

ROCHESTER COMMUNITY SCHOOLS

August 26, 2021

Request for Proposals

LANDSCAPE IMPROVEMENTS

New Administration Building

Rochester Community Schools (RCS) is seeking proposals to provide and install landscaping per plans and specifications developed by Grissm Metz Andriese Associates, dated August 23, 2021.

Proposal Information and Requirements for Acceptance:

All proposals, required forms, and pricing shall be submitted electronically on BidNet Direct (<https://www.bidnetdirect.com>) **no later than 2:00 p.m., local time, September 2, 2021 (the “Due Date”).** No oral, telephonic, or facsimile proposals will be considered.

RCS will not consider or accept any late Bids received after the Due Date specified within the RFP. It is the sole responsibility of the Bidder to ensure their proposal is entered completely and forms are uploaded on BidNet Direct before the closing date and hour indicated within the RFP. Bidders shall plan ample time to respond to all requirements and input all requirements. RCS is not responsible for any delivery delays.

Included in your proposal shall be one (1) of each of the following forms:

- Vendor Information Form – signed
- Vendor Proposal on Bid Proposal Form
- Supplemental A Unit Pricing
- Iran Economic Sanctions Certification form signed
- Familial Disclosure Statement form signed and notarized
- Bid Bond Security

Designated forms above must be submitted online (print, sign, scan & attach) by due date and time to: **<https://www.bidnetdirect.com>**.

Bidder's Instructions:

1. Proposals must be accompanied by a bid bond in the amount not less than 5% of the proposal amount, made payable to Rochester Community Schools.
2. The price quoted must be net. Discounts, rebates, and allowances will be used as criteria of evaluation, but must be stated separately in the proposal.
3. The buyer has the right to cancel a purchase order if the terms and conditions set forth herein are not met.
4. All purchases are to be exempt from all taxes including State and Federal taxes.

Exemption certificates will be furnished upon request.

5. The information contained in the Request for Proposal is intended solely for internal use by the Bidder in its bid preparation. All information contained herein is proprietary and shall not be distributed to any third party, except as required by law.
6. A recipient of the Request for Proposal is responsible for any and all costs incurred by it or others acting on its behalf in preparing or submitting a Bid Proposal, or otherwise responding to the Bid, or any negotiations incidental to its Bid or the Bid.
7. Bids must meet or exceed all specifications herein. Any deviations from the specifications set forth must be clearly detailed on the bid proposal form; otherwise, it will be considered that items offered are in strict compliance with the specifications, and successful bidder will be held responsible therefor. Additional Voluntary Alternates are allowed only in addition to Base Bid and only if fully equivalent to the Specifications.
8. The Board of Education reserves the right to accept any item in the bid; to accept or reject any or all bids, either in whole or in part; to waive any irregularity/informality herein; or if deemed to be in the best interest of the owner, to award the contract to other than the low bidder.
9. This bid is made without any previous understanding or agreement with any other person, firm or corporation making a bid for the same purpose, and is in all respects fair and without collusion or fraud.
10. From the issue date of the Bid until a decision is made, Bidders shall not communicate about the subject of the Bid or a Bidder's Proposal with the RCS Board of Education members, administrators, faculty, staff, students or employees, except for Requests for Clarification in **Specifications and Vendor Requirements** Section.
11. RCS intends that all Bidders have equal access to information relative to the bid, and that the bid contains adequate information. Each Bidder shall prepare its Bid based only on the information contained in the Bid. A prospective Bidder noting any inconsistency in the information contained in the Bid or in the Instructions shall request clarification, as referenced in the Bid Information and Requirements for Acceptance. No information communicated, either verbally or in writing, to or from a Bidder shall be effective unless confirmed by written communication as an addendum to the Bid, a request for clarification or written response thereto, or in the Bid.
12. No member of Rochester Community Schools Board of Education, City, State or any officer, employee or person whose salary is payable in whole or in part from the treasury of said Board of Education is directly or indirectly interested in this bid or in the supplies, materials, equipment, work, services or any portion of the profits thereof to which it relates.
13. All Bid Proposals shall be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the owner(s) or any employee of the Bidder and any member of the Board of Education of the School District or the Superintendent of the School District. Bid Proposals that do not include this sworn and notarized familial relationship disclosure statement will not be considered by the Board of Education.
14. All bidders must provide the Certificate of Compliance – Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 and attach the signed form declaring that the bidder is not

and will not become an “Iran Linked Business” at any time during the course of performing any services under an awarded contract. The District will not accept a bid proposal that does not include this sworn and notarized disclosure statement.

15. Vendor shall not during contract assign, transfer or subcontract any part of agreement to any other supplier.
16. The proposal must be net pricing. Discounts, rebates, and allowances will be used as criteria of evaluation, but must be stated separately on the Vendor Proposal Form.
17. Rochester Community Schools has the right to cancel a purchase order if the terms and conditions set forth herein are not met.
18. Proposal submitted is to include shipment delivered to the district location as specified.
19. All purchases are to be exempt from all taxes including State and Federal taxes. An Exemption certificate will be furnished upon request.
20. Proposals must meet or exceed all specifications herein. Any deviations from the specifications set forth must be clearly detailed on the proposal form; otherwise, it will be considered that items offered are in strict compliance with the specifications, and awarded vendor will be held responsible therefor.
21. Manufacturers specified are the only ones to be used. Substitutions are allowed if shown as separate pricing and accepted by the District.
22. The vendor shall agree to a “Hold Harmless” clause concerning the process, selection criteria, award, and contract as entered into with Rochester Community Schools.
23. SOLE BIDDER:
 - A. It is the District’s intent that this Request for proposals, permits competition. It shall be the bidder’s responsibility to advise Rochester Community Schools, in writing, if any language, requirements, scope specifications, etc., or any combinations thereof, inadvertently restricts or limits the requirements stated in this Proposal, to a single source. Rochester Community Schools shall receive such notification no later than five (5) days prior to the date set for acceptance of bids.
 - B. If only one proposal is received in response to this Proposal Request, a cost/price analysis and evaluation and/or audit shall be performed of the cost proposal in order to determine if the price is fair and reasonable.
 - C. Rochester Community Schools reserves the right to cancel the Request for Proposal, or reschedule the proposal opening, if there is only one bid received. The decision by Rochester Community Schools will be final.

Proposal Response:

Rochester Community Schools (RCS) is seeking proposals to provide and install landscaping improvements per plans and specifications provided by Grissm – Metz – Andriese Associates, dated August 23, 2021 at our new Administration Building located at 52585 Dequindre, Rochester, MI.

Notes:

The scope of the project would entail a complete installation that includes but is not limited to the following:

- Providing all labor and material for a complete project.
- Please provide a proposed schedule with your proposal as that will be considered in the award to the successful vendor.
- Feel free to submit Voluntary Alternates that may be beneficial to the District. These should be noted separate from the base bid. Voluntary Alternates will be held in the strictest confidence and not shared with the other vendors.
- Provide clean-up on a minimum of a daily basis.
- Bidders are responsible for visiting each site to assess existing conditions to include in bid response and no additional costs will be allowed for failure to verify existing site conditions.
- The project time frame will coincide with the repaving of the parking lot. Schedule will need to be coordinated with Frank Rewold & Sons that is managing the parking lot repaving.

Please note that previous experience and a realistic, accurate schedule, included with your bid, will be key factors in the selection of the successful bidder.

Specifications and Vendor Requirements:

1. All proposals must include all forms as specified in **Proposal Information and Requirements for Acceptance** and be inclusive of all plans and specifications provided in Attachment A.
2. **Board Approval:** The Board approval date is anticipated to be **September 13, 2021**.
3. The Board of Education reserves the right to accept or reject any or all bids, to waive informalities and to accept the proposal which will best serve the interest of the school district.
4. **Requests for Clarification:** All requests for clarification must be submitted through BidNet Direct and all responses will be released within the online posting.

Bid Evaluation Criteria:

RCS will base award of this project on the following:

- Adherence to RFP requirements & bid specifications
- Pricing
- Schedule
- Prior experience with similar projects

Selection Process:

Rochester Community Schools will base an award on several evaluation factors including, but not limited to: bid specifications, pricing, product availability, documentation requirements, and delivery terms. Please note that project will not necessarily be awarded to the lowest bidder or lowest price. RCS reserves to award the project to the most qualified bidder based on the criteria noted.

Award:

Project is expected to be approved by the Rochester Community Schools Board of Education on **September 13, 2021**. Work can commence upon Board approval. Please note the project will not

necessarily be awarded to the lowest bidder or lowest price. Rochester Community Schools reserves to award the project to the most qualified bidder based on the criteria noted.

Termination of Contract to Purchase:

If at any time, in the opinion of RCS,

1. Vendor fails to conform to the requirements of this contract; or
2. Vendor seeks relief under any law for the benefit of insolvents or is adjudicated bankrupt;
3. Any legal proceedings are commenced against vendor which may interfere with the performance of the contract; or
4. Seller has failed to supply an adequate working force, or material or proper quality, or has failed in any other respect to prosecute the work with the diligence and force specified and intended in any by the terms of the contract,

notice thereof in writing may be served upon him, and should he neglect or refuse to provide means for a satisfactory compliance with the contract as directed by the Purchasing Agent within the time specified RCS in any such case shall have the right and power, at its option and without prejudice to any other right it may have, to terminate the contract. Any excess of the cost arising wherefrom will be charged against the seller and his sureties, who will be liable thereof. In the event of such termination, all monies due the vendor or retained under terms of the contract shall be forfeited to RCS; but such forfeiture will not release the vendor or his sureties from liability for failure to fulfill the contract. In the event that performance on the part of any party hereto shall be delayed or suspended as a result of circumstances beyond the reasonable control and without the fault and negligence of said party, none of the parties shall incur any liability to the other parties as a result of such delay or suspension. Circumstances deemed to be beyond the control of the parties hereunder shall include, but not be limited to, acts of God or of the public enemy; insurrection; acts of the Federal Government or any unit of State or Local Government in either sovereign or contractual capacity; fires, floods; epidemics; quarantine restrictions; strikes, freight embargoes or delays in transportation, to the extent that they are not caused by the party's willful or negligent acts or omissions, and to the extent that they are beyond the party's reasonable control.

Vendor Information Form

Vendor Name: _____ Contact Name: _____

Address: _____
Street Address City State Zip Code

Phone Number: _____ Fax Number: _____ E-Mail: _____

Website: _____ Payment Terms: _____

Product Lead-time: _____ business days. (Maximum number of days for delivery of an order from the day it is placed).

Deviations from specifications: Yes _____ No _____.
If yes, please explain on the Vendor Price Quotation.

Vendor comments: _____

Bidder Authorization

The undersigned certifies that the proposal submitted meets or exceeds, all specifications, which all conditions noted here are acknowledged, and the firm prices and terms specified by the bidder are true and accurate.

My signature certifies that the accompanying proposal is not the result of, or affected by an unlawful act of collusion with another person or company engaged in the same line of business or commerce or any act of fraud punishable under current Federal or Michigan law. I hereby certify that I am authorized to sign as a Representative for the Firm:

Name of Company Representative

Title

Signature

Date

Rochester Community Schools

BID PROPOSAL FORM

PROJECT: Landscaping Improvements – 2021

BASE BID:

Lump sum bid for all work specified in the amount of:

_____ Dollars (\$_____)

The Bid Proposal amount shall be shown in both words and figures. In the case of discrepancy, the amount shown in words shall govern.

BASE BID: The undersigned, having examined the Bid Documents and examined the conditions affecting the Work/Project, hereby proposes and agrees to furnish all of the labor, materials, and equipment and perform all work necessary to complete the Work/Project as required by the Bid Documents for the stipulated sum identified above and detailed in Supplemental A (Cost Analysis Worksheet). The Bid Documents set forth the terms and conditions upon which the Bidder will provide a "turnkey" solution for the installation and operation of the project for use by the Owner and represents and warrants that the design, operation and functionality of the project are in accordance with the Bid Documents. All prices provided by the Bidder on this Bid Proposal Form must include all cables, connectors, equipment etc. that are necessary to make the project fully operational for the intent and purpose stated in the Bid Documents

BID SECURITY: Enclosed herewith find (Certified Check)/ (Bid Bond) in the amount of \$_____ being five percent (5%) of the maximum Bid Proposal herein, made payable to Rochester Community Schools or naming Rochester Community Schools as obligee. The proceeds of which are to remain the property of Rochester Community Schools, if the Bidder does not, within ten (10) days after notice of the acceptance of Bid Proposal, enter into the Contract.

ANALYSIS OF BID: The total of all schools must equal Base Bid above. Contractor responsible to verify estimated quantity material. All work to be installed complete, as detailed on Drawing(s), within quote Base Bid.

Rochester Community Schools

BID PROPOSAL FORM (Cont.)

PROJECT: Landscaping Improvements

BIDDER NAME: _____

ADDRESS: _____

DATE: _____

TELEPHONE: _____

EMAIL ADDRESS: _____

If award is made to our firm based upon our Bid Proposal, we agree to enter into the form of Contract with the School District in accordance with this Request for Proposal, the contract and our Bid Proposal.

My signature certifies that the Bid Proposal as submitted complies with all terms and conditions as set forth in this Request for Proposal, unless specifically enumerated as an exception as part of this Bid Proposal Form.

I hereby certify that I am authorized to sign as a Representative for the Firm:

(Authorized Signature)

(Title)

Rochester Community Schools

BID PROPOSAL FORM (Cont.)

Voluntary Alternates: List any voluntary alternates or clarifications to your proposal.

1.
2.
3.
4.
5.

Subcontractors: List any subcontractors you will utilize on this project.

Name	Address	Specialty
1.		
2.		
3.		
4.		
5.		

FAMILIAL DISCLOSURE AFFIDAVIT OF BIDDER

The undersigned, the owner or authorized officer of _____ (the "Bidder"), pursuant to the familial disclosure requirement provided in the Rochester Community Schools' (the "School District") advertisement for construction bids, hereby represent and warrant, except as provided below, that no familial relationships exist between the owner(s) or any employee of _____ and any member of the Board of Education of the School District or the Superintendent of the School District.

List any Familial Relationships:

BIDDER:

By: _____

Its: _____

STATE OF MICHIGAN)
) ss.
COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 2011, by _____.

_____, Notary Public

_____ County, Michigan

My Commission Expires: _____

Acting in the County of: _____

CERTIFICATION OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT
Michigan Public Act No. 517 of 2012

The undersigned, the owner, or authorized officer of the below-named company (the “Company”), pursuant to the compliance certification requirement provided in the Rochester Community Schools’ Request For Proposal (the “RFP”), hereby certifies, represents, and warrants that the Company (which includes its officers, directors and employees) is not an “Iran Linked Business” within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the “Act”), and that in the event the Company is awarded a contract by Rochester Community Schools as a result of the aforementioned RFP, the Company is not and will not become an “Iran Linked Business” at any time during the course of performing any services under the contract.

The Company further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than \$250,000.00 or two (2) times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the Rochester Community Schools’ investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date the it is determined that the person has submitted the false certification.

Name of Company

Name and Title of Authorized Representative

Signature

ROCHESTER COMMUNITY SCHOOLS

ROCHESTER, MICHIGAN

ADMINISTRATION BUILDING LANDSCAPE IMPROVEMENTS

SPECIFICATIONS

August 23, 2021

Grissim Metz Andriese Associates, Inc.
Landscape Architecture
311 East Cady Street
Northville, Michigan 48167
P: (248) 347-7010

www.gma-la.com

GMA No. R19-211

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DIVISION 32 - EXTERIOR IMPROVEMENTS

320536	Landscape Maintenance and Warranty Standards
328400	Irrigation
329119	Topsoil
329223	Sodding
329300	Plants

INFORMATION SHEET

OWNER: Rochester Community Schools

SITE LOCATION: RCS Administration Building
52585 Dequindre Road
Rochester Hills, Michigan 48307

SCOPE OF WORK: Landscape plantings, sodding, and irrigation

WORK BY OTHERS: None

SCHEDULE: Complete by: October 30, 2021

BID DUE DATE: Thursday, September 2 at 2 p.m.

SECTION 002113 - INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 PROPOSAL:

- A. Owner will receive Bids on "Proposal Form" provided (ALL blanks must be completed), delivered in conformity with "Information Sheet". Please type, if possible. Submit copy of bid to Grissim Metz Andriese. Copy may be emailed to cjt@gma-la.com
- B. Bid shall be based upon requirements of Drawing(s) and Specifications.
- C. Proposal for original Contract work and for all future work thereunder to include all present applicable taxes, premiums, assessments, other like payments, fees or obtaining permits and licenses, and to be in full for all direct and indirect charges and expenses for proposed work.
- D. Erasures or changes in Bid must be initialed by Bidder.
- E. Bid must be in sealed envelope with Bidder's firm name appearing thereon, and clearly labeled per "Information Sheet", Envelope.
- F. No Bid may be withdrawn for a period of forty-five (45) days after opening thereof.
- G. Owner reserves right to reject any or all proposals submitted for any reason and to waive any irregularities contained therein.
- H. Owner reserves right to increase or decrease Contract work on basis of Unit Prices submitted by successful Bidder.
- I. Contract based upon completion of work according to Contract Documents as defined in "General Conditions", all in time and manner as therein set forth.

1.2 EXPLANATION BY ADDENDUM:

- A. No oral interpretation shall be made to the Bidder as to meaning of the Drawing(s), Specifications, or other Contract Documents. Every request for interpretation to be made in writing to the Landscape Architect five (5) days prior to Bid Due Date. Every interpretation made to the Bidder shall be in the form of an Addendum. All such Addenda become part of Contract Documents.

1.3 MISCELLANEOUS:

- A. Quantities have been carefully estimated, but it is the responsibility of the Bidding Contractor to verify all quantities and report discrepancy prior to Bid Due Date.
- B. Term "Owner" also refers to any entity designated by the Owner, whether as Manager, General Contractor, Owner's Representative, Construction Manager, etc.

