specifications, F.O.B. Destination, Freight Prepaid and Added. **FREIGHT COSTS MUST BE INCLUDED IN THE BID PRICE(S).**

We are enclosing only one copy of the bid specifications. **Please return (2) completed bid form(s).**

Bid price is to be lump sum total including materials, equipment, labor, insurance, fees, transportation, storage, services and supervision for the work identified per the specification and drawings herein. Payment will be made **ON COMPLETION** of Purchase Order. **DO NOT INCLUDE SALES TAX.**

Any questions regarding the bid documents should be directed to SMSD Operations & Maintenance, via email to Rick Foster at rickfoster@smsd.org, or by phone at (913) 993-8516, no later than three days prior to the bid opening.

Questions regarding bid procedures may be directed in writing to the Purchasing Department; Attn: Everett Morgan via E-Mail, everettmorgan@smsd.org ; or phone: 913/993-6474.

THIS BID IS NOT TRANSFERABLE

NOTE: Bid Number and Name of Bidder must appear on the front of sealed envelope. ***Faxed bids will not be accepted.*** Bids must be received in the Purchasing Office prior to bid opening. If sending by U.S. Postal Service, please allow a minimum of 24 hours for your bid to be processed and delivered to the Purchasing Office by the Administrative Mail Center. It is the responsibility of the bidder to ensure delivery of bids to the Purchasing Department. Bidders shall hold all bid prices firm for acceptance for 90 calendar days after date of bid opening.

Bid results will be posted on the smsd.org website within approximately 5 working days after the bid opening. Go to **Public Information; Purchasing/Bidding; Bids and Bid Summaries. Additionally, you may review the bid results in the Purchasing Office during the hours of 8:00 AM to 4:30 PM.**

NOTICE OF "NO RESPONSE FORM"

BID NO. 17-004

VENDORS WHO RESPOND TO THIS INVITATION WITH A COMPLETED NOTICE OF "NO RESPONSE" FORM WILL REMAIN ON OUR MAILING LIST, IF REQUESTED.

VENDORS MAKING NO RESPONSE AT ALL WILL BE REMOVED FROM OUR MAILING LIST.

Dear Vendor:

Please check (☒) the appropriate box below, complete the remainder of this form and return it **NO LATER THAN** the scheduled Bid/Proposal/or Quote Date and Time.

☐ ***Our company cannot provide the products, supplies and/or services*** listed in this bid, proposal or quote. Please **MOVE** our name and address to the following category (ies) so that we may bid at a later date _____

☐ ***We have chosen NOT to submit a response at this time***, but would like to remain on your bid list for this product category. We did not submit a response because:
Reason(s): _____

☐ ***Please REMOVE our name*** from all SMSD bid lists until further notice.
Reason(s): _____

COMPANY NAME: _____

REPRESENTATIVE (please print): _____

ADDRESS: _____ **PHONE (____):** _____

AUTHORIZED SIGNATURE: _____

TITLE: _____ **DATE:** _____

PLEASE RETURN THIS FORM ONLY TO:

Shawnee Mission Unified School District #512
Purchasing Department
Notice of "NO RESPONSE"
7235 Antioch
Shawnee Mission, KS 66204
OR
Fax to: 913/993-6225

**SHAWNEE MISSION PUBLIC SCHOOLS
7235 ANTIOCH
SHAWNEE MISSION, KS 66204**

5% BID SECURITY FORM

If the bid for this project is equal to or greater than \$10,000, bid security is required.

Bid Security issued to: Shawnee Mission Public Schools, in the amount of 5% of the total amount of your Bid shall accompany your Bid as a guarantee that, if awarded all or part of the Bid, your firm will enter into contract to supply the items per the Bid Specifications. **Cashier checks & certified checks should be made payable to Shawnee Mission USD #512.**

This Bid Security is to be made payable to Shawnee Mission Public Schools. If the firm awarded the Bid defaults in entering into a contract for the purchase of those items as specified, the Bid Security will become the property of the School District. Bids not accepted within ninety (90) days after the time set for submission will have their Bid Securities returned.

PLEASE NOTE: Should you submit a cashiers or certified check instead of a bid bond, the following steps will be used by SMSD in the handling of that check:

- 1) SMSD will deposit your check into a SMSD bank account within 2-3 days after bid opening.
- 2) Within four (4) weeks after board approval of the bid, a district check shall be mailed to the non-successful bidder(s) to reimburse them for the exact amount of their cashiers/certified check.
- 3) Within four (4) weeks after the completion of a formal written and properly signed contract, or the issuance of a SMSD purchase order, a district check shall be mailed to the successful bidder(s) for the exact amount of their cashiers/certified check.

NOTE: IF SUCH SECURITY IS NOT ENCLOSED WITH THE BID, IT WILL BE CAUSE FOR REJECTION OF THE BID.

_____ Company	\$ _____ Amount of Total Bid
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_____ Address	\$ _____ Amount of Bid Bond
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City, State, Zip Code

_____ **Bid Security attached to this form. (Please send the two together.)**

_____ Signature of Authorized Rep.	_____ Phone
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_____ Please Print Name	_____ Position
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BID FORM**BID No. 17-004**

BID OF: _____

A CORPORATON ORGANIZED AND EXISTING UNDER THE LAWS

OF THE _____

A PARTNERSHIP CONSISTING OF _____

_____ PARTNERS:

OR: A SOLE PROPRIETOR; HERINAFTER CALLED THE BIDDER.

TO: SHAWNEE MISSION PUBLIC SCHOOLS
ATTN: MR. EVERETT MORGAN
7235 ANTIOCH
SHAWNEE MISSION KS 66204

The undersigned acknowledges that he has received and familiarized himself with the following:
Request for Bid
Shawnee Mission Public School District #512

Bid Number 17-004 for **Benninghoven Elementary Landscaping**

ADDENDA NO(s): _____ Received

The undersigned further acknowledges that he has familiarized himself with local conditions affecting the cost of the work at each place where the work is to be done.