END OF SECTION 002113

SECTION 004200 - RCS ADMINISTRATION BLDG. PROPOSAL FORM

Name of Bidding Contractor:

1. BASE BID

Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder hereinafter referred to as Contractor, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications and all subsequent Addenda, as prepared by Grissim Metz Andriese Associates, and their consultants, having visited the site and being familiar with all conditions and requirements agrees to contract with **Rochester Community Schools**, hereinafter referred to as Owner, and agrees to furnish all material, labor, tools, equipment, utility transportation services and supervision, including all scheduled allowances necessary to perform and complete, in a satisfactory manner, all work required in conjunction with the above-named project, according to the requirements of the Procurement and Contracting Documents, and to accept as full payment thereof, subject to additions and / or deletions required by Contract, the stipulated sum of:

TOTAL BASE BID:

A. _____ Dollars (\$ _____)

2. ANALYSIS OF BID:

Unit Costs submitted for Contract additions / deletions, inclusive of any maintenance and guarantee period not separately listed. Total must equal Base Bid above. Contractor is responsible for verifying estimated quantities of materials. All work to be installed complete, as detailed on the Drawing(s), within quoted Base Bid.

3. TIME OF COMPLETION

The undersigned Bidder proposes and agrees hereby to commence and fully complete the Work of the Contract Documents as outlined by the owner's representative during the bidding process.

4. SITE IMPROVEMENTS WORK

Base Bid - Landscape Improvements

Item	Quantity	Unit	Unit Price	Total
Multi-stem Red Sunset Red Maple, 16' ht.	3	ea	\$	\$
Bloodgood Japanese Maple, 16' ht.	1	ea	\$	\$
Heritage River Birch, 10' ht.	3	ea	\$	\$
Fastigiata Maidenhair Tree, 3" cal.	3	ea	\$	\$
Skyline Honey Locust, 4" cal.	3	ea	\$	\$
Regal Prince Oak, 3" cal.	12	ea	\$	\$
Japanese White Pine, Specimen	1	ea	\$	\$
Green Giant Arborvitae, 6' ht.	260	ea	\$	\$
Green Giant Arborvitae, 8' ht.	80	ea	\$	\$
Juneberry Serviceberry, 16' ht.	1	ea	\$	\$
Eastern Redbud, 16' ht.	1	ea	\$	\$
Flowering Dogwood, 16' ht.	1	ea	\$	\$
Specimen Crabapple, 16' ht.	6	ea	\$	\$
Green Mountain Boxwood, 24" ht. x sprd.	198	ea	\$	\$
Bobo Hydrangea, 30" ht. x sprd.	125	ea	\$	\$
Little Bunny Dwarf Fountain Grass, 2 gal.	352	ea	\$	\$
Hameln Dwarf Fountain Grass, 2 gal.	314	ea	\$	\$
P.J.M. Rhododendron, 30" ht. x sprd.	48	ea	\$	\$
Miss Kim Lilac, 36" ht. x sprd.	24	ea	\$	\$
Everlow Yew, 36" sprd.	86	ea	\$	\$

Francee Hosta, 2 gal.	181	ea	\$	\$
Stella D'Oro Daylily, 1 gal.	180	ea	\$	\$
Walker's Low Catmint, 1 gal.	280	ea	\$	\$
Variegated Ribbon Grass, 1 gal.	200	ea	\$	\$
Little Bluestem, 4.5" quart	425	ea	\$	\$
Russian Sage, 1 gal.	190	ea	\$	\$
3/16" x 4" aluminum edging		lf	\$	\$
Accent 12V Landscape Tree up-lights	3	ea	\$	\$
Lumenbeam Flagpole light	2	ea	\$	\$
4" depth topsoil for lawn		cy	\$	\$
12" depth plant mix in planting beds		cy	\$	\$
Triple processed bark mulch in plant beds installed complete (refer to plan/ details for depth)		cy	\$	\$
5" depth 1"-3" crushed concrete aggregate on weed barrier fabric		cy	\$	\$
5" depth crushed black granite on weed barrier fabric		cy	\$	\$
Sodded lawn		sy	\$	\$
Relocated Flagpole (include concrete footing)		Lump	\$	\$
Irrigation system		Lump	\$	\$
Mobilization		Lump	\$	\$
1 Year maintenance and warranty per spec		Lump	\$	\$
Landscape Improvements Total (Base Bid)				\$

5. ADD ALTERNATES

Add Alternate 1 - Landscape Improvements

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
Snowdrift Crabapple, 10' ht.	9	ea	\$	\$
Hameln Dwarf Fountain Grass, 2 gal.	44	ea	\$	\$
Walker's Low Catmint, 1 gal.	120	ea	\$	\$
3/16" x 4" aluminum edging		lf	\$	\$
4" depth topsoil for lawn		cy	\$	\$
12" depth plant mix in planting beds		cy	\$	\$
Triple processed bark mulch in plant beds installed complete (refer to plan/ details for depth)		cy	\$	\$
Sodded lawn		sy	\$	\$
Irrigation system		Lump	\$	\$
Alternate 1 Total				\$

Add Alternate 2 - Landscape Improvements

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
Black Hills Spruce, 10' ht.	22	ea	\$	\$
3/16" x 4" aluminum edging		lf	\$	\$
4" depth topsoil for lawn		cy	\$	\$
12" depth plant mix in planting beds		cy	\$	\$
Triple processed bark mulch in plant beds installed complete (refer to plan/ details for depth)		cy	\$	\$
Irrigation system		Lump	\$	\$
Alternate 2 Total				\$

6. SUBCONTRACTORS

The following companies shall execute subcontracts for the portions of the Work indicated:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

7. ADDENDA

Contractor acknowledges following addenda covering revisions to Drawing(s) or Specifications;
Cost of such revisions has been included in quoted Base Bid.

Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____

Respectfully submitted this _____ day of September, 2021.

Submitted By: _____

(Name of bidding firm or corporation)

Circle One: Corporation / Partnership / Individual

Authorized Signature: _____

Printed Name: _____

Title: _____

Street Address: _____

City, State, Zip: _____

Phone: _____

Federal ID No.: _____



AIA®

Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

THE OWNER:

(Name, legal status and address)

THE ARCHITECT:

(Name, legal status and address)

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect’s consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect’s or Architect’s consultants’ reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner’s approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term “Owner” means the Owner or the Owner’s authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic’s lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner’s interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner’s obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner’s ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 CONCEALED OR UNKNOWN CONDITIONS

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct,

but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents:

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled

to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce

other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the

Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be

furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the

Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's

risk “all-risk” or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an “all-risk” or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect’s and Contractor’s services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner’s option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner’s property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner’s property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker.

Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

SECTION 007300 - SUPPLEMENTAL GENERAL CONDITIONS

ARTICLE 1

OWNER

1.1 BASIC DEFINITIONS:

- 1.1.8 The word "Landscape Architect" is to be substituted for the word "Architect". This substitution is to be made throughout the entire General Conditions Section.

ARTICLE 3

CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR:

- 3.2.4 Before submitting Proposal, Bidder to personally make soil/subsoil condition determination for proposed work. Bidder to have determined, to their own satisfaction, conditions to be encountered in construction of work. Work to be completed in whatever manner and under whatever conditions may be encountered or created, without extra cost to Owner.
- 3.2.5 Existence and location of underground utilities indicated on Drawing(s) are not guaranteed and shall be investigated and verified in field by Contractor before starting work. Excavation in vicinity of existing structures and utilities shall be carefully done by hand. Contractor shall be held responsible for any damage to, and for maintenance and protection of, existing utilities and structures.
- 3.2.6 Where excavation occurs over or around drainage lines, or where new lines are to be fed into existing lines or structures, Contractor shall verify invert of existing lines as shown on Drawing(s) before proceeding with construction. All existing surface structures such as manholes, vaults, valves, fire hydrants, etc., are to be raised or lowered to proposed finished grades, as shown on Drawing(s) or as directed in field by Landscape Architect. Where structures are encountered which are not shown on survey, these structures are to be adjusted to grade in same manner as if they had been shown.
- 3.2.7 In no case will any manhole, valve box, fault, or any other structure be covered without adjusting to new grade, unless so specifically directed by Landscape Architect.
- 3.2.8 When doubt occurs as to existence of any utility line or structure, Contractor shall confer immediately with Landscape Architect.
- 3.2.9 Contractor will be allowed to tie proposed work into existing utility lines only as shown on Drawing(s). Where connection is not shown, or where a variance in existing conditions is found, Contractor shall notify Landscape Architect at once. Brace any line that crosses an open trench which may be damaged by backfill.
- 3.2.10 Execution of all sewer, water or utility work to be carried out under inspection of Department of Buildings and Safety Engineering.
- 3.2.11 Contractor will, in all cases, effectively protect existing trees and other plant material not designated for removal by means of barricades or as directed by Landscape Architect. If any such trees are damaged by Contractor, Contractor will be held liable in proportion to extent of damage.

3.5 WARRANTY:

- 3.5.2 Contractor guarantees all work free of defects in materials or workmanship. When any such defects are brought to attention of Contractor, in writing within one (1) year after acceptance, Contractor will, at their own expense make necessary repairs/replacements of defective work in question.

ARTICLE 8

TIME

8.1 DEFINITIONS:

- 8.1.3 Delete this paragraph and substitute the following:

"The Date of Substantial Completion of the Work is the date as certified by the Landscape Architect when the construction is sufficiently complete, in accordance with the plans and specifications, as modified by any completed change orders agreed to by the parties to allow the Owner to occupy or so subsequent work by other contractors can proceed without interference, to completion. The warranty period shall commence no sooner than the Date of Substantial Completion."

8.3 DELAYS AND EXTENSIONS OF TIME:

- 8.3.2 Add to the end of the paragraph:

"An extension of time shall not entitle the Contractor extra compensation from the Owner."

ARTICLE 9

PAYMENTS AND COMPLETION

9.5 DECISIONS TO WITHHOLD CERTIFICATION:

- 9.5.3 Owner shall have right, by its employees or by third party representative, to audit Contractor payroll, purchasing and all other pertinent records with respect to all work performed on a Cost Plus Percentage basis, and to make copies thereof.

9.6 PROGRESS PAYMENTS:

- 9.6.7 Progress payments made on monthly billings, based on contract amount, certified by Landscape Architect, up to 90 percent of value of work completed. Materials not paid for until installed.

9.10 FINAL COMPLETION AND FINAL PAYMENT:

- 9.10.1 Final payment, including portions previously withheld, will be made when work is completed, except for estimated cost of replacements or repair. Ten (10) percent of plant material cost shall be withheld until expiration of guarantee and maintenance period.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY:

- 10.2.8 Contractor shall provide adequate lighting for excavated trenches and in all places where existing conditions have been disturbed in such manner so as to disrupt normal flow of pedestrian traffic and shall erect barricades and/or warning signs where deemed advisable for public safety.
- 10.2.9 Contractor shall provide temporary foot bridges over trenches and excavation where necessary.

ARTICLE 11

INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE:

- 11.1.4 Contractors' Liability Insurance, as required by the General Conditions of these specifications, shall be written for not less than the following limits of liability:

Public-Liability:

Bodily Injury including death each occurrence	\$1,000,000
Aggregate	\$1,000,000

Property-Damage:

Each Occurrence	\$500,000
Aggregate	500,000

Vehicular-Liability:

Bodily Injury Each Occurrence	\$100,000
Aggregate	300,000

Property-Damage:

Each Occurrence	\$300,000
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Workers Compensation: As required by the State of Michigan

Special-Hazard: For any class of employees engaged in hazardous work under the contract and not protected under the Workmen's Compensation Statute of nature and in limits as approved by the Owner.

Certificates-of-Insurance

Cancellation clause on above Certificates of Insurance to be modified to read when submitted, as follows: Should any of the above-described policies be canceled before the expiration date thereof, the issuing company shall mail fifteen (15) days written notice to the below-named certificate holder, without fail.

ARTICLE 15

MEASUREMENTS

15.1 MONUMENTS:

- 15.1.1 The Contractor shall carefully protect monuments, stakes, and benchmarks. If destroyed or disturbed by the Contractor or his employees, the cost to the Owner of replacing them shall be charged against the Contractor and shall be deducted from the payments for the work.

15.2 MEASUREMENTS:

- 15.2.1 The Contractor shall obtain his own field measurements and establish lines, grades, levels and measurements shown on the drawings and reconcile all measurements and conditions shown on the drawings with existing conditions at the site, from the site survey provided by the Owner, and from the established benchmarks and control points.
- 15.2.2 Before performing any work or ordering any materials, the Contractor shall verify all dimensions of any existing and new work and shall be responsible for their accuracy. Any differences found shall be submitted to the Landscape Architect before proceeding with the work. No extra compensation will be permitted because of differences between actual dimensions and measurements indicated on the project drawings.
- 15.2.3 Contractor is responsible for staking out work as to grades and alignment, employing a competent surveyor for this purpose, and for maintaining such stakes in good condition.

ARTICLE 16

COOPERATION AND DISPUTES

16.1 COOPERATION:

- 16.1.1 Inasmuch as the completion of the project within the prescribed time is dependent very largely upon the close and active cooperation of all those engaged therein, it is, therefore, expressly understood and agreed that each Contractor shall lay out and install his work at such time or times and in such manner as not to delay or interfere with the carrying forward of the work of other Contractors.
- 16.1.2 In the event of any dispute arising as to possible or alleged interference between the various contractors, which may retard the progress of the work, the same shall be adjusted by the Construction Manager or Owner, whose decision as to the party or parties at fault, and as to the manner in which the matter may be adjusted, shall be binding and conclusive on all parties. Decision must be validated by the Landscape Architect.

END OF SECTION 007300

SECTION 320536 - LANDSCAPE MAINTENANCE AND WARRANTY STANDARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

- A. Extent of landscape maintenance areas are shown on drawings and by provisions of this section.
- B. Types of work required include the following:
 - 1. Plant maintenance
 - 2. Lawn maintenance
 - 3. Irrigation system operation
 - 4. Replacements
 - 5. Warranty
- C. Related Work Specified Elsewhere: Refer to the entire project manual for additional contract requirements.

1.3 ACCEPTANCE OF INSTALLATION:

- A. At the completion of all landscape installation, or pre-approved portions thereof, the landscape contractor shall request in writing an inspection for acceptance of installation in which the landscape contractor, landscape architect and owner's representative shall be present. After this inspection a "Punch List" will be issued by the landscape architect and/or owner's representative. After completion of punch list items, the landscape architect, contractor and owner's representative shall re-inspect the project and upon satisfactory completion of punch list items, issue a written statement of acceptance of installation and establish the beginning of the project warranty period.
- B. It is the responsibility of the landscape contractor to make the above written request for inspection of installation in a timely fashion. If there is plant material loss prior to the landscape contractor's written request for inspection of installation, the landscape contractor shall make all replacements of this dead material at no additional cost. These replacements are not considered to be the required one (1) replacement of dead plant material by the landscape contractor during the one (1) year project warranty period, as outlined below.
- C. Landscape work may be inspected for acceptance in parts agreeable to owner's representative and landscape architect provided work offered for inspection is complete, including maintenance as required.
- D. For work to be inspected for partial acceptance, supply a written statement requesting acceptance of this work completed to date.

1.4 QUALITY ASSURANCE:

- A. The landscape contractor shall warranty all plants and lawn areas through construction and for a period of one year after date of acceptance of installation against defects including death and unsatisfactory growth, except for defects resulting from neglect by owner, abuse or damage by others, or unusual phenomena or incidents which are beyond landscape contractor's control.
- B. The landscape contractor shall warranty plants due to over watering or under watering during the maintenance and warranty period.

1.5 PROJECT CONDITIONS

- A. The project maintenance and warranty period begins upon written acceptance of the project installation by landscape architect and owner's representative.
- B. The landscape contractor accepts responsibility for the irrigation system operation (if provided), watering schedule, watering amounts and monitoring system for duration of maintenance and warranty period.
- C. Landscape contractor shall be responsible for only one (1) replacement of any plant materials after project acceptance date, see Section 1.3, that are dead or in the opinion of the landscape architect are in an unhealthy or unsightly condition, or having lost natural shape, resulting from die back, excessive pruning, excessive or deficient watering practices, or inadequate or improper maintenance as part of the warranty. Prior to any replacements landscape contractor shall review individual plants in question with landscape architect and determine the reason for plant demise.
- D. Replacements must meet specifications i.e. quality, species of plant material and planting procedures to receive approval of replacement materials by landscape architect.
- E. Costs for replacements are assumed part of bid quotations and therefore will not result in an additional cost to owner or landscape architect.
- F. Areas damaged as result of replacement operations are to be restored by contractor at no cost to the owner.

PART 2 - PRODUCTS

- A. All products as noted within applicable specification sections.

PART 3 - EXECUTION:

3.1 WARRANTY STANDARDS:

- A. To ensure warranty standards, the following maintenance procedures shall be executed during construction and for the full project warranty period.

3.2 MAINTENANCE OF PLANTS:

- A. The Contractor shall be responsible for keeping guy wires taut, plants straight and plumb, raise tree balls which settle, furnish and apply fertilizer and sprays as necessary to keep the plantings growing vigorously and free of disease and insects until the end of the warranty period. All

evergreens shall be watered thoroughly and wilt proofed in the fall to insure they do not go into the winter dry.