In submitting this bid, the undersigned agrees:

1. To furnish all material, labor, tools, expendable equipment, supervision and all utility and transportation services necessary to perform and complete, in a workmanlike manner, all of the work required in accord with the bid documents for the consideration hereinafter set forth.
2. To hold his bid open for sixty (60) days after receipt of bids and to accept the provisions of the instructions to bidders regarding disposition of bid security.
3. **Contactors shall include in their bid proposal an allowance of 15% of bid amount for unforeseen conditions and revisions. It is understood that if such allowance is not utilized by this contract a subsequent deductive change order shall be executed to return any unused allowance funds to the school district.**
4. To coordinate schedule and site work with the Owner's on site Construction Manager for constructing the new building. Work shall commence upon Board of Education approval (March 27, 2017) and receipt of the District issued Purchase Order. All work is to be complete not later than August 15, 2017 unless approved by owner.
5. To accept the assessment of liquidated damages of \$250 for each calendar day which the work is not complete, beginning with the first calendar day after the indicated completion dates.
6. All materials to be non-proprietary, as specified, or approval equal.

BID

1. Lump Sum Base Bid: _____ Dollars

(\$ _____).

2. 15% Allowance Amount: _____ Dollars

(\$ _____).

Total Bid Amount (1. plus 2. Above): _____ Dollars

(\$ _____).

(Indicate bid in both numbers and words. In the case of a discrepancy between the two, the amount shown in words shall govern.)

In submitting this bid, it is understood that the right to reject any and all bids and to waive irregularities in the bidding has been reserved by the owner.

Date this _____ day of _____, 2017.

Name of Bidder

Address of Bidder

Authorized Officer

Area Code/Telephone Number

Email Address

Website

Terms and Conditions

A. Bid Requirements and Considerations:

1. The Board of Education reserves the right to reject any or all bids, to accept any item or items in the bid, and to waive any informality in bids.
2. Each bid must be completed on SMSD bid forms.
3. Alternate bids will be considered only if the alternate properly meets specifications outlined in the bid.
4. Each bid (if exceeding \$10,000) shall be accompanied by bid security in the amount of five percent (5%) of the total base bid, made payable unconditionally to the school district. This security will be submitted as evidence of good faith as a guarantee that, if awarded the contract, the bidder will execute required bonds and insurance within ten (10) days after receipt of Notice to Proceed.
5. Each bidder shall carefully examine the bidding documents and thoroughly inform himself with all requirements prior to submitting a bid. Should a bidder find discrepancies or ambiguities in, or omission from bidding documents, or should he be in doubt as to their meaning, he will at once and at least three days prior to bid date, notify the school district. Any subsequent addenda sent to bidders will become part of the contract documents.
6. Prior to submitting a bid, each bidder shall examine and thoroughly familiarize himself with all existing conditions; including applicable laws, codes, ordinances, rules, and regulations that will affect his work. Bidders shall visit the site, examine the existing conditions, and shall ascertain by reasonable means, all conditions that will in any manner affect the work. Contractors and/or bidders are required to check in with building authorities at the school immediately upon entering the school premises.
7. Prices quoted are to be free of all Federal, state, and local taxes, unless otherwise imposed by a governmental body and applicable to the work or material. The school district will obtain from the State of Kansas a sales tax exemption certificate number. The sales tax exemption certificate will permit the contractor to purchase materials for incorporation into this project without paying sales tax, provided that the contractor furnishes the certificate number to the supplier.
8. When submitting a substitute article as equal, the full name and illustrated description must be given. The Board of Education reserves the right, however, to decide upon its suitability for the intended use. Upon request, samples of substitute articles must be submitted.
9. Envelopes containing bids must be sealed and marked on the lower-left hand corner with the firm name and address of the bidder, bid number, bid opening date, and bid opening time.
 - a. No special effort shall be made to sort incoming mail for potential bids.
 - b. Bids not at the appointed place at time of bid opening will be rejected.
 - c. Faxed Bid/Proposals will not be accepted as sealed bids.

10. If bid is accepted, USD #512 must be supplied with seller's employer identification number or social security number, per IRS regulations.
11. Each contractor is responsible for his/her own worker's compensation and liability insurance coverage. Shawnee Mission Unified School District #512 assumes this COVERAGE IS INCLUDED IN THE PRICE OF EACH BID TOTAL.
12. Any catalog, brand name or manufacturer's reference used herein is intended to be descriptive and not restrictive. Offers on any reputable manufacturers regularly produced product which is similar and substantially equivalent will be considered. SMSD reserves the right to make final decisions as to the acceptability of comparable items.
13. Vendors who do not bid, but wish to remain on our bid list, should notify the Shawnee Mission USD #512 Purchasing Department in writing using the enclosed "Notice of No Response" form. Failure to do so may result in removal from this list.
14. If required by the bid form, the contractor shall submit with his bid a list of subcontractors and other persons or organizations that will perform work on this project.

B. Form and Requirements of the Contract:

1. The form of contract will be a Purchase Order issued by Shawnee Mission School District. In submitting his bid for consideration, each bidder agrees to commence work as soon as practical upon receipt of the school district purchase order and subsequent execution of applicable bonds and certificates of insurance.
2. The district shall not be responsible for any goods delivered or services performed without its purchase order signed by an authorized representative of the Purchasing Department.
3. The contractor shall not commence work under this contract until he has obtained the owner's approval of a certificate of insurance providing evidence that he has obtained all the insurance required under this section, at least equal to the limits set forth hereinafter, with an insurance company acceptable to the owner.

All policies shall provide for ten (10) days written notice to the owner prior to effective date of any changes affecting the policy. Two copies of the certificate of insurance in a form acceptable to the owner shall be delivered to the owner. The contractor shall not allow any subcontractor to commence work until the subcontractor has obtained insurance coverage similar to that required of the contractor.

4. **For projects with a value of \$20,000 or more;** subsequent to award, the contractor shall furnish Performance Bond, Labor and Materials Payment Bond, and Kansas Statutory Bond covering the faithful performance of the contract and the payment of all obligations arising thereunder. All such bonds shall be submitted to the school district prior to the commencement of any contract work.
5. Contracts entered into on the basis of submitted bids are revocable if contrary to law.
6. The laws of the State of Kansas shall govern any contracts resulting from this bid. Actions must be filed in the Johnson County Courthouse in Johnson County, Kansas.

7. The seller shall provide the standard patent infringement indemnity clause which shall hold and save the Board of Education and its officers, agents, servants, and employees, harmless from liability of any patented, or unpatented invention, process, article, or appliance manufactured, or used, in the performance of the contract, including its use by the Board of Education.

C. General Work Requirements.

1. The contractor will be required to start the work per the schedule included herein. Liquidated damages as stated on the bid form will be assessed for each consecutive calendar day which the work is not complete, beginning with the first day beyond the completion time stated. Completion is the owner's ability to utilize the facility for its intended purpose. Shawnee Mission Public Schools will be the sole judge of completion.
2. The owner reserves the right and may delay work if scheduling between school administration and contractor cannot be resolved.
3. It will be the contractor's responsibility to have the approaching licenses and permits required by the state and/or municipality in which the work will be performed. It is also the contractor's responsibility to make certain all work and material meets local and state codes. Bidders shall include permit fees in their bid.
4. The contractor shall observe and comply with all ordinances, laws, and regulations, and shall protect and indemnify the owner against any claim or liability arising from or based on any violation of the same. The contractor shall comply with all regulations of agencies having jurisdiction with respect to sanitation and safety during construction.
5. All items shall be new and unused, unless otherwise specified by the district, and in first class condition.
6. Contractor shall be responsible for protection of the adjacent spaces during all phases of the project, demolition material storage and new construction.
7. All items furnished must be of their respective kinds, and will be free from defects in material and workmanship. Items will be subject to our inspection and approval at any time. Items furnished must be manufactured in compliance with all existing legal or governmental directives.
8. All work shall be of the highest quality. The contractor and subcontractor shall check their work regularly for quality and conformance as the work is in progress. Unsatisfactory work shall be corrected immediately.
9. The contractor shall promptly correct work rejected by the owner or failing to conform to the requirements of the contract documents, whether observed before or after substantial completion and whether or not fabricated, installed or completed. The contractor shall bear all costs of correcting such rejected work, including additional testing and inspections and compensation for owner services and expenses made necessary thereby.
10. As work is completed by the contractor/subcontractor, it shall be his responsibility to remove all excess material, equipment and debris from the premises.

11. Upon substantial completion, a scheduled punch list inspection shall be conducted by the school district to identify any item(s) requiring additional work. All items noted on the punch list shall be accomplished by the contractor prior to final payment.

D. Miscellaneous Requirements

The law requires that Section 1 through 5 of KSA 44-1030 (as follows) are to be included in all contracts to which our agency is a party: Except those with contractors, vendors or suppliers whose cumulative dollar total in any fiscal year is \$5,000.00 or less, or who have fewer than four (4) employees:

1. The contractor shall observe the provisions of the Kansas act against discrimination and shall not discriminate against any person in the performance of work under the present contract because of race, religion, color, sex, physical handicap unrelated to such person's ability to engage in the particular work, national origin or ancestry;
2. In all solicitations or advertisements for employees, the contractor shall include the phrase, "equal opportunity employer" or similar phrase to be approved by the commission;
3. If the contractor fails to comply with the manner in which the contractor reports to the commission in accordance with the provisions of KSA 1976 Supp .44-1030, as amended, the contractor shall be deemed to have breached the present contract and it may be canceled, terminated or suspended, in whole or in part, by the contracting agency;
4. If the contractor is found guilty of violation of the Kansas act against discrimination under a decision or order of the commission which has become final, the contractor shall be deemed to have breached the present contract and it may be canceled, terminated or suspended, in whole or in part, by the contract and it may be canceled, terminated or suspended, in whole or in part, by the contracting agency; and
5. The contractor shall include the provisions or paragraphs one (1) through (4) inclusively of this subsection (a) in every subcontract or purchase order so that such provisions will be binding upon such subcontractor or vendor.

E. Payments to the Contractor:

Progress payments will be allowed with each payment being based on the extent of the work at the time of the invoice. In order for payment to occur on the "Payment Release Date", the vendor's INVOICE and the "BLUE" receiving copy of the Shawnee Mission purchase order must be received into the Business Office (via the Project Manager) by the school cut-off date (preferably earlier) so that sufficient time is allowed for the payment to actually be processed through the Accounts Payable system.

INVOICES MUST BE SUBMITTED TO THE APPROPRIATE PROJECT MANAGER NO LATER THAN THREE DAYS PRIOR TO THE SCHOOL CUT-OFF DATE. SUBMIT INVOICES TO THE PROJECT MANAGER AT THE OPERATIONS & MAINTENANCE OFFICE AND NOT TO THE McEACHEN OFFICE.

CONTRACTOR AND VENDOR CODE OF CONDUCT

Shawnee Mission School District requests that all contractor and vendor employees conduct themselves in an acceptable manner while performing work on school district property. The following items are prohibited on school district properties:

1. Physical or verbal contact with students or non-designated staff.
2. All school district properties are tobacco free. All tobacco, including smokeless tobacco, is prohibited. There are no designated areas for tobacco use. Contractors are required to post no tobacco signs. Smoking will not be permitted inside private vehicles which are on school district property. Workers may be required to sign a consent form acknowledging no tobacco use on the property. Violators may be required to leave the work site.
3. Drugs and/or alcohol consumed or present on district properties.
4. Firearms and hunting items.
5. Foul or abrasive language.