- B. Keep planting beds free of weeds during warranty period. All portions of weed plants shall be removed including roots. Removal can be done by physical removal and/or supplemental by use of herbicides.
- C. Winter Evergreen Protection:
 - 1. Winter evergreen protection for trees and shrubs shall be provided by the contractor during each winter season which occurs during the warranty period.
 - 2. Prior to winter freeze conditions contractor shall check root ball moisture level for all evergreen plantings and water in all plantings as required to provide optimum moisture level.
 - 3. Supplement mulch as necessary to provide 3" depth mulch in tree and shrub beds and 2" in perennial and groundcover beds
 - 4. Apply wilt-proof in December when temperatures are above freezing per manufacturer's instructions. Only apply a ½ solution to Arborvitae plants.
 - 5. At the end of November install treated (green) burlap mounted to 2" x 2" wood stakes at +/- 4'-0" oc with wood lath and roofing nails. Burlap height to be 6" above top of foliage, pulled taut, and be continuous to the ground without gaps. Note: Burlap may be folded in half to provide a double thickness for low hedges as approved by landscape architect.
 - 6. Under no conditions should the treated burlap make contact with the evergreen plant material. The burlap should be stood off of the plant material 4"-6".
 - 7. Contractor to remove burlap and stakes in early spring when winter conditions have ceased, but no later than April 15th and provide stakes and burlap to owner.
- D. Winter Sun Scald Protection: Provide protection for all thin skinned trees (Beech, Maple, Willow, Linden, Dogwood, Honeylocust) for the first year following planting as follows: In late fall wrap trunk with light colored commercial grade tree wrap. Remove wrap in early spring once freezing conditions have ended.
- E. Winter Deer Protection: In areas where deer damage occurs, provide protection for all plantings that are moderate to high risk for deer damage as follows: Each year at the end of October install fine mesh such as bird netting around plant foliage and tie together with black zip ties and anchor into ground with stakes. Apply Deer-Pruf or other approved product. Remove netting and stakes in May.
- F. The contractor shall be responsible for watering of all plantings and lawn areas throughout construction, maintenance and warranty periods. The contractor will be responsible for irrigation system operation (if available), watering schedules, watering amounts and general monitoring of irrigation system throughout the maintenance and warranty period. Overwatering or lack of from irrigation system source is the responsibility of the landscape contractor. Plant material and lawn area loss due to over or under watering shall be replaced in like kind by the contractor at no additional expense.
- G. Remove and replace trees, shrubs, or other plants found to be dead or in unhealthy condition. Remove rejected plants and materials promptly. Make replacements following normal planting schedule. Replace trees and shrubs which are in doubt, unless, in opinion of owner's Representative and landscape architect it is advisable to extend warranty period for a full-growing season. Remove all stakes, guy wires, tree wrap paper, dead twigs and branches from tree and plant materials at the end of this warranty period.

3.3 MAINTENANCE OF SODDED LAWN AREAS:

- A. After acceptance of installation, and for the duration of the project warranty period the landscape contractor shall continue all maintenance procedures including fertilizing, weeding, rolling, regrading, re-sodding and applying herbicides, fungicides, insecticides as required to establish a smooth acceptable lawn, free of eroded or bare areas. The landscape contractor is not responsible for mowing after acceptance of installation.
- B. Watering: See Section 3.2.F
- C. At conclusion of project warranty period and after receiving written final acceptance by owner's representative and landscape architect, the owner shall assume all sodded lawn maintenance responsibilities.
- D. Unless specifically noted in the contract, mowing of sodded lawn areas shall be the owner's responsibility.

3.4 FINAL ACCEPTANCE:

- A. At the conclusion of the project warranty period the landscape contractor shall request a project inspection for final acceptance in which the landscape contractor, landscape architect and owner's representative shall be present. After this inspection a "Warranty Walk Punch List" will be issued by the landscape architect. Upon completion of all punch list items, the landscape architect and owner's representative shall reinspect the project and issue a written statement of final acceptance. Upon final acceptance the owner assumes all maintenance responsibilities for the landscape of the project.

PART 4 - PRODUCTS - Not Applicable

PART 5 - EXECUTION - Not Applicable

END OF SECTION 320536

SECTION 328400 – IRRIGATION SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

- A. Extent of irrigation system work is shown on drawings and by provisions of this Section.
- B. The sprinkler system shall be constructed using sprinklers, valves, piping, fittings, controllers, wiring, etc., of size and types as indicated in these specifications. The system shall be constructed to grades and conform to areas and locations as shown on the drawings.
- C. The construction of the sprinkler system shall include the furnishing, installing and testing of all mains, laterals, risers and fittings, sprinkler heads, drip tubing, quick coupling valves, automatic control valves, manual valves, control timers, weather sensors, flow meters, controller remotes, and other necessary specialties and the removal and/or restoration of existing improvements, excavating and backfill, and all other work in accordance with plans and specifications as required for a complete system.
- D. The entire system shall conform to local standards and requirements for landscape irrigation systems.
- E. The design shall incorporate proven water saving technology.
- F. Related Work Specified Elsewhere:
 - 1. Section 329219: Seeding
 - 2. Section 329223: Sodding
 - 3. Section 329300: Plants

1.3 SUBMITTALS:

- A. Submit specific product information including make and model number to the Landscape Architect on backflow devices, valves, valve boxes, two-wire cable (as applicable), two-wire decoders (as applicable), sprinklers, nozzles, drip tubing, drip valve kits, controller, weather sensors, flow meters, wire connectors and wire, all pipe and fittings, clamps, pumps (if required), enclosures, to be used on the project prior to purchasing materials. Submittals are subject to the irrigation consultant's approval.
- B. Upon irrigation system acceptance, submit written operating and maintenance instructions. Provide format and contents as directed by the Landscape Architect. Include instruction sheets and parts lists for all operating equipment.
- C. Provide a reproducible irrigation system record drawing including an electronic copy on a cd showing sprinkler heads, valves, field splices, drains and pipelines including quick coupler and automatic valves. Drawing is to be given to the Owner or the Owner's representative at the final irrigation system walkthrough. Also include zone chart in each control timer along with colored drawing indicating extent of zones.
 - 1. Legibly mark drawings to record actual construction.

2. Indicate horizontal locations, with a minimum of two dimensions to permanent surface improvements.
3. Identify field changes of dimension and detail and changes made by Change Order.

1.4 IRRIGATION PLAN REQUIREMENTS

A. General

The Contractor's submitted irrigation plan shall conform to all design parameters set forth in this document. Plans submitted which do not conform to all irrigation plan requirements are to be regarded as incomplete and will not be accepted.

B. Information Requirements

1. All plans shall be submitted at the same scale as the landscape plans, and shall contain appropriate scale designations and north arrows.
2. The irrigation Designer's name and phone number shall appear on the plans.
3. Each plan shall include a legend indicating all equipment to be used on the project.
4. The legend shall differentiate between different sprinkler types, nozzle sizes, and arcs.
5. All zones must be identified with control timer designation, station number, gallonage, and automatic control valve size.

C. Design Parameters

1. The irrigation design shall be adapted to work in harmony with the landscape plan, grading plan, and other site features.
2. Protecting public safety and consideration of site aesthetics shall be incorporated into the design.
3. Overspray is prohibited on buildings, roads, drives, and other site features where overspray would be deemed objectionable.
4. Sprinklers shall be zoned based on plant specie. No zones shall include irrigating more than one specie of plant.
5. Lawns are to be zoned separately from shrub bed areas.
6. The design shall have separate zoning for sprinklers with different precipitation rates.
7. Zone according to exposure. South and west exposures may be zoned together; north and east exposures may be zoned together.
8. Zone based on terrain where significant and/or reasonable to do so.
9. Conform to all codes and regulations, including State Health Codes as they apply to backflow prevention.
10. A maximum pressure differential within the mainline between the water source and furthest point on the mainline shall not exceed 20% of the static pressure downstream of the backflow preventer.

11. Mainline pipe shall be sized to keep velocities below 5' per second. Lateral pipe shall be sized to keep velocities below 6' per second.
12. Water window to be a maximum of 8 hours, commencing at 10:00 p.m. and complete by 6:00 a.m.
13. Sprinkler shall be spaced per manufacturer's recommendation, allowing for 8 MPH wind. In no case shall sprinklers be spaced more than 60% of effective diameter.

1.5 QUALITY ASSURANCE:

- A. 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.
- B. Superintendant shall hold certification as a Certified Irrigation Contractor with the Irrigation Association. Owner's Representative reserves the right to waive this certification requirement.
- C. Contractor shall hold valid licensing in states where irrigation contractors must be licensed to install commercial irrigation systems.
- D. The Contractor shall coordinate his work with the other trades.
- E. 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.
- F. The Contractor shall have a minimum of 5 years experience installing irrigation systems of comparable size and complexity.
- G. 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 date of its acceptance and he hereby agrees to repair or replace any such defects occurring within that year, free of expense to the Owner. Contractor shall winterize the system the first year. Minor maintenance and adjustment shall be by Owner.

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, both 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 PROJECT CONDITIONS:

- A. 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.
- B. 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

prior to the installing of equipment and resulting in replacing and/or relocation equipment shall be done at the Contractor's expense.

- C. 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. The Contractor shall protect existing structures and utility services and be responsible for their replacement if damaged by him.
- D. Minor adjustments in system layout will be permitted to clear existing fixed obstructions. Final system layout shall be acceptable to Landscape Architect.

1.8 CODES AND STANDARDS:

- A. The entire installation shall fully comply with all local and state laws and ordinances and with all established codes applicable thereto.
- B. Any permits for the installation of 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 in connection with 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/or inspection of the Owner's authorized representative, the Contractor shall notify the Owner's authorized representative at least 24 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 shall be performed at the Contractor's own expense.

1.9 SERVICE AND MAINTENANCE:

- A. The Contractor shall service the system at the request during the guarantee period and shall be paid for work performed which is not covered by the guarantee. Contractor shall winterize the system the first year as part of this contract, and will provide written instructions to the Owner for future service and maintenance.
- B. Return to the site during the subsequent spring season and demonstrate to the Owner the proper procedures for the system start-up, operation and maintenance.
- C. After completion, testing and acceptance of the system, the Contractor will instruct the Owner's personnel in the operation and maintenance of the system.

1.10 OWNER'S ACCEPTANCE:

- A. The completion of the contract will be accepted and Notice of Completion recorded only when the entire contract is completed to the satisfaction of the Owner's authorized representative.
- B. Within ten (10) days of the Contractor's notification that the installation is complete, the Owner, or his Representative will inspect the installation and if a final acceptance is not given, will prepare a "Punch List" which, upon completion by the Contractor, will signify acceptance by the Owner.
- C. Final payment will not be made without the receipt of an accurate as-built drawing by the Landscape Architect.

1.11 WARRANTY:

- 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 date of its acceptance and he hereby agrees to repair or replace any such defects occurring within that year, free of expense to the Owner. Minor maintenance and adjustment shall be by Owner.
- B. Contractor to guarantee that all trenches and other disturbed areas to be free from heaving or settling more than one-quarter (1/4"). Should it become necessary to adjust the grade, re-grade the trench and re-sod. This no-settlement clause shall extend over the entire period of guarantee of the job.
- C. One month prior to the conclusion of the warranty period, the Contractor and Owner's representative shall meet at the site and adjust the zone watering times on the controller to reflect run times for established plant material.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. General:

- 1. All materials to be incorporated in this system shall be new and without flaws or defect and quality and performance as specified. All material overages at the completion of the installation are the property of the Contractor and are to be removed from the site.
- 2. 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 Landscape Architect. Substitutions will only be allowed when in the best interest of the Owner.

B. Pipe and Fittings:

- 1. Pipe sizes shall conform to those shown on the drawings. No substitutions of smaller pipe sizes will be permitted, but substitutions of larger size may be approved. All pipe damaged or rejected because of defects shall be removed from the site at the time of said rejection.
- 2. Provide pipe continuously and permanently marked with manufacturer's name or trademark, size schedule and type of pipe working pressure at 73 degrees F. and National Sanitation Foundation (NSF) approval.
- 3. All mainline piping and underground piping under continuous pressure plus all pipe 2-1/2" or larger whether a lateral or mainline, shall be rigid, un-plasticized polyvinyl chloride pipe extruded from virgin parent material, ASTM D-2241. Provide pipe homogeneous throughout and free from visible cracks, holes, foreign materials, blisters wrinkles and dents.
- 4. PVC Pipe and sleeving shall be SDR 21, Class 200 unless stated otherwise on the drawing.
- 5. PVC Pipe 3" and smaller and all sleeving shall be solvent weld type.
- 6. PVC pipe fittings for sizes 3" and smaller and all sleeving shall be ASTM D-2466 schedule 40 PVC molded fittings suitable for solvent weld.
- 7. All fittings for PVC pipe 4" and larger shall be ductile iron.
- 8. All threaded PVC pipe-fittings shall be ASTM D-2467, Schedule 80 PVC.
- 9. Saddle and cross fittings are not permitted. Use male adapters for plastic to metal connections. Hand-tighten male adapters plus one turn with a strap wrench.
- 10. Areas using polyethylene lateral pipe: All pipe downstream from zone valves sized 2" and smaller, shall be flexible non-toxic polyethylene pipe. Polyethylene pipe shall be PE 3408, ASTM rated at 100 PSI minimum working pressure, and in conformance with ASTM D-2239, NSF approved or as noted on the drawing. Pipe larger than 2" size shall be PSI as

specified for mainlines. PE 2306 fittings for polyethylene pipe shall be ASTM D-2609 insert type fittings. Saddle and cross fittings not permitted. All joints shall be secured with stainless steel band and screw clamps.

11. Areas using PVC lateral pipe: All pipe downstream from zone valves sized 2" and smaller, shall be schedule 40 PVC pipe.
12. Primer and solvent for use with PVC pipe to conform to ASTM D-2564. Primer to be purple in color. Solvent to be appropriate for pipe and fitting type and weather conditions.
13. All above grade pipe shall be type 'L' copper. Fittings shall be cast brass or wrought copper.

C. Control System:

1. The automatic controllers and valves shall be as of the same manufacturer.
2. All controllers shall be locally available and have local trouble shooting representatives.
3. All controllers shall have a proven record of successful performance in the project area. No controller will be approved for use that has not been available in the project area for less than one year from the final approval date on the irrigation design drawings.
4. All controllers shall be accompanied by a weather or soil moisture sensor manufactured by the controller manufacturer.
5. Controllers shall be grounded per manufacturer's recommendations.
6. All controllers and sensors shall be acceptable to the local water purveyor for landscape irrigation systems.
7. Include, as applicable, phone, Ethernet, radio, or cellular card depending on potential controller/off-site monitoring communication desired.

D. Control Wire, Decoders, Flow Meters, and Connections:

1. Control wire and two-wire cable shall be Type UL approved, for direct burial and shall be Size 14 or larger, as recommended by the manufacturer for the conditions of the project. Conductor to be single strand soft annealed copper.
2. 24 volt control wires to be red in color. Common wire to be white in color.
3. Two-wire cable shall be manufactured by the controller manufacturer for specific use by that controller.
4. Two-wire decoders shall be manufactured by the controller manufacturer for specific use by that controller.
5. Two-wire cable and decoders shall be grounded per manufacturer's recommendations.
6. Flow meters shall be installed at all water sources. Flow meters shall be manufactured by the controller manufacturer.
7. Low voltage wire connectors to be made using 3M DBR/Y connectors.
8. 120 volt or heavier splices made underground to be made using 3M DBR/Y connectors.

E. Sprinkler Heads:

1. Sprinkler equipment shall be manufactured by Hunter (Pro-S), Rainbird (1800), or Toro (570Z) and include check valve and pressure regulating feature.
2. Sprinkler nozzles shall be matched precipitation variety as manufactured by the sprinkler body manufacturer or Toro Precision Nozzles with threads to match the sprinkler body.
3. Stream rotary nozzles for spray sprinklers shall be as manufactured by the sprinkler body manufacturer.
4. Rotary sprinklers, ¾" shall be manufactured by Hunter (I-20), Rainbird (5000 series) or Toro (T5) and are to include check valve.
5. Rotary sprinkler nozzles shall be as manufactured for the sprinkler by the sprinkler body manufacturer. Minimum GPM output to be 2.0 GPM, maximum GPM output 6.0 GPM. Suggested nozzling shall be: 2.0 GPM, 90 degrees, 3.0 GPM, 180 degrees, 6.0 GPM 360 degrees.

F. Clamps (polyethylene lateral pipe):

1. Clamps to be stainless steel, worm gear hose clamps with stainless steel screw.

G. Automatic Valves and Quick Coupling Valves:

1. Valves shall be manufactured by Hunter, Rainbird, or Toro.
2. Models shall be Hunter ICV, Rainbird PEB, and Toro P-220. Size per manufacturer's recommendation for specific zone flow.
3. Valves shall have zone identification tag attached to the valve stem.
4. Install plastic ball valve upstream of all automatic valves.
5. Quick coupler valves shall be manufactured by Hunter, Rainbird, or Toro and be 1" size.
6. Quick couplers shall have one piece body with locking lid and stabilized.

H. Manual Valves

1. Manual valves shall be manufactured by Nibco, Matco-Norca, or Red white.
2. Valves 3" and larger shall be gate valves, 200 #WOG, with solid wedge disc, conforming to federal specifications for its class.
3. Valves three inches (3") and larger shall be iron body bronze mounted, non-rising stem, with end connections for PVC pipe and have a two inch (2") square operating nut which turns to the left to open. Provide thrust block support.
4. Valves 2-1/2" and smaller shall be brass body ball valves, butterfly handle, with threaded connection.
5. Plastic valves (upstream of automatic valves) shall be line size and as manufactured by Spears or Lasco.

I. Valve Boxes:

1. Valve access boxes shall be manufactured by Carson, Pentek, NDS, or Rainbird.
2. Valve Access Boxes to be tapered enclosure of rigid plastic material comprised of fibrous components chemically inert and unaffected by moisture corrosion and temperature changes.
3. Support automatic valve rectangular boxes using four bricks, each set beneath the four valve box corners.
4. Support round valve boxes using two bricks set beneath box on opposing sides.
5. Provide lid of same material black in color.
6. Boxes to be 12 1/2" x 19" and of minimum size required to permit access to the valve. Side walls to extend at least 2" below the bottom of valve body; use extension as necessary.
7. Valve access boxes shall have filter fabric liner and gravel or pea stone sump.