Additionally, all workers shall wear appropriate clothing on all parts of the body. All workers shall utilize areas for vehicle access and parking, material storage, etc. All workers shall wear nametags identifying their name and the name of the company they are representing.

INSURANCE REQUIREMENTS

- A. Worker's Compensation Insurance: Worker's Compensation and Employer's Liability Insurance as required by law to cover fully all employees.
- B. Bodily Injury and Property Damage Insurance: A comprehensive general bodily injury and property damage policy, including automobiles, covering the work to be performed. The policy shall be written to provide damage arising from one accident, with not less than \$1,000,000 aggregate damages to, or destruction of property during the policy period; except, in case of automobile damage coverage, the minimum provided shall be not less than \$1,000,000 bodily injury and \$1,000,000 property damage per accident for any vehicle used on the project, whether owned, hired or nonowned.
- C. Special Insurance: Contractor for General Construction work shall take out and maintain insurance providing a minimum coverage of \$1,000,000 for the following hazards:

Where the work to be performed involves excavation or other underground work or construction, the property damage insurance provided shall cover all injury to or destruction of property below the surface of the ground, such as wires, conduits, pipes, mains, sewers, etc., caused by the contractor's operations, or injury to or destruction of property above or below ground resulting therefrom.

Property damage insurance shall also cover the collapse of, or structural injury to, any building or structures on or adjacent to the owner's premises, or the injury to or destruction of equipment and/or property resulting therefrom, caused by the removal of other buildings, structures, or supports, or by excavation below the ground, where the construction of a new structure or the demolition of any existing structure involves any of the foregoing designated hazards and in all cases where the contract provides for alterations in, additions to, or the underpinning of, and existing structure or structures.

- D. Subcontractor's Insurance: If a part of this contract is sublet, the contractor shall either cover any or all subcontractors in his insurance policies; or require each subcontractor to secure insurance which will protect him against all applicable hazards not covered by the contractor's insurance.

Certificate and Maintenance of Insurance: The contractor shall submit three (3) copies of Certificate of Insurance to the owner. The required insurance shall be maintained in force until the project is completed.

**SHAWNEE MISSION PUBLIC SCHOOLS
ACCOUNTS PAYABLE SCHEDULE**

School Cut Off	Payments Released
7/14/2016	7/26/2016
8/5/2016	8/16/2016
9/16/2016	9/27/2016
10/14/2016	10/25/2016
11/18/2016	11/29/2016
12/9/2016	12/20/2016
1/13/2017	1/24/2017
2/17/2017	2/28/2017
3/10/2017	3/28/2017
4/14/2017	4/25/2017
5/12/2017	5/23/2017
6/16/2017	6/27/2017

Note: Additional dates beyond June 2017 will be added as they become available pending Board of Education schedule establishment for the 2017-2018 School Year.

PROPOSED PROJECT SCHEDULE
BENNINGHOVEN ELEMENTARY LANDSCAPING

Bid Number 17-004

<u>DATE</u>	<u>ACTIVITY</u>
2/16/17-3/7/17	Bid Period
3/7/16	Bid Opening
3/27/17	Bid Approval by Board of Education
3/28/17	Notice to Proceed
3/29/16-4/1/17	Shop drawing/material submittals preparation and review, and material procurement.
4/1/17	Start Installation period – Phase 1
6/1/17	Substantial Completion, Identification of Punch list – Phase 1
6/2/17-6/15/17	Correction of Punch list items – Phase 1
7/1/17	Start Installation period – Phase 2
8/1/17	Substantial Completion, Identification of Punch list – Phase 2
8/2/17-8/15/17	Correction of Punch list items – Phase 2
8/15/17	Final Completion

PROJECT BUILDING LOCATION

Rhein Benninghoven Elem.	6720 Caenen Shawnee, Kansas 66216
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GENERAL INFORMATION

1. TERMINOLOGY

The term contractor, manufacturer and supplier may be used interchangeably. Purchaser or Owner shall refer to Unified School District #512 of Johnson County, Kansas (Shawnee Mission Public Schools).

2. TEMPORARY UTILITIES

Temporary power required for installation shall be from the building services. All required cords or other connections shall be the contractor's responsibility.

3. PERMITS AND FEES

All necessary permits and fees for surveys, licenses, site preparation, utility connections to comply with applicable state and local codes or statutes and other similar charges, except those required for transportation of the structure, will be the responsibility of the contractor unless the Contract specifically states otherwise.

4. CRITERIA FOR AWARD OF CONTRACT

In addition to the dollar sum bid, the Owner will review the following in formulating the decision to award a Contract. These additional criteria are:

- A. The successful Bidder preferably to be a manufacturer or authorized contractor.
- B. The length of construction time in accordance with specified delivery time period.
- C. The probability that the Bidder can perform in accordance with the Bidding Document.
- D. The likelihood that the Contractor will perform without delay or interference.
- E. The responsibility and reputation of the Bidder.

5. PAYMENT SCHEDULE

The contractor may draw progress payments as the work progresses. Each progress payment will have ten percent (10%) retainage withheld until the project is complete. The balance (ten percent) shall be paid within thirty days of the completion of the punch list, final acceptance, and consent of surety to release of lien.

6. REQUIRED BONDS

Bid Security – **For Bids equal to or greater than \$10,000**, a bid security in the form of a Bid Bond in 5% of the greatest amount bid must be included with the bid at time of bid opening. A cashier's check may be utilized for this requirement if prior notice of such intent is given the Owner.

Performance and Payment Bond – **For Bids with a value of \$20,000 or more**, the successful Bidder, upon notice of award of contract will, within fifteen working days, and prior to commencement of work, provide the owner performance and payment bonds for 100% of the total sum bid.

Statutory Bond - **For Bids equal to or greater than \$20,000**, the successful Bidder, upon notice of award of contract will, within fifteen working days, and prior to commencement of work, provide Kansas Statutory Bond covering the faithful performance of the contract for 100% of the total sum bid. The Statutory Bond must be filed with and recorded by the Johnson County District Clerk.

General -All bonds submitted must be issued by an entity authorized to do business in Kansas for the specific purpose of issuing bonds. If issued by an agent, the bond must carry a Power of Attorney and all required seals. Photo copies of bonds will not suffice for this requirement.

7. INSURANCE

Insurance per the Terms and Conditions.

8. LIQUIDATED DAMAGES

All materials must be delivered to the site as required by the Bidder to allow the work to progress as needed to achieve the Substantial Completion date(s). Upon arrival on site, the contractor/supplier is to finish all work necessary to complete the installation in its entirety. Contractor/Supplier shall finish said functions by the Substantial Completion Date(s) as determined by the schedule indicated in these bidding documents. Failure to meet this requirement will result in a forfeiture of \$250.00 for each consecutive calendar day which the work is not complete, beginning with the first day beyond the substantial completion date(s) stated, NO EXCEPTIONS.

9. MATERIAL SUBSTITUTION

In some instances, circumstances may dictate substitutions. Any changes and/or substitutions of materials, products, equipment, etc., as specified herein may be made by the Contractor, provided that such change and/or substitution are of like grade and equal or better quality than the originally specified items and that any substitutions shall be approved by the Owner.

10. CLEAN-UP

The Contractor shall insure that upon completion, the site is cleaned, left free of excess materials, and all debris properly disposed of in waste containers.

11. SHOP DRAWINGS / MATERIAL SUBMITTALS

A complete set of shop drawings and/or material submittals shall be submitted to the Owner for review. The drawings will be to scale, complete with notes, and reflect all elements of the installation.

12. PRODUCT SELECTION

The manufacturer warrants that no materials, glues, paints, insulation, nor other products used in the construction of these buildings contains asbestos, lead paint, or volatile organic compounds.

13. DESCRIPTION OF THE WORK

Shawnee Mission Public Schools is soliciting bids for the **Rhein Benninghoven Elementary Landscaping**, which shall include the installation of all landscaping work as described in these Construction Documents. This project installation is broken down into two phases identified in the project schedule and the Special Terms & Conditions. This bid is to include all labor, materials, equipment, supervision and all installation work as needed. **All bidders shall visit the site to see the conditions prior to submitting a bid. All visitors to the site must check in at the Main Office upon arrival.**

14. SPECIFICATIONS

Specifications are detailed in the attached specifications and information.

15. SPECIAL TERMS & CONDITIONS

The special terms and conditions are set forth on pages enclosed. **Refer to the Bid Form for allowances that apply to this project to be included in the bid.**

SPECIAL TERMS AND CONDITIONS

1. After a "Notice to Proceed Letter" is issued to the successful Bidder, the Bidder shall prepare and submit for approval a **Project Schedule of the Work** identifying all phases of the project and the time frame for each phase. This schedule shall include the time necessary for field verification, preparation of submittals, materials procurement, the removal of existing fencing and installation of new fencing, inspection, completion of punch list work, and any other work that the Bidder indicates as part of the complete Project. This schedule shall end with the Substantial Completion and correction of punch list dates. Once the contractor is prepared to start work on each phase, it is required that they complete the work in that phase before moving to the next phase.
2. This project work is being performed as a separate contract to the Owner for the installation of the new landscaping at the new Rhein Benninghoven Elementary School that is currently under construction under the direction of JE Dunn Construction as the Construction Manager at Risk. **The District issued Purchase Order, all payment applications, payments and contract administration will be administered under the direction of the District.** All work schedules, materials deliveries, coordination of work activities, etc. must be coordinated with JE Dunn Construction. All communications with JE Dunn Construction shall be with either Nathan Daraban (Project Manager) at 816-292-8793 (office) or Brian Pullen (Project Superintendent) at 816-365-8821 (cell). The timing of the work, coordination with other related subcontractors associated with the fencing shall be through JE Dunn.
3. JE Dunn indicates that all trade partners working on the project site must conform to the JE Dunn Safety protocol. All personnel working on site must attend a short safety training session ran by JE Dunn prior to starting work on site. Part of the safety requirements includes individuals shall wear the required personal protective equipment (PPE) that includes hard hats, eye protection, high visibility apparel and gloves.
4. **The Contractor is to include on the Bid Form a 15% of the Base Bid amount as a contingency allowance for unforeseen conditions and minor scope of work revisions as directed by the Owner.** A complete accounting of all funds of the allowance must be documented and approved by the Owner prior to performing the work. This allowance shall be a single line item in the Schedule of Values on the payment applications and will be drawn against as it is used. Any remaining balance will be returned to the Owner in the form of a Deduct Change Order.
5. The Contractor is to be responsible for all clean-up work of the construction area.
6. At any time that special protection should be required around a portion of the building or work area, the Contractor is completely responsible for all protective measures such as barriers, temporary railings, etc. as required to maintain the building site in a safe and occupiable condition.
7. A construction staging area, site storage area and work area will be allowed to the Contractor on the building site. This location shall be coordinated between the Contractor and JE Dunn. The Contractor shall be responsible for all required security measures at no additional cost to the District.
8. The Contractor shall field verify all site conditions and layout dimensions as needed for the installation of the work.
9. Following these Special Terms and Conditions are specification section and landscaping plans indicating the scope of work for this project. If there are any questions about the plans, please notify the contact listed at the front of these specifications.

ATTACHMENTS:

SECTION 32 92 00 TURF AND GRASSES

SECTION 32 93 00 PLANTS

DRAWING SHEET L1.0 LANDSCAPE PLAN

DRAWING SHEET L1.1 LANDSCAPE PLAN

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including SMSD terms and conditions, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Seeding.
 - 2. Sodding.
 - 3. Erosion-control material(s).