J. Backflow Preventer:

1. Backflow preventers shall be reduced pressure zone type as manufactured by Watts, Febco, or Wilkins-Zurn.
2. RPZ backflow preventers shall have air-gap discharge to floor drain.

K. Booster Pump (if required):

1. Booster pump shall be manufactured by Berkeley, Myers, or Sta-Rite.
2. Installation shall conform to all applicable electrical codes.
3. Pump is to start/stop from control timer or from pressure switch.
4. Booster pump shall include mercooid switch to suspend pumping operations if upstream pressure drops to 20 PSI

L. Subsurface Dripperline:

1. Dripperline to be manufactured by Hunter PLD-06-12, Netafim Techline CV, Rainbird XSF Dripline XSF-06-12, or Toro DL2000, RGP-2-12.
2. Subsurface irrigation tubing shall be self-flushing, pressure compensating dripperline with internal check valve at each emitter. Dripperline shall consist of nominal sized one-half inch low density, linear polyethylene tubing with internal pressure compensating, continuously self-flushing, integral drip emitters. The emitters shall have the ability to independently regulate discharge rates, with an output pressure of 7 to 70 PSI and shall continuously clean themselves while in operation.
3. Dripperline shall have emitters spaced 12" o.c. and each emitter shall have .5 - .6 GPH emitter output.
4. Header pipe for all dripperline shall be schedule 40 PVC, 1" size.
5. All fittings shall be manufactured for use with the subsurface irrigation tubing by the subsurface dripperline manufacturer.
6. All associated system equipment including air relief valves, flush valves, pressure regulating valves and filters shall be manufactured for use with the subsurface irrigation tubing by the subsurface dripperline manufacturer.

M. Accessories:

1. Drainage fill: 1/2" x 3/4" washed pea gravel.
2. Fill shall be clean soil free of stones larger than 2" diameter, foreign matter, organic material and debris.
3. Provide imported fill material as required to complete the work. Obtain rights and pay all costs for imported materials.
4. Suitable excavated materials removed to accommodate the irrigation system work may be used as fill material subject to the Landscape Architect's review and acceptance.

PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected.
- B. All city and state laws, rules and regulation governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications and their provisions shall be carried out by the contractor
- C. It is the responsibility of the irrigation contractor to familiarize himself with all grade differences, location of walls, retaining walls, structures and utilities. The irrigation contractor shall repair or replace all items damaged by his work at no expense to the owner. He shall coordinate his work with other contractors for the location and installation of pipe sleeves and lateral lines through walls, under roadways, drives, and paving, etc.
- D. The contractor shall obtain the pertinent engineering, landscape, or architectural plans before beginning work.
- E. The contractor shall obtain all necessary permits required to perform the work indicated herein before beginning work.
- F. Do not willfully install the sprinkler system as shown on the drawings when it is obvious in the field that unknown obstructions, grade differences or differences in the area dimensions exist that might not have been considered in the engineering. Such obstructions or differences should immediately be brought to the attention of the owner's authorized representative. In the event

this notification is not performed, the irrigation contractor shall assume full responsibility for any revisions necessary.

- G. Tree locations take priority over irrigation piping. Have landscape contractor stake tree locations prior to trenching for pipe. Obtain approval from owner's representative for all pipe routing and valve box locations prior to initiating any work

3.2 PREPARATION:

- A. Locations of the irrigation components need to be staked and approved prior to initiating any work. Consult with all trades and individuals to gain approval of positioning of the irrigation components including Owner's Representative, landscape architect, controller representative, and engineers to ensure that all components are placed in locations where they will operate most efficiently and not be in the way of utilities, plant material and other site components. Any items which are installed and later found to need re-installation because approval was not granted by the knowledgeable party, will be done at the irrigation contractor's expense
- B. Set stakes to identify locations of proposed piping and valve boxes. Obtain Owner's Representatives approval before excavation.
- C. Obtain latest manufacturer's recommended installation requirements for components. Any deviation between these specifications and plans and those recommendations are to be brought to the attention of the Owner's Representative.

3.3 EXCAVATING AND BACKFILLING:

- A. Excavating shall be considered unclassified and shall include all materials encountered, except materials that cannot be excavated by normal mechanical means. Excavate trenches of sufficient depth and width to permit proper handling and installation of pipe and fittings. Excavate to depths required to provide 2" depth of earth fill or sand bedding for piping when rock or other unsuitable bearing material is encountered.
- B. Install sleeves for irrigation piping prior to paving. Minimum depth of bury for sleeves beneath roadways and drives, 36" and 18" beneath walks.
- C. Sleeves needing to be installed beneath existing paving shall be installed by directional bore method. Minimum depth of bury for sleeves beneath roadways and drives, 36" and 18" beneath walks.
- D. Pipe pulling will be allowed for lateral pipe only, provided soil moisture content and other conditions are suitable to allow for full depth of bury with a minimum of stretching and scraping of the pipe. Landscape Architect reserves the right to determine suitability or conditions. If the pulling method is used, the pipe "plow" shall be a vibratory type.
- E. Fill to match adjacent grade elevation with approved earth fill material. Place and compact fill in layers not greater than 8" depth.
- F. Provide approved fine-grained earth fill or sand to point 4" above the top of pipe, where soil conditions are rocky or otherwise objectionable.
- G. Fill to within 6" of final grade with approved excavated or borrow fill materials free of lumps or rocks larger than 2" in any dimension.
- H. The top 6" of backfill shall be topsoil, free of rocks, subsoil or trash. Any special soil mixture shall be replaced to the original condition it was prior to irrigation installation.

- I. Except as indicated, install irrigation mains with a minimum cover of 24" based on finished grades. Install irrigation laterals with a minimum cover of 14" based on finished grades.
- J. Excavate trenches and install piping and backfill during the same working day. Do not leave open trenches or partially filled trenches open overnight.

3.4 UNDERGROUND PIPE:

- A. Install plastic pipe in accordance with manufacturer's installation instructions as ASTM D- 2274. Provide for thermal expansion and contraction.
- B. Saw cut plastic pipe. Use a square-in-sawing vice, to ensure a square cut. Remove burrs and shavings at cut ends prior to installation.
- C. Make PVC plastic-to-plastic joints with solvent weld joints. Use only primer and solvent recommended by the pipe manufacturer. Install plastic fittings in accordance with pipe manufacturer's instructions and ASTM D-2855. Contractor shall make arrangements with pipe manufacturer for all necessary field assistance.
- D. Allow joints to set at least 24 hours before pressure is applied to the system.
- E. Uncoil poly-pipe and insert fitting full depth. Secure poly-pipe to insert fittings with stainless steel clamps. Double clamp pipe 1-1/2" diameter and larger.
- F. Maintain pipe interiors free of dirt and debris. Close open ends of pipe by capping, taping or other acceptable method when pipe installation is not in progress.
- G. 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.
- H. Install thrust blocks on the mainline pipe work in accordance with pipe manufacturer's written instructions.

3.5 SPRINKLER INSTALLATION:

- A. Install fittings and sprinkler heads in accordance with manufacturer's instructions, except as otherwise indicated.
- B. Set sprinkler heads perpendicular to finished grades, except as otherwise indicated, and position to prevent contact with grounds maintenance equipment. Install sprinklers 6" off walks and curbs. Locate sprinkler heads to assure proper coverage of indicated sprinkler heads to assure proper coverage if indicated areas. Do not exceed sprinkler head spacing distances indicated in the manufacturer's manual for the nozzles installed and pressure available.
- C. Provide pop-up spray heads and rotary sprinklers 3/4" IPS or smaller with two elbow poly swing joint riser using "funny pipe", minimum length 12".
- D. Provide all rotary sprinklers, 1" IPS, with pre-fabricated three elbow swing joint, schedule 80 PVC.
- E. Fittings and pre-fabricated swing joint manufacturers shall be Spears, Lasco, or Dura.

3.6 VALVE INSTALLATION:

- A. All zone control valves, quick coupler valves, and manual valves shall be enclosed in a minimum 11" x 14" valve box. Add extensions as required to prevent soil settlement around the valve. Set box flush with finish grade and aligned with adjacent boxes and/or adjoining site-work.
- B. Install filter fabric inside valve box and install valve boxes on a suitable base of gravel to provide a level foundation at proper grade and to provide drainage of the access box. Support box with block or notch box to protect pipe under box.
- C. Install valve drip kit, including pressure regulator and filter, for valves on drip zones. Acceptable manufacturers are Hunter, Netafim, Rainbird, or Toro.
- D. Provide all quick coupler valves with pre-fabricated three elbow swing joint, schedule 80 PVC.
- E. Fittings and pre-fabricated swing joint manufacturers shall be Spears, Lasco, or Dura.

3.7 BACKFLOW PREVENTER:

- A. Backflow installation shall meet all applicable plumbing and health department codes.
- B. All pipe to and from backflow preventers until the discharge pipe reaches 24" bury, shall be type 'L' hard copper.
- C. Install air-gap discharge to floor drain.

3.8 BOOSTER PUMP (if required):

- A. Pump to be in end suction, bronze fitted, self-priming, single stage centrifugal type.
- B. Pump to be close coupled to a ball bearing, drip proof motor.
- C. Pump casing shall be of gray iron, with bronze replaceable wear ring. Impeller to be bronze, provide with mechanical seal.
- D. Pump to be mounted on 4" high concrete pad or attached to wall.
- E. All pipe to and from pump shall be type 'L' hard copper.
- F. Pump is to start/stop from control timer or from a pressure switch.
- G. Booster pump shall include mercoird switch to suspend pumping operations if upstream pressure drops to 20 PSI.
- H. Provide detail drawing of pump installation.

3.9 DRIPPERLINE INSTALLATION:

- A. Install dripperline in accordance with manufacturers recommended installation procedures.
- B. Prepare area for dripline installation by clearing soil surface of debris. Layout dripline in 12" rows in groundcover and annual beds. Layout drip lines for hedges using one line on both sides of hedge. Stake dripline to prevent movement.
- C. All dripperline shall be installed on grade but below mulch.

- D. Install header pipe on drip zones per description on sections 3.4 of these specifications.
- E. Each segment of dripperline is to be installed using pressure and exhaust PVC header pipe. "Snaking" of tubing back and forth throughout bed will not be accepted.
- F. Valves for dripperline zones shall be drip kits complete with valve, pressure regulator and filter as are to be by the same manufacturer as the dripperline. Install inside 11" x 14" valve box.

3.10 DRAINS:

- A. Although it is intended that some systems will be winterized using compressed air. Contractor to install manual drain valves at low points in the system to assist in winterization and service.

3.11 ELECTRICAL AND CONTROLLER INSTALLATION:

- A. Install electrical control wire and two-wire cable in the piping trenches wherever possible. Place wire or cable in trench adjacent to or underneath mainlines but not above. Install wire with slack to allow for thermal expansion and contraction. Expansion joints in wire may be provided at 200 foot intervals by making 5-6 turns of the wire around a piece of 1/2" pipe instead of slack. Where necessary to run wire or cable in a separate trench, provide a minimum cover of 24".
- B. Provide minimum 24" slack at remote control valves and at all wire splices to allow raising the valve bonnet or splice to the surface without disconnecting the wires for repair.
- C. Connect each remote control valve to one station of a controller except as otherwise indicated. Where there is to be more than one valve per station, make required splice at the control timer.
- D. Make splices only at valves, unless otherwise unavoidable. Locate all field splices on the as-built drawing.
- E. For two-wire systems, ground cable at each valve location and every 600' as recommended by the manufacturer.
- F. Hard wire 110 volt power to controller. All connections and installations shall meet applicable electrical codes. All wire not buried to be installed in conduit.
- G. Connect data line, cellular, radio, or phone line to controller and test for successful communication link.
- H. Accurately label zones inside the controller. Include color sketch of approximate zone limits.
- I. Connect and operate hand held remote to confirm successful valve actuation.

3.12 FLUSHING AND TESTING:

- A. After all new sprinkler piping and risers are in place and connected for a given section and all necessary division work has been completed, and prior to the installation of sprinkler heads, all control valves shall be opened and a full head of water used to flush out the system.
- B. Sprinkler main shall be tested under normal water pressure for a period of 12 hours. If leaks occur, repair and repeat the test. Give Architect 24 hours notice prior to testing.
- C. Testing of the system shall be performed after completion of each section or completion of the entire installation; and any necessary repairs shall be made, at the Contractor's expense, to put the system in good working order before final payment by the Owner.

- D. Adjustment of the sprinkler heads and automatic equipment will be done by the Contractor upon completion of installation to provide optimum performance. Minor adjustments during the guarantee period will be made by the Owner.

3.13 CLEAN UP:

- A. Contractor shall keep the premises free from rubbish and debris at all times and shall arrange his material storage so as not to interfere with the Owner's operation of the job. Contractor shall remove and legally dispose of all unused material, rubbish and debris, including unsuitable excavated material from the site.

END OF SECTION 328400

SECTION 329119 - TOPSOIL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

- A. Extent of Topsoil Work is shown on drawings and by provisions of this Section.
- B. Topsoil for lawn work shall be provided by Contractor from off-site sources free of herbicides.

1.3 QUALITY ASSURANCE:

- A. Testing and Inspection: For supplied topsoil. Performed by a qualified independent testing laboratory, under the supervision of a Registered Professional Engineer, specializing in soils engineering. Obtain samples of stockpiled topsoil before completely stripping from the interior of stockpile.
- B. Provide and pay for testing and inspection during topsoil operations. Laboratory shall be acceptable to the Landscape Architect.

- 1. Recommended Testing Laboratory:
A & L Great Lakes Laboratories, Inc.
3505 Conestoga Drive
Fort Wayne, IN 46808
P: (260) 483-4759
F: (260) 483-5274
www.algreatlakes.com

- C. Test representative material samples for proposed use.

- D. Tests shall include:

- 1. pH factor
- 2. Lime requirement
- 3. Mechanical analysis (P.K. Ca. mg) and cation ratios
- 4. Percentage of organic content and loss by ignition
- 5. Soil series classification
- 6. Clay content
- 7. Herbicide multi-residue test (MR-1)

- E. Provide soil lab recommendations on type and quantity of additives required to establish satisfactory pH factor and supply of nutrients to bring nutrients to satisfactory level for planting and soil lab recommendations regarding residue test results.

- F. Submit test reports.

1.4 PROJECT CONDITIONS:

- A. Known underground and surface utility lines are indicated on the civil drawings.

- B. Protect existing trees, plants, lawns and other features designated to remain as part of the landscaping work.
- C. Promptly repair damage to adjacent facilities caused by topsoil operations. Cost of repair at Contractor's expense.
- D. Promptly notify the Landscape Architect of unexpected sub-surface conditions.

PART 2 - PRODUCTS

2.1 MATERIALS:

- A. Topsoil: Supplied topsoil proposed for use must meet testing criteria results specified and conform to adjustments as recommended by soil test and Landscape Architect.
- B. Provide screened topsoil as required to complete the job. Topsoil must meet testing criteria results specified. All processing, cleaning and preparation of this topsoil to render it acceptable for use is the responsibility of this Contractor.
- C. Topsoil shall be screened, fertile, friable and representative of local productive soil, capable of sustaining vigorous plant growth and screened free of clay lumps, subsoil, noxious weeds or other foreign matter such as stones greater than 1" in diameter in any dimension, roots, sticks and other extraneous materials: not frozen or muddy. pH of existing or supplied soil to range between 5.0 and 7.5. Adjusted to not more than 7.0 by additives as required by soil test. Topsoil shall contain not less than 3% and not greater than 10% organic matter. Clay content as determined by Bouyoucous Hydrometer Test shall range between 5 and 15 percent.

PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Examine rough grades and installation conditions. Do not start topsoil work until unsatisfactory conditions are corrected.

3.2 FINISH GRADING:

- A. Perform topsoiling within contract limits, including adjacent transition areas, to new elevations, levels, profiles, and contours indicated. Provide uniform levels and slopes between new elevations and existing grades.
- B. Grade surfaces to assure areas drain away from building structures and to prevent ponding and pockets of surface drainage.
- C. Lawn Areas: Supply and spread topsoil to a minimum uniform depth of 4" or as noted. Remove clumps larger than 1" in diameter.
- D. Grade lawn areas to a smooth, free draining even surface with a loose, moderately coarse texture ready to accept seed or sod.
- E. For trees, shrubs, ground cover beds and backfill for beds see Section 329300 – Plants.
- F. Provide earth crowning where indicated on drawings.
- G. Crowning/mounding to be free flowing in shape and design, as indicated, and to blend into existing grades gradually so that toe of slope is not readily visible. Landscape Architect to verify final contouring before planting.

- H. Regardless of finish grading elevations indicated, it is intended that grading be such that proper drainage of surface water will occur and that no low areas are created to allow ponding. Contractor to consult with Owner or Landscape Architect regarding minor variations in grade elevations before rough grading is completed.

3.3 CLEANING:

- A. Upon completion of topsoiling operations, clean areas within contract limits, remove tools and equipment. Site shall be clear, clean, free of debris and suitable for site work operations.

END OF SECTION 329119

SECTION 329223 – SODDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

- A. Extent of sodded lawns is shown on drawings and by provisions of this Section.
- B. Type of Work Required Includes the Following:
 - 1. Soil preparation
 - 2. Sodding lawns
- C. Contractor to coordinate water source/schedule with owner.
- D. Related Work Specified Elsewhere: Refer to the entire project manual for additional contract requirements.

1.3 SUBMITTALS:

- A. Sod grower's certification of grass species including special shade grown species. Identify source location.
- B. Fertilizer manufacturer data sheets.
- C. Grower's soil analysis or certification stating mineral / topsoil grown sod.