- B. Related Requirements:

- 1. Section 329300 "Plants" for trees, shrubs, ground covers, and other plants as well as border edgings and mow strips.

1.3 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- C. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- E. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For landscape Installer.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture, stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
 - 1. Certification of each seed mixture for turfgrass sod. Include identification of source and name and telephone number of supplier.
- C. Product Certificates: For fertilizers, from manufacturer.
- D. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of turf during a calendar year. Submit before expiration of required maintenance periods.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf establishment.
 - 1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
 - 2. Experience: Five years' experience in turf installation.
 - 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 - 4. Pesticide Applicator: State licensed, commercial.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.
- C. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Accompany each delivery of bulk materials with appropriate certificates.

1.9 FIELD CONDITIONS

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of planting completion.
 1. Spring Planting: April 1 to May 31.
 2. Fall Planting: September 1 to October 31.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species:
 1. Quality: Blue Tag certified seed of grass species as listed below for solar exposure.
 2. Quality: Seed of grass species as listed below for solar exposure, with not less than 85 percent germination, not less than 95 percent pure seed, and not more than 0 percent weed seed:
 3. Full Sun: Proportioned by weight as follows:
 - a. 90 percent Turf-type Tall Fescue (*Festuca arundinacea*), a minimum of three cultivars, and 10 percent Kentucky Bluegrass (*Poa pratensis*).

2.2 TURFGRASS SOD

- A. Turfgrass Sod: Certified, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.
- B. Turfgrass Species: Sod of grass species as follows, with not less than 85 percent germination, not less than 95 percent pure seed, and not more than 0 percent weed seed:
 1. Full Sun: Proportioned by weight as follows:

- a. 90 percent Turf-type Tall Fescue (*Festuca arundinacea*), a minimum of three cultivars, and 10 percent Kentucky Bluegrass (*Poa pratensis*).

2.3 ORGANIC FERTILIZERS

- A. Pre- and Post-Planting Organic Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of slow release nitrogen, chelated micronutrients, organic phosphorous and humic substances. A fully composted organic fertilizer that increases the levels of microbial activity.
 1. Sustane 4-6-4 organic starter and maintenance fertilizer or approved equivalent.

2.4 MULCHES

- A. Bonded Fiber Matrix: Shall be comprised of long strand, thermally produced wood fibers held together by organic tackifiers; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5. The matrix shall be comprised of materials which are 100% biodegradable and 100% beneficial to plant growth. The BFM shall be manufactured to be hydraulically applied, and upon drying, adheres to the soil in the form of a continuous, 100% coverage, biodegradable, erosion control blanket. The BFM shall be installed by a Contractor certified by the manufacturer to be trained in the proper procedures for mixing and application of the product.
- B. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors. The binder shall not dissolve or disperse upon rewetting.

2.5 PESTICIDES

- A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.

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1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 2. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 3. Uniformly moisten excessively dry soil that is not workable or which is dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
1. Protect adjacent and adjoining areas from hydromulching overspray.
 2. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

- A. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
- B. Preparation of topsoil: Till and loosen topsoil to a depth of at least 4 inches. Apply required soil amendments and initial fertilizers required for establishing new turf and mix thoroughly into top 4-inches of topsoil.
- C. Moistening prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.4 SEEDING

- A. Seed shall be installed and uniformly distributed with a turfrass drill seeder.
1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 2. Do not use wet seed or seed that is moldy or otherwise damaged.
- B. Sow seed at a total rate of 8 to 10 lbs/1000 sq. ft.
- C. Protect seeded areas with hydraulically applied Bonded Fiber Matrix (BFM) according to manufacturer's written instructions. The Bonded Fiber Matrix shall be spray-applied at a rate

recommended by manufacturer utilizing standard hydraulically seeding equipment in successive layers as to achieve 100% coverage of all exposed soil. The BFM shall not be applied immediately before, during or after rainfall, such that the matrix will have opportunity to dry up to 24 hours after installation.

- D. Water newly planted areas and keep moist until new turf is established.

3.5 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 - 1. Lay sod across slopes exceeding 1:3.
 - 2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below sod.
- D. Water newly planted areas and keep moist until new turf is established.

3.6 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
 - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
 - 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches (100 mm).

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
 2. Water turf with fine spray at a minimum rate of 1 inch (25 mm) per week unless rainfall precipitation is adequate.
- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
1. Mow turf-type tall fescue to a height of 2 to 3 inches.
- D. Turf Post-fertilization: Apply slow-release organic fertilizer after initial mowing and when grass is dry.

3.7 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:
1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 4 by 4 inches (125 by 125 mm).
 2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
- B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.8 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents according to requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

3.9 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

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- B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.
- C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- D. Remove nondegradable erosion-control measures after grass establishment period.

3.10 MAINTENANCE SERVICE

- A. Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in "Turf Maintenance" Article. Begin maintenance immediately after each area is planted and continue until acceptable turf is established, but for not less than the following periods:
 - 1. Seeded Turf: 90 days from date of Substantial Completion.
 - a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.
 - 2. Sodded Turf: 60 days from date of Substantial Completion.

END OF SECTION 329200

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including SMSD terms and conditions, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Plants.
 - 2. Tree stabilization.
 - 3. Tree-watering devices.
 - 4. Landscape edgings.

- B. Related Requirements:

- 1. Section 329200 "Turf and Grasses" for turf (lawn), hydroseeding, and erosion-control materials.

1.3 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with a ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required.
- D. Bare-Root Stock: Plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than the minimum root spread according to ANSI Z60.1 for type and size of plant required.
- E. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- F. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag.

Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of plant.

- G. Finish Grade: Elevation of finished surface of planting soil.
- H. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.
- I. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- J. Planting Area: Areas to be planted.
- K. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- L. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.
- M. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- N. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
- O. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.4 COORDINATION

- A. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
 - 1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.

2. Plant Photographs: Include color photographs in digital format of each required species and size of plant material as it will be furnished to Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Include a scale rod or other measuring device in each photograph. For species where more than 20 plants are required, include a minimum of three photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full scientific name of the plant, plant size, and name of the growing nursery.

B. Samples for Verification: For each of the following:

1. Trees and Shrubs: Three samples of each variety and size delivered to site for review. Maintain approved Samples on-site as a standard for comparison.
2. Organic Mulch: 1-gallon volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
3. Slow-Release, Tree-Watering Device: One unit of each size required.
4. Edging Materials and Accessories: Manufacturer's standard size, to verify color selected.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.
- B. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
 1. Manufacturer's certified analysis of standard products.
 2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
- C. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.
- D. Sample Warranty: For special warranty.

1.8 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit before expiration of required maintenance periods.

1.9 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of plants.

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1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
 2. Experience: Five years' experience in landscape installation.
 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 4. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:
 - a. Landscape Industry Certified Technician - Exterior.
 - b. Landscape Industry Certified Interior.
 - c. Landscape Industry Certified Horticultural Technician.
 5. Pesticide Applicator: State licensed, commercial.
- B. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.
1. Selection of plants purchased under allowances is made by Architect, who tags plants at their place of growth before they are prepared for transplanting.
- C. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
1. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches (150 mm) above the root flare for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above the root flare for larger sizes.
 2. Other Plants: Measure with stems, petioles, and foliage in their normal position.
- D. Plant Material Observation: Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Architect may also observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.
1. Notify Architect of sources of planting materials seven days in advance of delivery to site.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws if applicable.
- B. Bulk Materials:
1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 3. Accompany each delivery of bulk materials with appropriate certificates.
- C. Deliver bare-root stock plants within 24 hours of digging. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting. Transport in covered, temperature-controlled vehicles, and keep plants cool and protected from sun and wind at all times.
- D. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- E. Handle planting stock by root ball.
- F. Store bulbs, corms, and tubers in a dry place at 60 to 65 deg F (16 to 18 deg C) until planting.
- G. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.
- H. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.
- I. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
1. Heel-in bare-root stock. Soak roots that are in less than moist condition in water for two hours. Reject plants with dry roots.
 2. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
 3. Do not remove container-grown stock from containers before time of planting.
 4. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.

1.11 FIELD CONDITIONS

- A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

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- B. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
 - 1. Spring Planting: February 15 – May 31 for trees & shrubs;
April 15 – May 31 for grasses & perennials
 - 2. Fall Planting: September 15 – December 15 for trees & shrubs;
September 1 – October 1 for grasses & perennials
- C. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

1.12 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.
 - b. Structural failures including plantings falling or blowing over.
 - c. Faulty performance of edgings.
 - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 2. Warranty Periods: From date of Substantial Completion.
 - a. Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.
 - b. Ground Covers, Biennials, Perennials, and Other Plants: 12 months.
 - 3. Include the following remedial actions as a minimum:
 - a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
 - b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
 - c. A limit of one replacement of each plant is required except for losses or replacements due to failure to comply with requirements.
 - d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
 - 1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch (19 mm) in diameter; or with stem girdling roots are unacceptable.
 - 2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.
- B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
- C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- D. Labeling: Label each plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant.
- E. If formal arrangements or consecutive order of plants is indicated on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.
- F. Shrubs, Perennials & Ornamental Grasses: Provide healthy, disease-free plants of species and variety shown or listed, with well-established root systems reaching to sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery.

2.2 FERTILIZERS

- A. Planting Tablets: Tightly compressed chip-type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.
 - 1. Size: 7-gram tablets.
 - 2. Nutrient Composition: 12 percent nitrogen, 8 percent phosphorous, and 8 percent potassium, by weight plus micronutrients.
 - 3. Manufacturer: 12-8-8 Gro-Power Planting Tablets

2.3 MULCHES

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
 - 1. Type: Premium Double Ground Hardwood.
 - 2. Size Range: 3 inches maximum.
 - 3. Color: Natural.

2.4 PESTICIDES

- A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

2.5 TREE-STABILIZATION MATERIALS

- A. Trunk-Stabilization Materials:
 - 1. Upright and Guy Stakes: Rough-sawn, sound, new hardwood free of knots, holes, cross grain, and other defects, 2-by-2-inch nominal (38-by-38-mm actual) by length indicated, pointed at one end.
 - 2. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes.
 - 3. Guys and Tie Wires: ASTM A 641/A 641M, Class 1, galvanized-steel wire, two-strand, twisted, 0.106 inch (2.7 mm) in diameter.
 - 4. Tree-Tie Webbing: UV-resistant polypropylene or nylon webbing with brass grommets.
 - 5. Flags: Standard surveyor's plastic flagging tape, white, 6 inches (150 mm) long.

2.6 TREE-WATERING DEVICES

- A. Slow-Release Watering Device: Standard product manufactured for drip irrigation of plants and emptying its water contents over an extended time period manufactured from UV-light-stabilized nylon-reinforced polyethylene sheet, PVC, or HDPE plastic.
 - 1. Color: Green.

2.7 MISCELLANEOUS PRODUCTS

- A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.

- B. Burlap: Non-synthetic, biodegradable.
- C. Mycorrhizal Fungi: Dry, granular inoculant containing at least 6,810 spores per lb (0.45 kg) of vesicular-arbuscular mycorrhizal fungi and 60 million spores per lb (0.45 kg) of ectomycorrhizal fungi, and a maximum particle size of 2mm. Apply per manufacturer's recommendations. Mycorrhizal inoculant to be Myke Pro Landscape as manufactured by Premier Tech Biotechnologies.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive plants, with Installer present, for compliance with requirements and conditions affecting installation and performance of the Work.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 - 2. Verify that plants and vehicles loaded with plants can travel to planting locations with adequate overhead clearance.
 - 3. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 - 4. Uniformly moisten excessively dry soil that is not workable or which is dusty.
- B. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.
- D. Lay out plants at locations directed by Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings.