1.4 QUALITY ASSURANCE:

- A. Sod: Comply with American Sod Producers Association (ASPA) classes of sod materials.

1.5 DELIVERY, STORAGE AND HANDLING:

- A. Cut, deliver and install sod within 24-hour period.
- B. Do not harvest or transport sod when moisture content may adversely affect sod survival.
- C. Protect sod from sun, wind and dehydration prior to installation. Do not tear, stretch or drop sod during handling and installation.

1.6 PROJECT CONDITIONS:

- A. General:
 - 1. Contractor shall examine and verify the acceptability of the job site. Notify Landscape Architect if conditions detrimental to plant growth are encountered such as rubble fill, adverse drainage conditions or obstructions. Do not proceed with the work until unsatisfactory conditions have been corrected or resolved in writing by the Landscape Architect.
 - 2. Where sodding occurs in close proximity to other site improvements or areas to remain undisturbed such as existing wetlands and upland areas care shall be taken to not disturb

the existing conditions. Any areas damaged during planting operations shall be promptly restored to their original condition at no cost to the Owner.

3. Work Notification: Notify Landscape Architect at least 7 working days prior to start of sodding operation.
4. Protect existing utilities, paving and other facilities from damage caused by sodding operations.
5. Perform sodding work only after planting and other work affecting ground surface has been completed.
6. Restrict traffic from lawn areas until grass is established. Erect signs and barriers as required.
7. The irrigation system may be installed prior to sodding. Locate, protect and maintain the irrigation system during sodding operations. Repair irrigation system components damaged during sodding operations at this Contractor's expense.

1.7 WARRANTY:

- A. Refer to Section 320536 – Landscape Maintenance and Warranty Standards.

PART 2 - PRODUCTS

2.1 MATERIALS:

- A. Sod: An "approved" nursery grown blend of improved Kentucky Blue-grass varieties.
 1. Sod containing Common Bermudagrass, Quackgrass, Johnsongrass, Poison Ivy, Nutsedge, Nimblewill, Canada Thistle, Timothy, Bentgrass, Wild Garlic, Ground Ivy, Perennial Sorrel or Brome grass weeds will not be acceptable.
- B. Furnish sod machine stripped in square pads or strips not more than 3'-0" long; uniformly 1" to 1-1/2" thick with clean-cut edges. Mow sod before stripping. Big roll sod is acceptable.
- C. Fertilizer: Use a 1-2-1 NPK ratio SGN 100-210 starter fertilizer that is non injurious to turf with a release of nitrogen to provide 10-16 weeks of fertility for optimum turf growth. Nitrogen not to be affected by rainfall or irrigation. Phosphorus and potassium amendments shall be industry standard. If soil test results show adequate phosphorus and potassium then NPK ratio shall be amended to 3-0-2. (see 3.2, F for application rates).
- D. Ground Limestone: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20 mesh sieve. Use if determined by soil tests to be necessary.
- E. Stakes: Softwood, 3/4" x 8" long.
- F. Water: Free of substance harmful to sod growth. Hoses or other methods of transportation furnished by Contractor.
- G. Topsoil: Refer to Section 329119 – Topsoil.

PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Examine finish surfaces, grades, topsoil quality and depth. Do not start sodding work until unsatisfactory conditions are corrected.

3.2 PREPARATION:

- A. Limit preparation to areas which will be immediately sodded. Spread topsoil, fine grade.
- B. Treat lawn areas with "Round Up" by Monsanto, per label directions as required to kill existing vegetation prior to sodding.
- C. Loosen topsoil of lawn areas to minimum depth of 3". Remove stones over 1" in any dimension and sticks, roots, rubbish and extraneous matter. (In athletic fields remove stones over 1/2" in any dimension. Refer to Section 329119 – Topsoil.)
- D. Grade lawn areas to smooth, free draining and even surface with a loose, and uniformly fine texture. Roll and rake; remove ridges and fill depressions as required to drain.
- E. Apply amendments as indicated by soil test, with rotary or drop spreader and incorporate in top 3 inches of soil. Soil test results must be forwarded to landscape architect.
- F. Apply starter fertilizer at a rate to provide sustained fertility of .15 - .2 lbs. N per 1000 sf per week for 10-16 weeks or per soil test recommendations. Available manufacturer (Polyon) or approved equal. Starter fertilizer may be part of phosphorus and potassium needs as indicated by soil test.
- G. Dampen dry soil prior to sodding.
- H. Restore prepared area to specified condition if eroded, settled or otherwise disturbed after fine grading and prior to sodding.

3.3 INSTALLATION:

- A. Lay sod to form a solid mass with tightly-fitted joints. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent course. Remove excess sod to avoid smothering of adjacent grass. Provide sod pad top flush with adjacent curbs, sidewalks, drains and seeded areas.
- B. Do not lay dormant sod or install sod on saturated or frozen soil.
- C. Install initial row of sod in a straight line, beginning at bottom of slopes, perpendicular to direction of the sloped area. Place subsequent rows parallel to and lightly against previously installed row.
- D. Peg sod on slopes greater than 3 to 1 to prevent slippage at a rate of 2 stakes per yard of sod.
- E. Water sod thoroughly with a fine spray immediately after laying.
- F. Roll with light lawn roller to ensure contact with sub-grade.
- G. Sod indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.

3.4 MAINTENANCE:

- A. Refer to Section 320536 – Landscape Maintenance and Warranty Standards.

3.5 ACCEPTANCE:

- A. Refer to Section 320536 – Landscape Maintenance and Warranty Standards.

3.6 CLEANING:

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

END OF SECTION 329223

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

- A. Extent of trees, shrubs and ground covers is shown on drawings and by provisions of this Section.
- B. Type of Work Required Includes the Following:
 - 1. Soil preparation
 - 2. Trees, shrubs and ground covers
 - 3. Planting mixes
 - 4. Mulch and planting accessories
 - 5. Soil percolation tests

1.3 SUBMITTALS:

- A. Submit the Following Material Samples:
 - 1. Shredded bark mulch.
 - 2. Trees must be approved by 1 of 2 options at the discretion of the Landscape Architect:
 - a. Landscape Architect field tag.
 - b. Photographs of representative material. Trees not meeting the quality of approved representative sample will be rejected.
 - 3. One (1) gallon bag of plant mixture with approved topsoil compost blend.
- B. Submit the Following Materials Certification:
 - 1. Topsoil source and pH value.
 - 2. Plant fertilizer.
 - 3. Compost test results.

1.4 QUALITY ASSURANCE:

- A. Plant names indicated; comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.
- B. Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock." A plant shall be dimensioned as it stands in its natural position.
- C. All plants shall come from nurseries located in Zones 4 - 6 of the USDA Hardiness Zone Map unless approved by the Landscape Architect.
- D. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.

- E. Provide percolation testing by filling plant pits with water and monitoring length of time for water to completely percolate into soil. Submit test results to Landscape Architect prior to starting work.

1.5 DELIVERY, STORAGE AND HANDLING:

- A. Deliver fertilizer materials in original, unopened and undamaged containers showing weight, analysis and name of manufacturer. Store in manner to prevent wetting and deterioration.
- B. Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Spray deciduous plants in foliage with an approved "Anti-Dessicant" immediately after digging to prevent dehydration. Dig, pack, transport and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival. A copy of certificate shall be filed with the Landscape Architect. Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss or in a manner acceptable to the Landscape Architect. Water heeled-in plantings as required to keep root system moist until planting. No plant shall be bound with rope or wire in a manner that could damage or break the branches.
- C. Cover plants transported on open vehicles with a protective covering to prevent windburn.
- D. Frozen or muddy topsoil is not acceptable.

1.6 PROJECT CONDITIONS:

- A. Work Notification: Notify Architect at least 7 working days prior to installation of plant material.
- B. Protect existing utilities, paving and other facilities from damage caused by landscaping operations. See AIA General Conditions.
- C. A complete list of plants, including a schedule of sizes, quantities and other requirements is shown on the proposal form. In the event that quantity discrepancies or material omissions occur in the proposal form, Contractor shall notify the Landscape Architect during the proposal bidding process.
- D. An irrigation system will be installed prior to planting. Locate, protect and maintain the irrigation system during planting operations. Repair irrigation system components, damaged during planting operations, at this Contractor's expense.
- E. Perform percolation testing.
- F. Verify availability of on-site water.
- G. Concealed contingencies. Refer to AIA General Conditions.

1.7 WARRANTY:

- A. Refer to Section 320536 – Landscape Maintenance and Warranty Standards.

PART 2 - PRODUCTS

2.1 MATERIALS:

- A. Plants - General: Provide plants typical of their species or variety; with densely developed branches and vigorous, fibrous root systems free of insects and diseases and have a fully

developed form without voids and open spaces. Plants shall be lush, without dry foliage or root balls, free of defects, disfiguring knots, sunscald, wind burn, broken branches, frost cracks or abrasions.

1. Balled and burlapped plants shall have natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock".
 2. Cracked or mushroomed balls will not be accepted.
 3. Trees to have clay or clay loam balls.
 4. Sandy loam or sandy balls will not be accepted.
 5. Plants planted in rows shall be matched in form, size, height and branching habit.
 6. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect. If the use of larger plants is acceptable, increase the spread of roots or root ball in proportion to the size of the plant.
 7. No pruning wounds shall be present with a diameter of more than 1" and such wounds must show vigorous bark on all edges.
 8. Shrubs and small plants shall meet the requirements for spread and height indicated on the proposal form.
- B. All single trunk deciduous trees (including specimen stock), shade or ornamental trees, shall have straight trunks of healthy condition without mechanical damage, splits, frost cracks, scars, free of insects or disease.
1. Trees must have a straight central leader through crown of tree.
 2. "V" crotch branching will not be accepted.
 3. Tree crown to be uniform, symmetrical, plumb and characteristic of species.
- C. All Evergreen trees (including specimen stock) shall have straight trunks of healthy condition without mechanical damage, splits, frost cracks, scars, free of insects or disease.
1. Trees must have a straight central leader from base to top of tree.
 2. "V" crotch branching will not be accepted.
 3. Trees to be uniform, symmetrical and plumb.
 4. Trees must be unsheared and fully branched to ground.
- D. Provide "specimen" plants with a special height, shape or character of growth. Landscape Contractor to tag specimen trees or shrubs at the source of supply. The Landscape Architect will inspect specimen selections at the source of supply for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval. The Landscape Contractor shall inspect all plant material at source prior to Landscape Architect's review. Landscape Contractor shall accompany Landscape Architect to nursery on final selection trip (if required).
- E. Container-Grown Stock: Grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.
1. No plants shall be loose in the container.
 2. Container stock shall not be root bound.
 3. The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.
 4. Single stemmed or thin plants will not be accepted.
 5. Side branches shall be generous, well twigged and the plant as a whole well bushed to the ground.
 6. Plants shall be in a moist, vigorous condition, free from dead wood, bruises or other root or branch injuries.

- F. Specimen Stock: All specimen designated plantings are to be nursery grown, fully developed, excellent quality and typical example of the species. Plants designated to be planted in rows must be matched, symmetrical and uniform in height, spread, caliper and branching density.
1. Matched plantings should be obtained from same nursery and, preferably, from same row or line. All specimen material will be approved by Landscape Architect at nursery.
- G. Topsoil for Planting Mix: Refer to Section 329119 - Topsoil.
- H. Peat Moss: Brown to black in color, weed and seed free granulated raw peat.
1. Provide ASTM D-2607 sphagnum peat moss with a PH below 6.0 for ericaceous plants.
- I. Planting Mixture Type A (for shrubs and ornamental grasses): Standard planting backfill shall be a mixture of 3/4 topsoil, 1/4 compost. Add fertilizer Type "A" or as indicated by soil test to planting mixture per manufacturer's requirements. Follow planting details.
- J. Planting Mixture Type B (for perennials, ground cover beds and Ericaceous plants): Planting backfill shall be a mixture of 3/4 topsoil, 1/4 compost. Adding fertilizer type "B" or as indicated by soil test to mixture per manufacturer requirements. Follow planting details.
- K. Plant Fertilizer shall be:
1. Legal and acceptable in the local community of the project and shall not be harmful to the public or wildlife when applied per manufacturer's instructions.
 2. Slow-release, SCU or IBDU fertilizers for turf, flowerbeds, and deep-root feeding shall be used unless approved otherwise.
 3. Turf, shrub, or tree fertilizer used shall contain low or no phosphate unless soil tests indicate soil is deficient in this nutrient.
- Fertilizer Type A with micronutrients to be applied at a NPK ratio of 4-1-2. Provide 1 lb of actual nitrogen per 1,000 sf unless the soil test recommendations indicate otherwise.
- Fertilizer Type B with micronutrients to be applied at a NPK ratio of 1-2-1. Provide 2 lbs of actual nitrogen per 1,000 sf unless the soil recommendations indicate otherwise.
- L. "MyCor" Tree Saver Soil Conditioner manufactured by Plant Health Care, Inc., (800) 421-9051. Use for all tree and shrub species except Rhododendrons, Azaleas and Laurels.
- M. Superphosphate: Composed of finely ground phosphate rock as commonly used for agricultural purposes containing not less than eighteen (18%) percent available phosphoric acid. Apply as required based upon soil test report.
- N. Compost: The compost shall be a mature/stabilized, humus-like material derived from the aerobic decomposition of yard clippings or other materials as designated compostable as defined in Part 115 of Act 451 of 1994 as amended in Act 212 dated 2007, and shall be in compliance with all federal and state laws. The compost shall have a dark brown or black color, be capable of supporting plant growth without ongoing addition of fertilizers or other soil amendments and shall not have an objectionable odor. It shall be free of plastic, glass, metal and other physical contaminants, as well as viable weed seeds and other plant parts capable of reproducing (except airborne weed species). The compost moisture content shall be such that no visible free water or dust is produced when handling it.

<u>Test Items</u>	<u>Acceptable Range</u>
Maturity/Stabilization:	An acceptable test that can demonstrate Maturity/Stability
Temperature:	The material must have undergone the procedure to significantly reduce the pathogen level as referenced in EPA 40 CFR, Part 257 Regulations, Federal Register Vol. 58, No. 32; dated 2/19/93; Rules and Regulations; (Pile temperatures must be maintained at 40 degrees C for 5 days with a temperature exceeding 55 degrees C for at least 4 hours).
Pathogens and Trace:	Shall meet the requirements of EPA 40 CFR, Part 503 *TCLP or Elements EPA 1311 Regulations, Federal Register Vol. 58, No. 32; dated 2/19/93; Rules and Regulations.
Organic Content:	30-65%, dry weight basis
Moisture Content:	30-60%, wet weight basis
Inert Contamination:	Less than 1% by weight (no visible plastic, glass or metal allowed)
Soluble Salts:	1 – 7.5 mmho
Carbon:Nitrogen Ratio:	10:1 to 20:1
pH:	6 to 7.5
Particle Size:	98% pass through 3/4" screen or smaller

A compost sample shall be submitted to the Owner for approval prior to being used.

- O. Lime: Ground dolomitic limestone, ninety-five (95%) percent passing through #100 mesh screen. Use to adjust soil pH only, under direction of Landscape Architect or based upon soil test report.
- P. Sand: Clean, coarse, ungraded conforming to ASTM C-3 for fine aggregates.
- Q. Anti-Dessicant: Protective film emulsion providing a protective film over plant surfaces; permeable to permit transpiration. Mixed and applied in accordance with manufacturer's instructions.
- R. Triple Processed Shredded Bark Mulch: Dark brown in color, clean, free of debris and sticks, and well aerated. Materials shall be uniform in size, shape and texture. Recycled wood products, such as "pallet mulch," shall not be used. Submit samples for approval prior to installation.
- S. Water: Free of substances harmful to plant growth. Hoses or other methods of transportation furnished by Contractor.
- T. Stakes for Staking: Hardwood or green metal T-section posts without anchor plates, 2" x 2" x 6'-0" minimum length.
- U. Stakes for Guying: Hardwood, 2 x 4 nominal, x 24" length, pointed on one end.
- V. Guying/Staking Fabric: Polypropylene Arbor Tie (Arbor Tie Green)

- W. Turnbuckles: Galvanized steel of size and gauge required to provide tensile strength equal to that of the wire. Turnbuckle opening shall be at least 3".
- X. Staking and Guying Fabric: Polypropylene Arbor Tie (Arbor Tie Green)
- Y. Tree Wrap: Standard waterproofed tree wrapping paper, 2-1/2" wide, made of 2 layers of crepe kraft paper weighing not less than 30 lbs. per ream, cemented together with asphalt.
- Z. Twine: Two-ply jute material.
- AA. Aluminum Edge Restraints: Straight, 3/16-inch- (4.8-mm-) thick by 5-inch- (100-mm-) high extruded-aluminum edging with loops pressed from face to receive stakes at 12 inches (300 mm) o.c., and aluminum stakes 12 inches (300 mm) long for each loop.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Manufacturer: Subject to compliance with requirements, provide products by one of the following:
 - a. BRICKSTOP Corporation.
 - b. Curv-Rite, Inc.
 - c. Permaloc Corporation.
 - d. Sure-Loc Edging Corporation.
 - 3. Install per manufacturer's recommendations. Top to be flush with finish grade, alignment per drawings. All edging to be new.

PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Examine proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.

3.2 PREPARATION:

- A. Time of Planting:
 - 1. Evergreen Material: Plant evergreen materials between August 15 and October 1 or in spring before new growth begins. If project requirements require planting at other times, plants shall be sprayed with anti-dessicant prior to planting operations.
 - 2. Deciduous Material: Dig deciduous materials in a dormant condition. If deciduous trees are dug in-leaf, they shall be sprayed with an anti-dessicant prior to planting operation.
 - 3. Planting times other than those indicated must be acceptable to the Landscape Architect.
- B. Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.
- C. Individual plant locations shall be staked on the project site by the Contractor and approved by the Landscape Architect before any planting pits are dug. The Landscape Architect reserves the right to adjust plant material locations to meet field conditions, without additional cost to the Owner.
- D. Planting pits shall be round, with vertical sides and flat bottoms and sized in accordance with outlines and dimensions shown on the planting details.