3.3 PLANTING AREA ESTABLISHMENT

- A. Before planting, obtain Owner's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.
- B. Application of Mycorrhizal Fungi: Broadcast dry product uniformly over prepared soil at application rate according to manufacturer's written recommendations.

3.4 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits.
 - 1. Excavate planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
 - 2. Excavate approximately three times as wide as ball diameter for balled and burlapped and container-grown stock.
 - 3. Excavate at least 12 inches (300 mm) wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
 - 4. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
 - 5. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
 - 6. Maintain angles of repose of adjacent materials to ensure stability. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
 - 7. Maintain supervision of excavations during working hours.
 - 8. Keep excavations covered or otherwise protected when unattended by Installer's personnel.
 - 9. If drain tile is indicated on Drawings or required under planting areas, excavate to top of porous backfill over tile.
- B. Backfill Soil: Subsoil and topsoil removed from excavations may be used as backfill..
- C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
 - 1. Hardpan Layer: Drill 6-inch- (150-mm-) diameter holes, 24 inches (600 mm) apart, into free-draining strata or to a depth of 10 feet (3 m), whichever is less, and backfill with free-draining material.
- D. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
- E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.5 TREE, SHRUB, AND VINE PLANTING

- A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Balled and Burlapped Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch (25 mm) above adjacent finish grades.
 - 1. Backfill: Planting soil.
 - 2. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
 - 3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 - 4. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about 1 inch (25 mm) from root tips; do not place tablets in bottom of the hole.
 - a. Quantity: Per manufacturer recommendations.
 - 5. Place mycorrhizal fungi around root ball per manufacturer's recommendations.
 - 6. Continue backfilling process. Water again after placing and tamping final layer of soil.
- D. Container-Grown Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch (25 mm) above adjacent finish grades.
 - 1. Backfill: Planting soil.
 - 2. Carefully remove root ball from container without damaging root ball or plant.
 - 3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 - 4. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about 1 inch (25 mm) from root tips; do not place tablets in bottom of the hole.
 - a. Quantity: Per manufacturer's recommendations.
 - 5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- E. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.6 TREE, SHRUB, AND VINE PRUNING

- A. Remove only dead, dying, or broken branches. Do not prune for shape.
- B. Prune, thin, and shape trees, shrubs, and vines as directed by Architect.
- C. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
- D. Do not apply pruning paint to wounds.

3.7 TREE STABILIZATION

- A. Trunk Stabilization by Upright Staking and Tying: Install trunk stabilization as follows unless otherwise indicated:
 - 1. Upright Staking and Tying: Stake trees of 2- through 5-inch (50- through 125-mm) caliper. Stake trees of less than 2-inch (50-mm) caliper only as required to prevent wind tip out. Use a minimum of two stakes of length required to penetrate at least 18 inches (450 mm) below bottom of backfilled excavation and to extend one-half of trunk height above grade. Set vertical stakes and space to avoid penetrating root balls or root masses.
 - 2. Upright Staking and Tying: Stake trees with two stakes for trees up to 12 feet (3.6 m) high and 2-1/2 inches (63 mm) or less in caliper; three stakes for trees less than 14 feet (4.2 m) high and up to 4 inches (100 mm) in caliper. Space stakes equally around trees.
 - 3. Support trees with bands of flexible ties at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.
 - 4. Support trees with two strands of tie wire, connected to the brass grommets of tree-tie webbing at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.

3.8 GROUND COVER AND PLANT PLANTING

- A. Set out and space ground cover and plants other than trees, shrubs, and vines as indicated on Drawings in even rows with triangular spacing.
- B. Use planting soil for backfill.
- C. Dig holes large enough to allow spreading of roots.
- D. For rooted cutting plants supplied in flats, plant each in a manner that minimally disturbs the root system but to a depth not less than two nodes.
- E. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- F. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

- G. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.9 PLANTING AREA MULCHING

- A. Mulch backfilled surfaces of planting areas and other areas indicated.
 - 1. Trees in Turf Areas: Apply organic mulch ring of 3-inch average thickness, with 18-inch radius around trunks or stems. Do not place mulch within 3 inches of trunks or stems.
 - 2. Organic Mulch in Planting Areas: Apply 3-inch average thickness of organic mulch over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.

3.10 EDGING INSTALLATION

- A. Shovel Cut Edging: Install shovel cut edging where indicated on the drawings.

3.11 INSTALLING SLOW-RELEASE WATERING DEVICE

- A. Provide one device for each tree.
- B. Place device on top of the mulch at base of tree stem and fill with water according to manufacturer's written instructions.

3.12 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.
- B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

3.13 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

- B. Pre-Emergent Herbicides (Selective and Nonselective): Apply to tree, shrub, and ground-cover areas according to manufacturer's written recommendations. Do not apply to seeded areas.
- C. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

3.14 REPAIR AND REPLACEMENT

- A. General: Repair or replace existing or new trees and other plants that are damaged by construction operations, in a manner approved by Architect.
 - 1. Submit details of proposed pruning and repairs.
 - 2. Perform repairs of damaged trunks, branches, and roots within 24 hours, if approved.
 - 3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.
- B. Remove and replace trees that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.
 - 1. Provide new trees of same size as those being replaced for each tree of 4 inches or smaller in caliper size.
 - 2. Species of Replacement Trees: Same species being replaced.

3.15 CLEANING AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.
- C. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- D. After installation and before Substantial Completion remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.
- E. At time of Substantial Completion, verify that tree-watering devices are in good working order and leave them in place. Replace improperly functioning devices.

3.16 MAINTENANCE SERVICE

- A. Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:

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1. Maintenance Period: Three months from date of Substantial Completion.
- B. Maintenance Service for Perennials, Grasses, Ground Covers and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:
1. Maintenance Period: Three months from date of Substantial Completion.

END OF SECTION 329300