- E. Accurately stake plant material according to the drawings. Stakes shall be above grade and painted a bright color to be clearly visible for inspection.
- F. If obstructions are encountered that are not indicated, do not proceed with planting operations until alternative plant locations have been selected and approved in writing by the Landscape Architect. Where location or spacing dimensions are not clearly shown, request clarification by the Landscape Architect.
- G. See drawings for planting details.
- H. Vegetation Removal:
 - 1. Strip existing grass and weeds, including roots, from all bed areas, till and fine grade existing topsoil, leaving the soil surface one-inch below finished grade (in areas shown on plan).
 - 2. Herbicide: Use Round Up (Monsanto Co.) as required to prepare areas for new planting, applied to all ground cover, evergreen and shrubbery beds and all mulch areas before application of pre-emergence herbicide, per manufacturer's recommendations. Clean area of all dead material after five (5) days.
 - 3. Pre-Emergence Herbicide: DACTHAL W-75 (Diamond Shamrock Agricultural Chemicals) applied to one (1) ounce per 100 square feet to same area where "Herbicide" has been applied and after area is cleared of dead vegetation.
 - 4. Herbicides to be applied by Licensed Applicator as required by the State.

3.3 INSTALLATION:

- A. Excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds. Provide plant pits per planting details. Depth of pit shall accommodate the root system. Scarify the bottom of the pit to a depth of 4".
- B. Provide pre-mixed planting mixture Type "A" for use around the balls and roots of all deciduous and evergreen tree plantings in planters. Trees planted in earth shall be backfilled with native soil per planting details unless noted otherwise.
- C. Beds for Ground Cover, Flowers and Ericaceous Plants: Excavate existing soil to 12" depth over entire bed area and remove soil from site. Set plants according to drawings and backfill entire bed with pre-mixed planting mixture Type "B".
- D. Mass Shrub Beds/Hedge and Ornamental Grass Beds: Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of the bed to a 4" depth. Set plants according to drawings and specifications, and backfill entire bed with (pre-mixed) specified planting mixture Type "A".
- E. Planting:
 - 1. Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb and faced to give the best appearance or relationship to each other or adjacent structure. Set plant material 2"-3" above the finish grade. No filling will be permitted around trunks or stems. Backfill the pit with planting mixture. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water in non-irrigated areas.
 - 2. After balled and burlapped plants are set, muddle planting soil mixture around bases of balls and fill all voids. Sufficiently compact to prevent settlement.
 - 3. Add "MyCor" Tree Saver to mix per manufacturer's directions.
 - 4. Remove all burlap, ropes and wires from the tops of balls.

5. Space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 12" of the trunks of trees and shrubs within planting bed and to within 6" of edge of bed.
6. Spread and arrange roots of bare-rooted plants in their natural position. Work-in planting mixture. Do not mat roots together. Cut all broken and frayed roots before installing planting mixture.
7. Water immediately after planting.

F. Mulching:

1. Mulch tree and shrub planting pits and shrub and groundcover beds with required mulching material depths per details immediately after planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

G. Wrapping, Guying, Staking:

1. Inspect trees for injury to trunks, evidence of insect infestation and improper pruning before wrapping.
2. Wrap trunks of all trees spirally from bottom to top with specified tree wrap and secure in place.
3. Stake/guy all trees immediately after lawn seeding or sodding operations and prior to acceptance. When high winds or other conditions which may effect tree survival or appearance occur, the Architect shall require immediate staking/guying.
4. Stake deciduous trees 4" caliper and under. Stake evergreen trees 8'-0" height and under. Use two (2) stakes for each tree per details.
5. Guy deciduous trees over 4" caliper. Guy evergreen trees over 8'-0" height. Use three (3) guys per tree.

H. Pruning:

1. Prune branches of deciduous stock, after planting, to balance the loss of roots and preserve the natural character appropriate to the particular plant requirements. Remove or cut back broken, damaged and unsymmetrical growth of new wood.
2. Multiple Leader Plants: Preserve the leader which will best promote the symmetry of the plant. Cut branches flush with the branch collar. Make cut on an angle.
3. Prune evergreen trees only to remove broken or damaged branches.

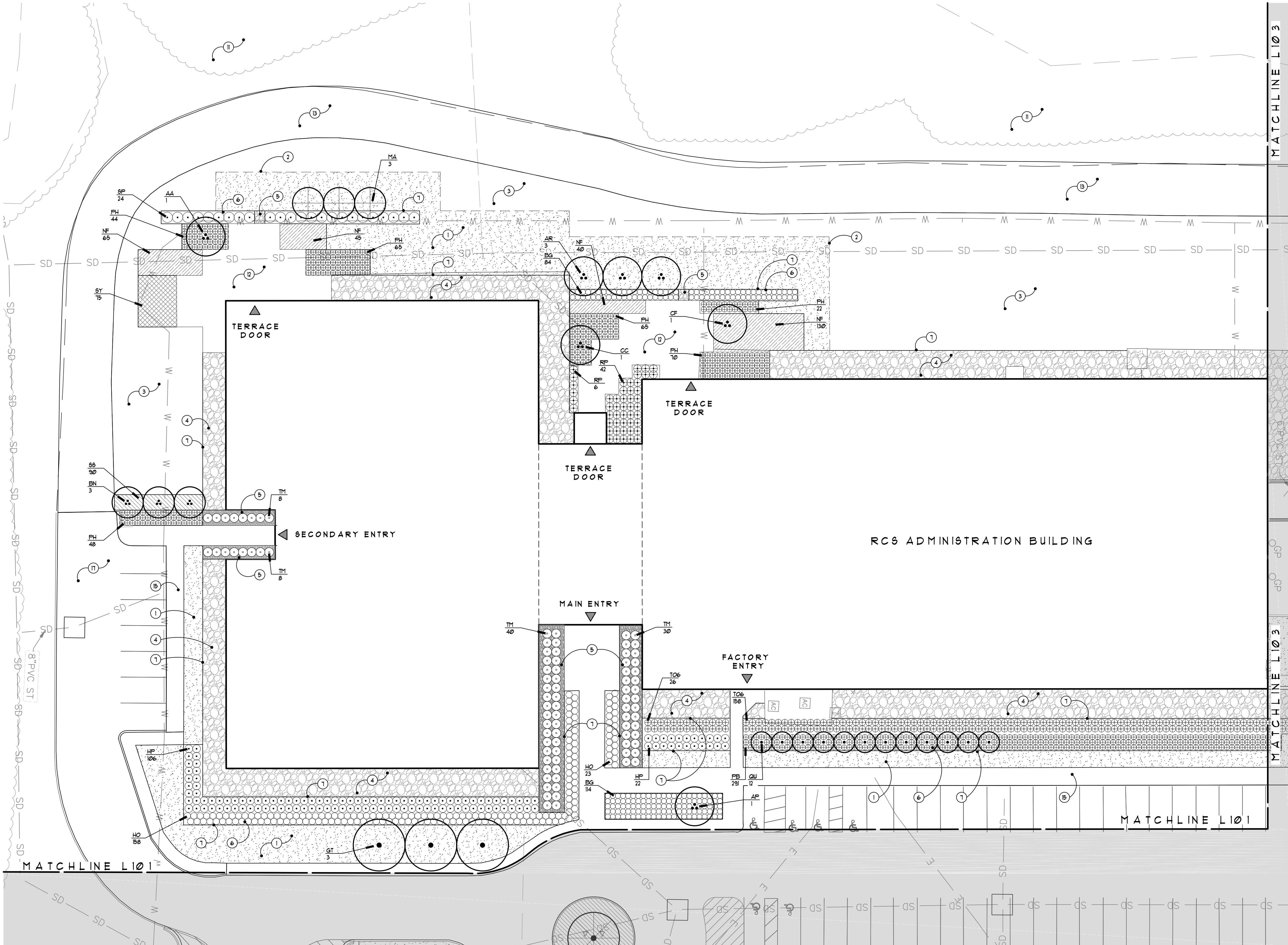
3.4 MAINTENANCE:

- A. Refer to Section 320536 – Landscape Maintenance and Warranty Standards.

3.5 CLEANING:

- A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris and equipment. Repair damage resulting from planting operations.

END OF SECTION 329300



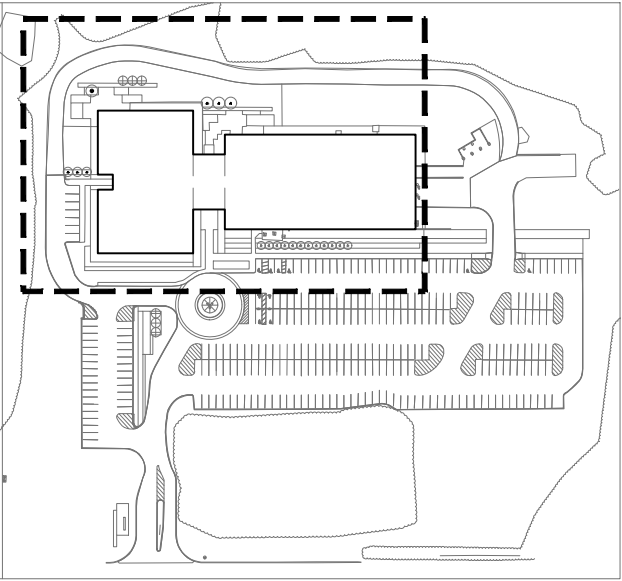
Legend:

AA 20	PLANT CODE, REFER TO SHEET L201 FOR PLANT LIST
QTY.	REFER TO PLANT LIST FOR CUMULATIVE TOTALS
W	WATER MAIN
SD	STORM SEWER
G	GAS LINE
OH	OVERHEAD ELECTRIC
E	UNDERGROUND ELECTRIC

- Note Key:**
- 1 SODDED LAWN ON 4" TOPSOIL, TYP.
 - 2 LIMIT OF SODDED LAWN TYP.
 - 3 EXISTING LAWN AREAS TO REMAIN AND BE CONVERTED TO NO-MOW AREAS, RESEED ANY AREAS DISTURBED DURING CONSTRUCTION, TYP.
 - 4 1"-3" CRUSHED CONCRETE MULCH ON WEED BARRIER FABRIC - REFER TO TYPICAL DETAIL. SUBMIT PHYSICAL SAMPLES FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO PURCHASING
 - 5 BLACK CRUSHED GRANITE MULCH ON WEED BARRIER FABRIC - REFER TO TYPICAL DETAIL. SUBMIT PHYSICAL SAMPLES FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO PURCHASING
 - 6 TRIPLE PROCESSED SHREDDED BARK MULCH, NATURAL BROWN IN COLOR, IN PLANTING BEDS, TYP.
 - 7 ALUMINUM EDGING BETWEEN PLANTING BED AND LAWN, TYP. AND BETWEEN ALL STONE MULCH AND PLANTING BED/ LAWN AREAS, TYP.
 - 8 (3) ACCENT (V) LANDSCAPE UP-LIGHTS BY WAC, FOR TREE MODEL - 5001-9-B VAXC COLOR - 3000K FINISH - BK (BLACK ON ALUMINUM) INCLUDE M6000 STAKE (MOUNT +/- 6" ABOVE FINISH GRADE) SUBMIT FOR APPROVAL BY LANDSCAPE ARCHITECT
 - 9 ENTRANCE SIGN BY OTHERS
 - 10 RELOCATED FLAGPOLE IN 3'-0" DIA. STONE MULCH RING. STONE MULCH TO BE BLACK CRUSHED GRANITE
 - 11 EXISTING WOODED AREA
 - 12 EXISTING CONCRETE TERRACE TO REMAIN
 - 13 FIRE LANE - REFER TO CIVIL PLANS
 - 14 6" HT. PLANTER CURB - REFER TO CIVIL PLANS
 - 15 CONCRETE PAVEMENT - REFER TO CIVIL PLANS
 - 16 ASPHALT PAVEMENT - REFER TO CIVIL PLANS FOR PARKING LAYOUT
 - 17 (2) LUMENBEAM MEDIUM FLAGPOLE UP-LIGHT BY LUMENPULSE PRODUCT NUMBER - LBH-150-30K-NS-BK STAKE MOUNTING - (SK) OPTION SUBMIT FOR APPROVAL BY LANDSCAPE ARCHITECT

- General Landscape Notes:**
1. PROTECT ALL NEW AND EXISTING UTILITIES, LIGHTS, PAVEMENT, POLES, ETC. DURING CONSTRUCTION AS INDICATED ON THE PLANS.
 2. RESTORE ANY DAMAGED LANDSCAPE OR INFRASTRUCTURE TO PRE-CONSTRUCTION STATE PER SPECIFICATIONS.
 3. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITION INFORMATION SHOWN PRIOR TO CONSTRUCTION. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONCERNS PRIOR TO PROCEEDING.
 4. PROPOSED UTILITIES SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION AND NOTIFYING THE LANDSCAPE ARCHITECT OF ANY CONCERNS PRIOR TO PROCEEDING.

- Irrigation Notes:**
1. IRRIGATION TO BE PROVIDED BY THE CONTRACTOR AS DESIGN-BUILD. CONTRACTOR TO SUBMIT FULL IRRIGATION PLANS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF SYSTEM.
 2. ALL PLANT MATERIAL ON THE SITE WILL BE IRRIGATED. IRRIGATION WILL BE A COMBINATION OF POP UP SPRAY SPRINKLERS, ROTARY SPRINKLERS, DRIP LINE, AND BUBBLERS. OPERATION OF SYSTEM WILL BE FROM AUTOMATIC VALVES POSITIONED ALONG THE PRESSURIZED IRRIGATION SYSTEM MAINLINE.
 3. EACH PLANT MATERIAL TYPE SHALL BE ON ITS OWN, SEPARATE ZONE. LAWN AREAS SHALL ALSO BE PLACED ON A SEPARATE ZONE.



Key Map
Scale: Not to Scale

GRISSIM METZ ASSOCIATES ANDRIESE

311 East Cady Street
Northville, MI 48167

Ph: 248-347-7010

Project: RCS Administration Building
Site Design
Rochester, Michigan

Sheet: Landscape Plan

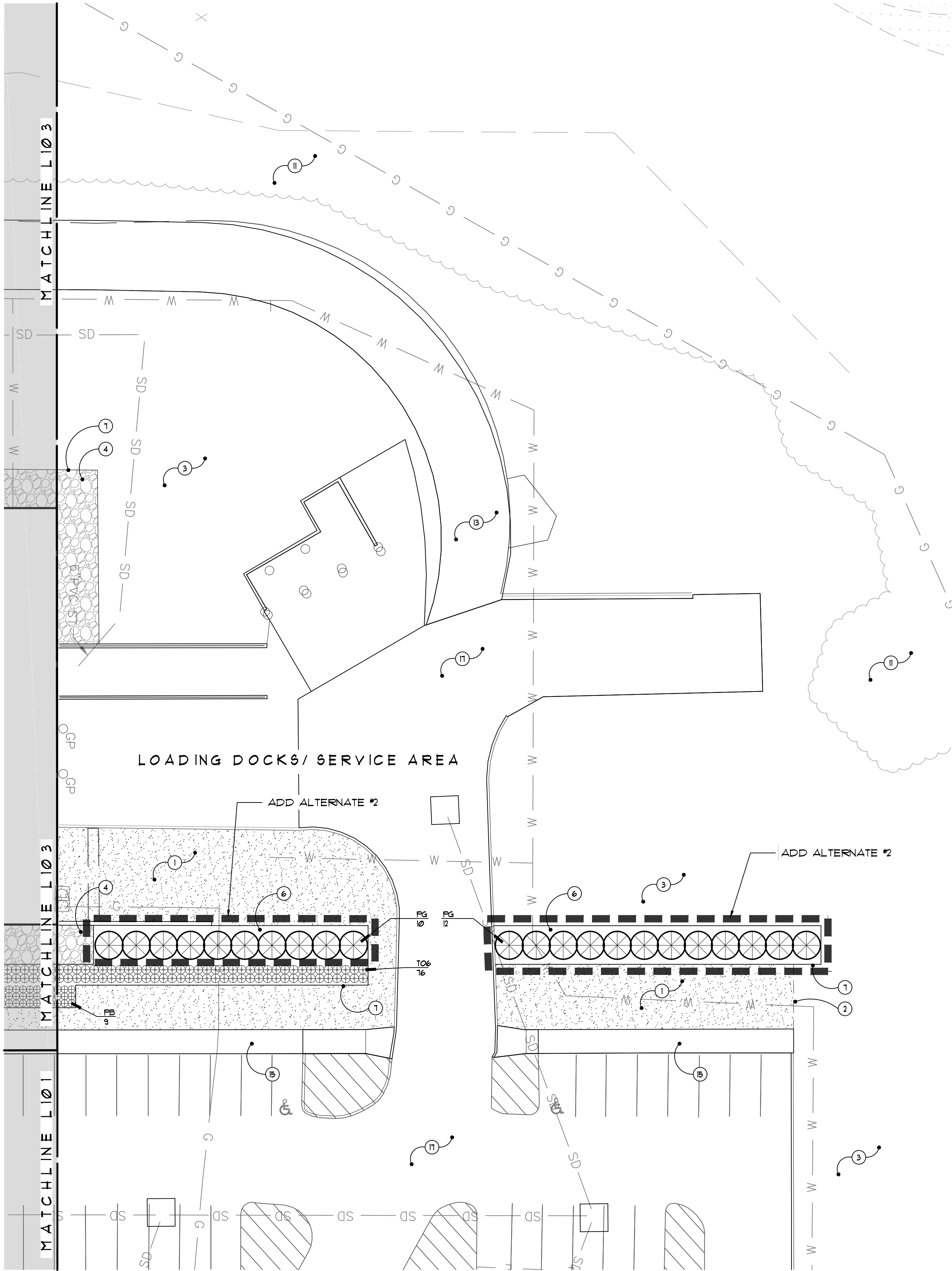
Job Number: R19-211
Drawn: CJT
Checked: RM
Scale: 1"=0" = 20'-0"

Date: 2021.08.23
Issued for: Bid Set

Sheet Number:
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L102





Plant List - Base Bid (APPLIES TO SHEETS L101-L103)

Deciduous Trees			
CODE	QTY.	DESCRIPTION	SIZE COMMENTS
AR	3	Acer rubrum 'Frankred'	18' ht. multi-stem, matched
		Multi-stem Red Sunset Red Maple	B&B
AP	1	Acer palmatum 'Bloodgood'	18' ht. specimen
		Bloodgood Japanese Maple	B&B
BN	3	Betula nigra 'Heritage'	10' ht. multi-stem
		Heritage River Birch	B&B
GF	3	Ginkgo biloba 'Fastigiata'	3" cal. single, straight trunk
		Fastigiata Maidenhair Tree	B&B
GT	3	Gleditsia triacanthos 'Skyline'	4" cal. matched, specimen
		Skyline Honey Locust	B&B
QW	12	Quercus x warei 'Long' Regal Prince	3" cal. matched
		Regal Prince Oak	B&B
Evergreen Trees			
CODE	QTY.	DESCRIPTION	SIZE COMMENTS
ST	1	Specimen Tree	Tagged by GMA at Gee Farms - Stockbridge, MI
		Japanese White Pine	
TG 6	280	Thuja occidentalis 'Green Giant'	6' ht. specimen, unweaved, full to ground, unsold tops, plant 30" o.c.
		Green Giant Western Arborvitae	
TG 8	80	Thuja occidentalis 'Green Giant'	8' ht. specimen, unweaved, full to ground, unsold tops
		Green Giant Western Arborvitae	
Ornamental Trees			
CODE	QTY.	DESCRIPTION	SIZE COMMENTS
AA	1	Amelanchier lamarkii	12' ht. multi-stem
		Juneberry Serviceberry	B&B
CC	1	Cercis canadensis	18' ht. multi-stem
		Eastern Redbud	B&B
CF	1	Cornus florida	18' ht. multi-stem
		Flowering Dogwood	B&B
MA	6	Malus x 'Robinson'	12' ht. specimen
		Robinson Crabapple	B&B
Shrubs and Grasses			
CODE	QTY.	DESCRIPTION	SIZE COMMENTS
BG	198	Buxus 'Green Mountain'	24" ht. x sprd. plant 24" o.c.
		Green Mountain Boxwood	
HP	128	Hydrangea paniculata 'Bobo'	30" ht. x sprd. plant 36" o.c.
		Bobo Hydrangea	
PB	352	Pennisetum alopecuroides 'Little Bunny'	2 gal. plant 24" o.c.
		Little Bunny Dwarf Fountain Grass	cont.
PH	314	Pennisetum alopecuroides 'Hemeln'	2 gal. plant 24" o.c.
		Hemeln Dwarf Fountain Grass	cont.
RP	48	Rhododendron x P.J.M.	30" ht. x sprd. plant 36" o.c.
		P.J.M. Rhododendron	
SP	24	Syringa pubescens subsp. patula 'Miss Kim'	36" ht. x sprd. plant 48" o.c.
		Miss Kim Lilac	
TM	96	Taxus x media 'Everlow'	36" sprd. plant 42" o.c.
		Everlow Yew	
Perennials			
CODE	QTY.	DESCRIPTION	SIZE COMMENTS
HO	161	Hosta 'Frances'	2 gal. plant 24" o.c.
		Frances Hosta	cont. full pot
HS	180	Hemerocallis 'Stella D'Oro'	1 gal. plant 18" o.c.
		Stella D'Oro Daylily	cont. full pot
NF	280	Nepeta x faassenii 'Walker's Low'	1 gal. plant 24" o.c.
		Walker's Low Catmint	cont.
PA	200	Phalaris arundinacea 'Pica'	1 gal. plant 24" o.c.
		Variiegated Ribbon Grass	cont. full pot
SS	425	Schizanthium scoparium	4.5" quart. plant 18" o.c. triangular
		Little Bluesstem	cont. full pot
SY	190	Sakia yangii	1 gal. plant 24" o.c.
		Russian Sage	cont. full pot

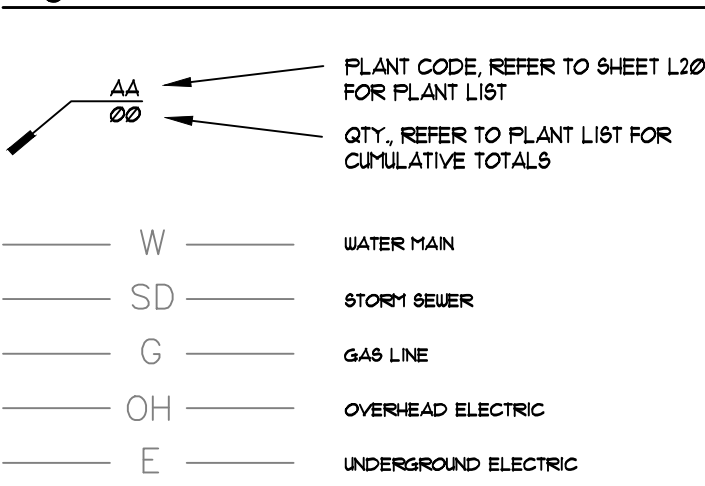
Plant List - Add Alternate #1

Ornamental Trees			
CODE	QTY.	DESCRIPTION	SIZE COMMENTS
MS	9	Malus x Snowdrift	10' ht. single, straight trunk
		Snowdrift Crabapple	B&B
Shrubs and Grasses			
CODE	QTY.	DESCRIPTION	SIZE COMMENTS
PH	44	Pennisetum alopecuroides 'Hemeln'	2 gal. plant 24" o.c.
		Hemeln Dwarf Fountain Grass	cont.
Perennials			
CODE	QTY.	DESCRIPTION	SIZE COMMENTS
NF	120	Nepeta x faassenii 'Walker's Low'	1 gal. Plant 24" o.c.
		Walker's Low Catmint	cont.

Plant List - Add Alternate #2

Perennials			
CODE	QTY.	DESCRIPTION	SIZE COMMENTS
PG	22	Picea glauca 'Densata'	10' ht. unweaved, full to ground, unsold tops
		Black Hills Spruce	B&B

Legend:



Note Key:

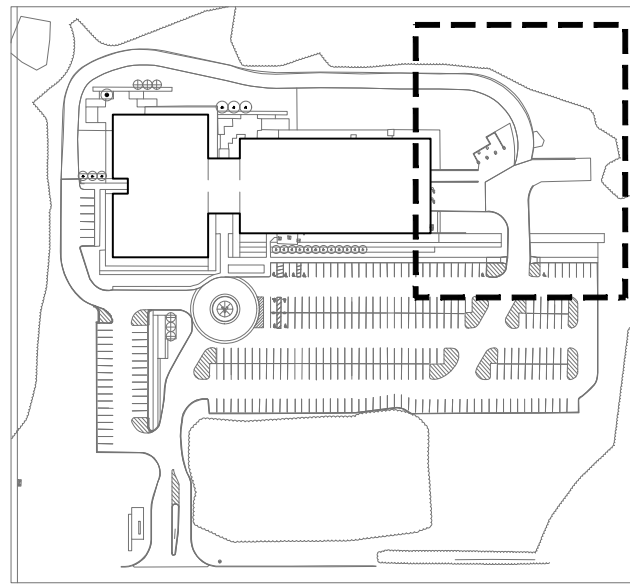
1. SODDED LAWN ON 4" TOPSOIL, TYP.
2. LIMIT OF SODDED LAWN TYP.
3. EXISTING LAWN AREAS TO REMAIN AND BE CONVERTED TO NO-MOW AREAS, RESEED ANY AREAS DISTURBED DURING CONSTRUCTION, TYP.
4. 1"-3" CRUSHED CONCRETE MULCH ON WEED BARRIER FABRIC - REFER TO TYPICAL DETAIL. SUBMIT PHYSICAL SAMPLES FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO PURCHASING.
5. BLACK CRUSHED GRANITE MULCH ON WEED BARRIER FABRIC - REFER TO TYPICAL DETAIL. SUBMIT PHYSICAL SAMPLES FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO PURCHASING.
6. TRIPLE PROCESSED SHREDDDED BARK MULCH, NATURAL BROWN IN COLOR, IN PLANTING BEDS, TYP.
7. ALUMINUM EDGING BETWEEN PLANTING BED AND LAWN, TYP. AND BETWEEN ALL STONE MULCH AND PLANTING BED/ LAWN AREAS, TYP.
8. (3) ACCENT (2) LANDSCAPE UP-LIGHTS BY WAC, FOR TREE MODEL - 5001-9-B VAXC COLOR - 36000K FINISH - BK (BLACK ON ALUMINUM) INCLUDE M6000 STAKE (MOUNT +/- 6" ABOVE FINISH GRADE) SUBMIT FOR APPROVAL BY LANDSCAPE ARCHITECT
9. ENTRANCE SIGN BY OTHERS
10. RELOCATED FLAGPOLE IN 3'-0" DIA. STONE MULCH RING. STONE MULCH TO BE BLACK CRUSHED GRANITE
11. EXISTING WOODED AREA
12. EXISTING CONCRETE TERRACE TO REMAIN
13. FIRE LANE - REFER TO CIVIL PLANS
14. 6" HT. PLANTER CURB - REFER TO CIVIL PLANS
15. CONCRETE PAVEMENT - REFER TO CIVIL PLANS
16. ASPHALT PAVEMENT - REFER TO CIVIL PLANS FOR PARKING LAYOUT
17. (2) LUMENBEAM MEDIUM FLAGPOLE UP-LIGHT BY LUMENPULSE PRODUCT NUMBER - LBP1-180-36K-NB-BK STAKE MOUNTING - (SK) OPTION SUBMIT FOR APPROVAL BY LANDSCAPE ARCHITECT

General Landscape Notes:

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4. PROPOSED UTILITIES SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION AND NOTIFYING THE LANDSCAPE ARCHITECT OF ANY CONCERNS PRIOR TO PROCEEDING.

Irrigation Notes:

1. IRRIGATION TO BE PROVIDED BY THE CONTRACTOR AS DESIGN-BUILD. CONTRACTOR TO SUBMIT FULL IRRIGATION PLANS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF SYSTEM.
2. ALL PLANT MATERIAL ON THE SITE WILL BE IRRIGATED. IRRIGATION WILL BE A COMBINATION OF POP UP SPRAY SPRINKLERS, ROTARY SPRINKLERS, DRIP LINE, AND BUBBLERS. OPERATION OF SYSTEM WILL BE FROM AUTOMATIC VALVES POSITIONED ALONG THE PRESSURIZED IRRIGATION SYSTEM MAINLINE.
3. EACH PLANT MATERIAL TYPE SHALL BE ON ITS OWN SEPARATE ZONE. LAWN AREAS SHALL ALSO BE PLACED ON A SEPARATE ZONE.



Key Map

Scale: Not to Scale

GRISSIM
METZ ASSOCIATES
ANDRIESE

311 East Cady Street
Northville, MI 48167

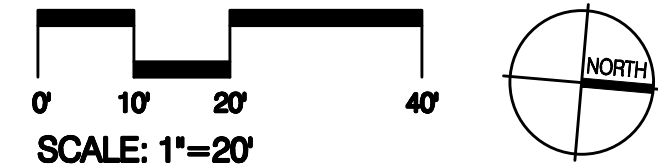
Ph: 248-347-7010

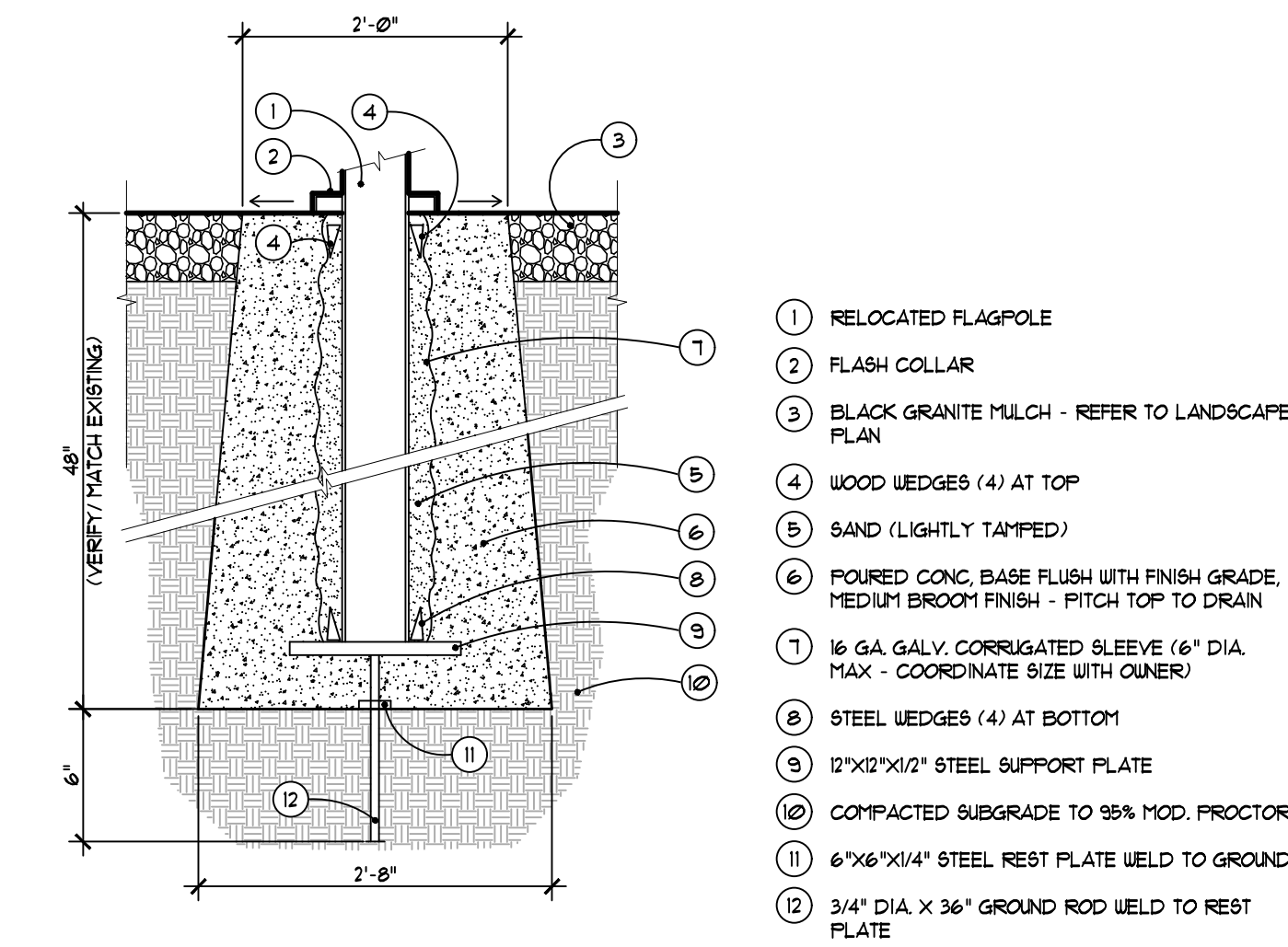
Project: RCS Administration Building
Site Design
Rochester, Michigan

Sheet:
Landscape Plan

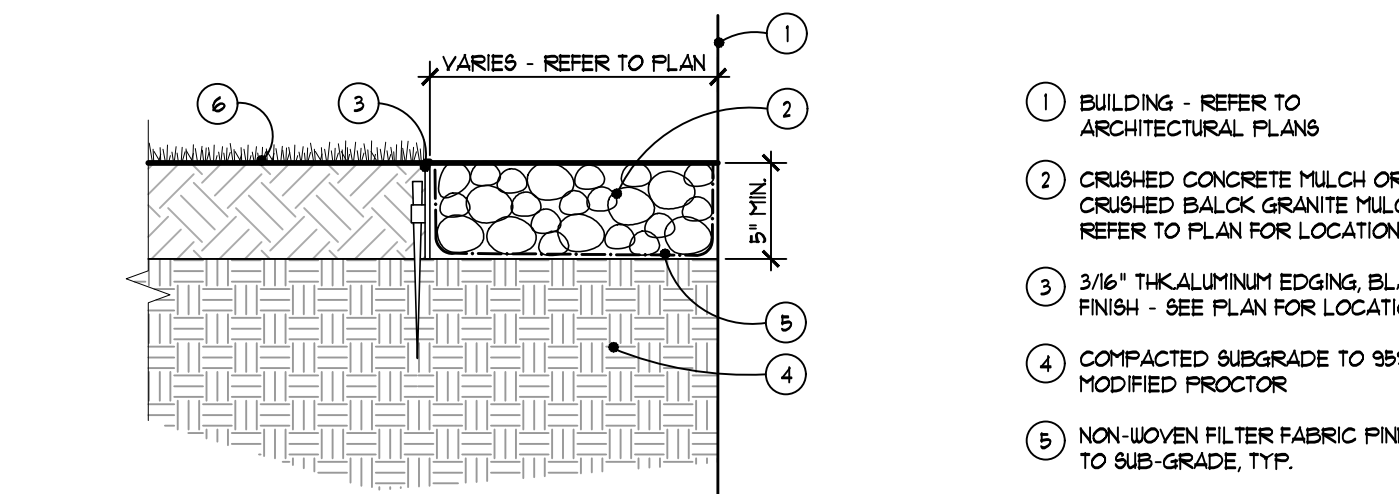
Job Number: R19-211
Drawn: CJT
Checked: RM
Scale: 1"=0" = 20'-0"

Date: 2021.08.23 Issued for: Bid Set

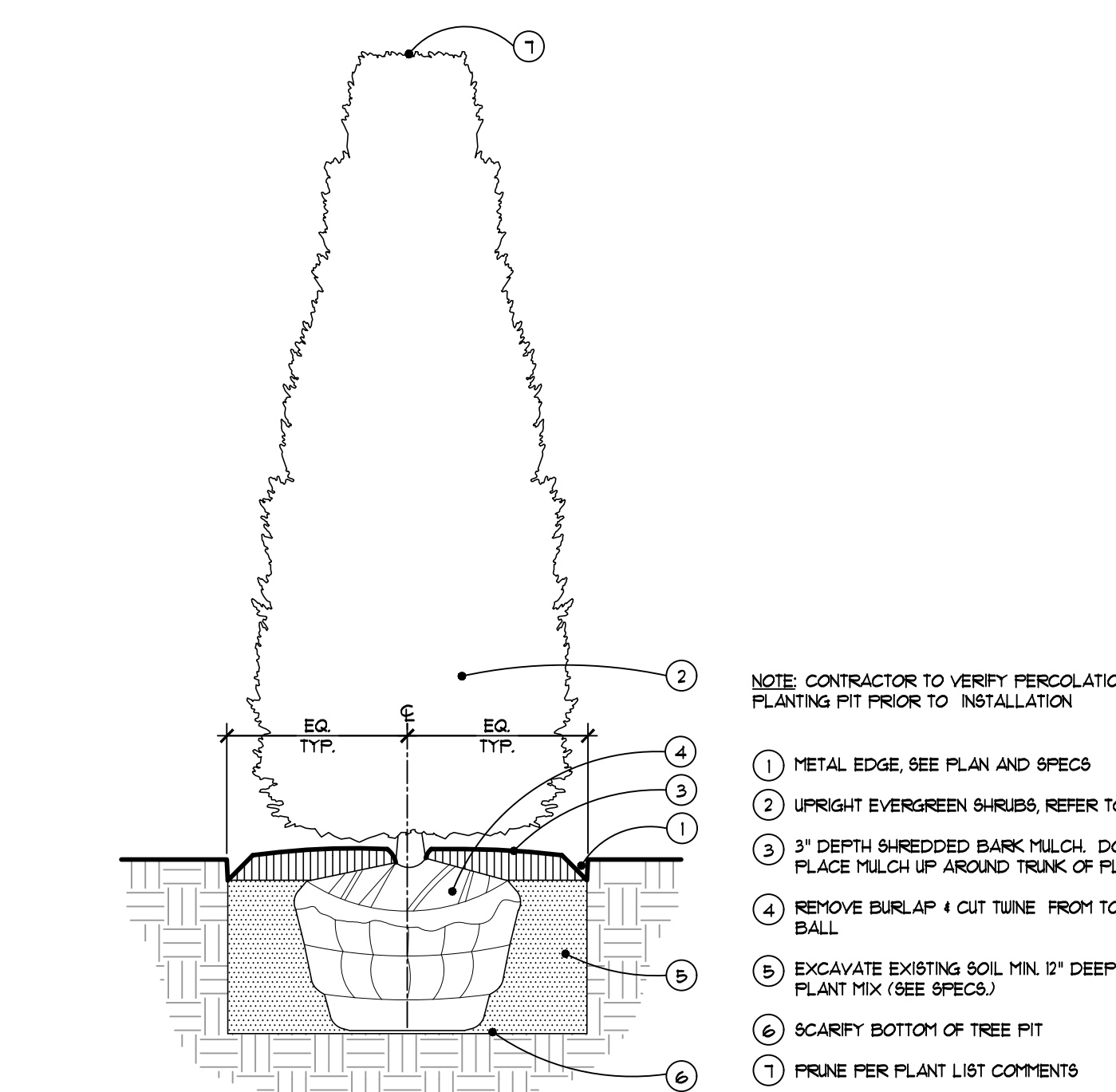




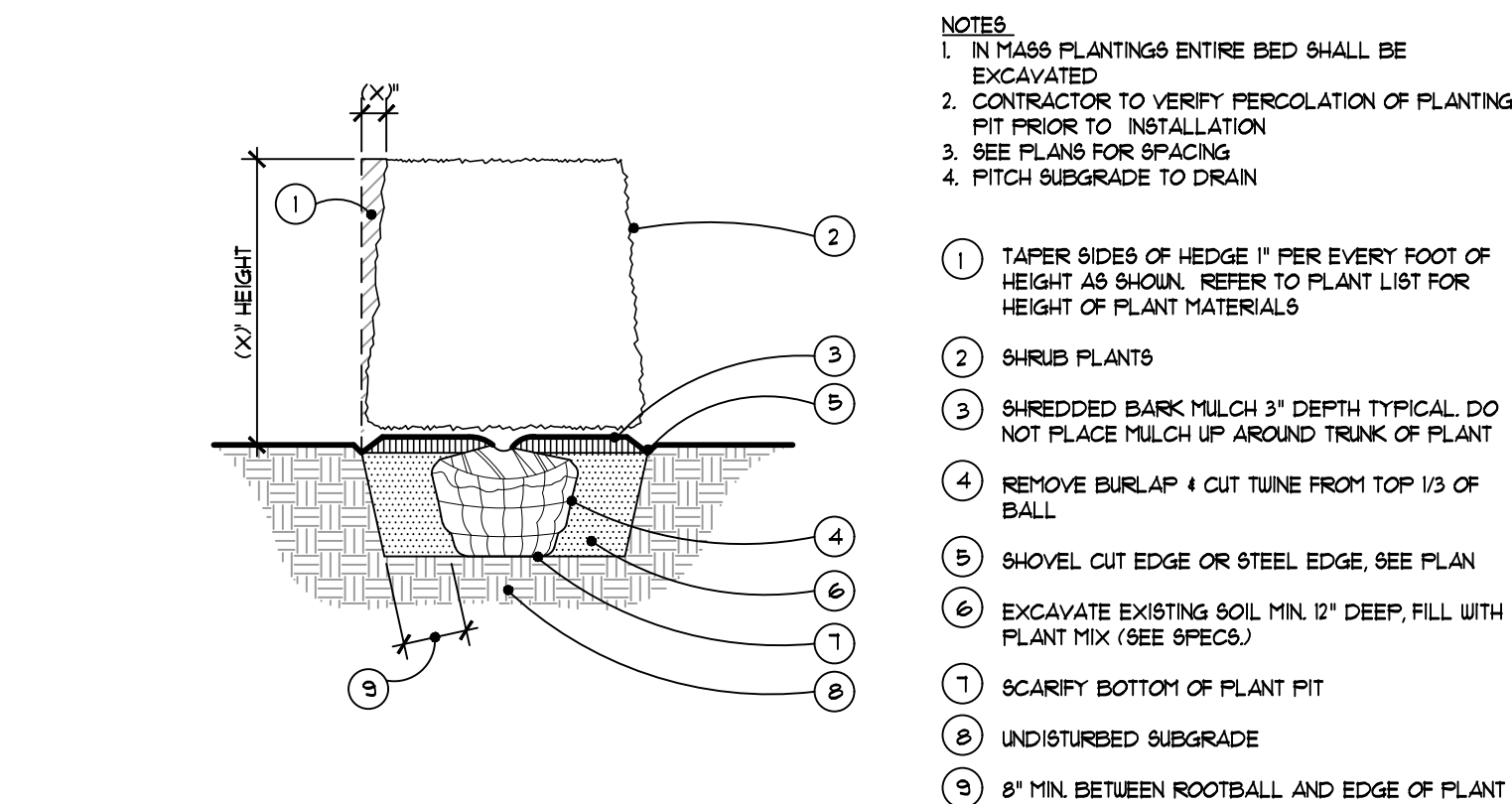
10 Flagpole Footing Detail
NOT TO SCALE



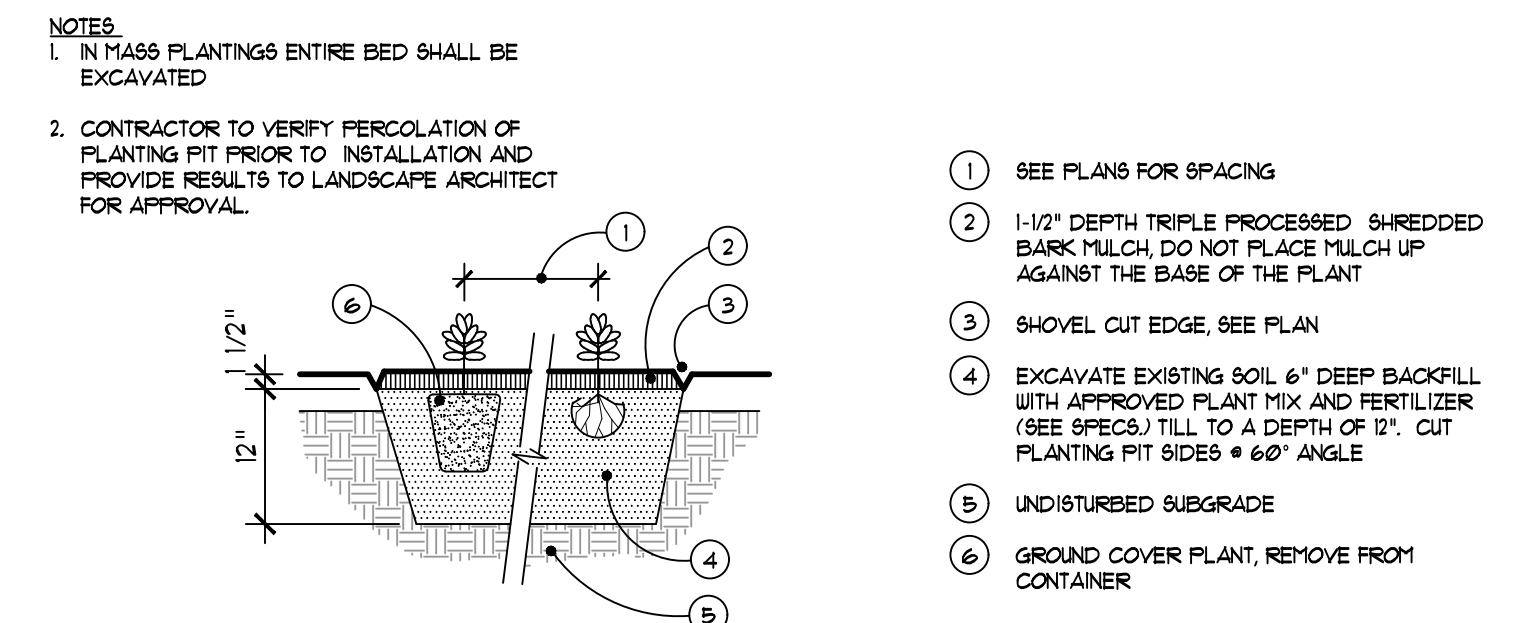
9 Stone Maintenance Strip
SCALE: 1" = 1'-0"



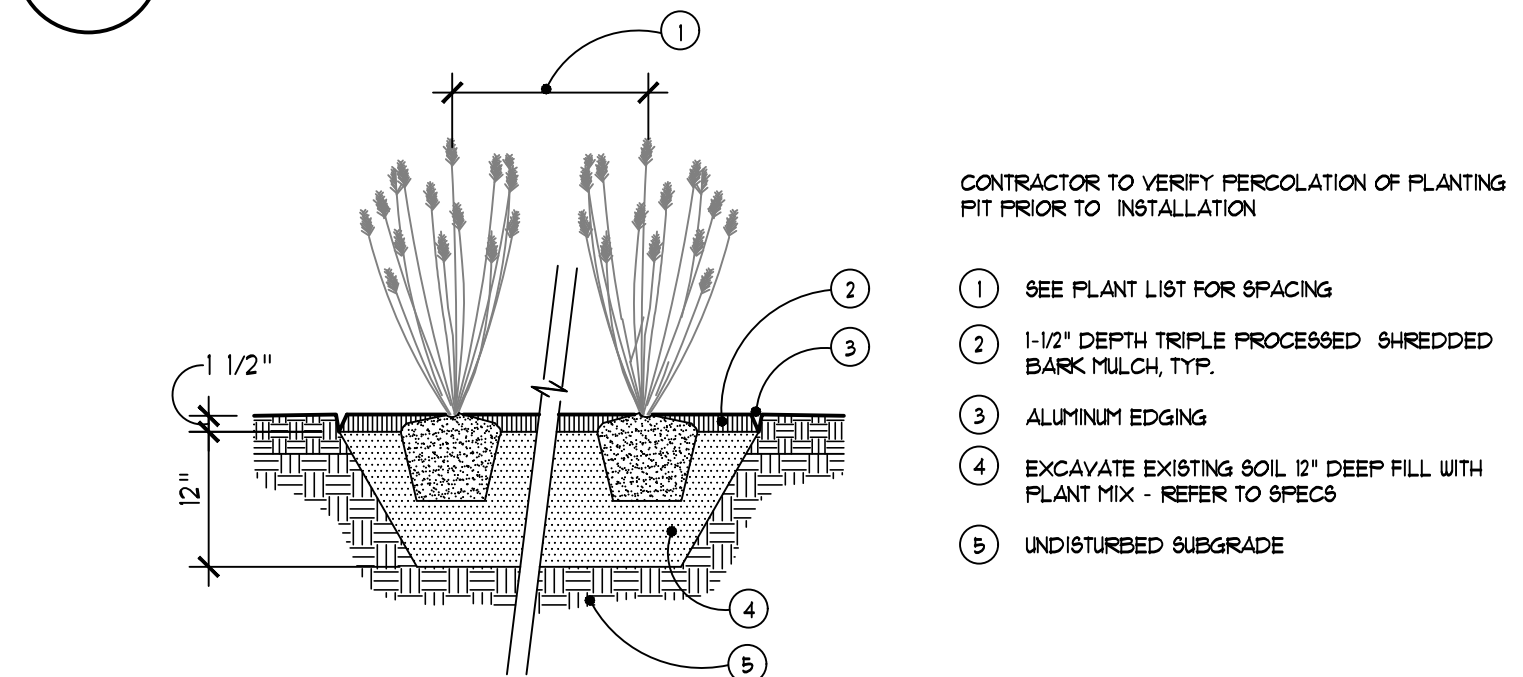
8 Typical Upright Evergreen Planting Detail
NOT TO SCALE



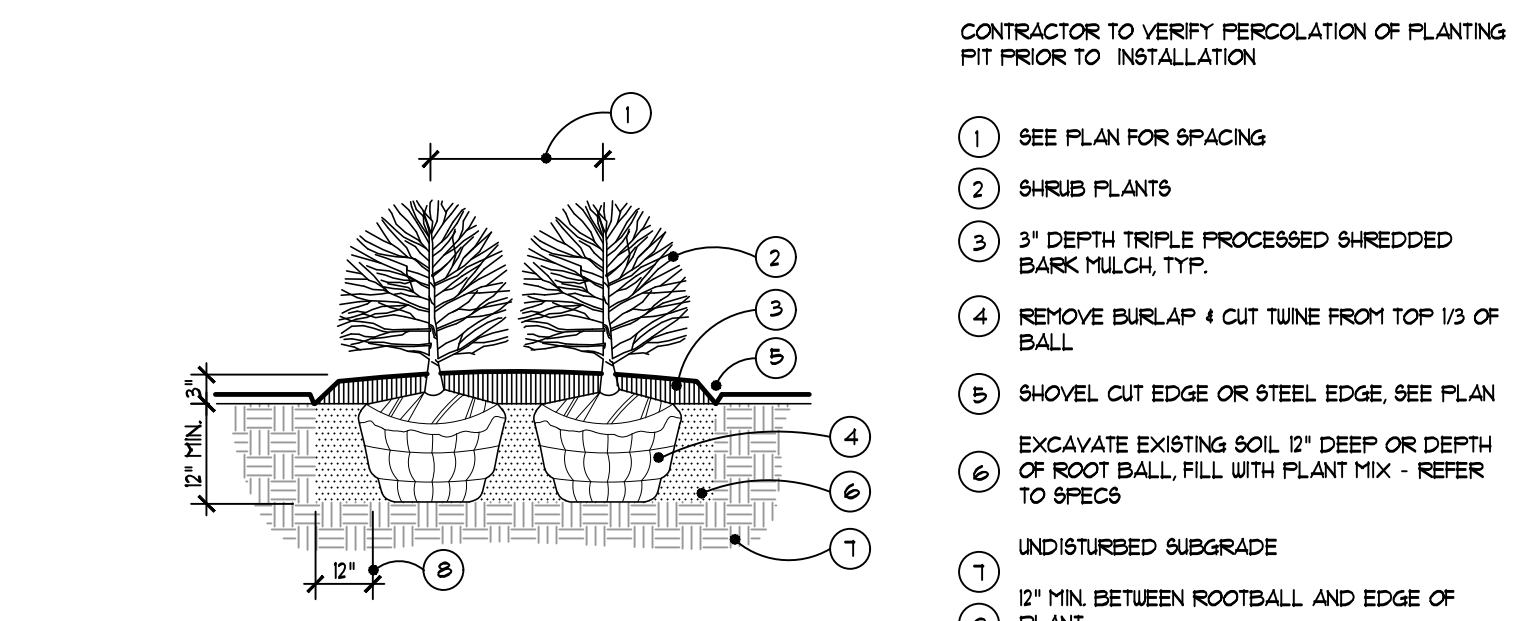
7 Typical Hedge Planting Detail
NOT TO SCALE



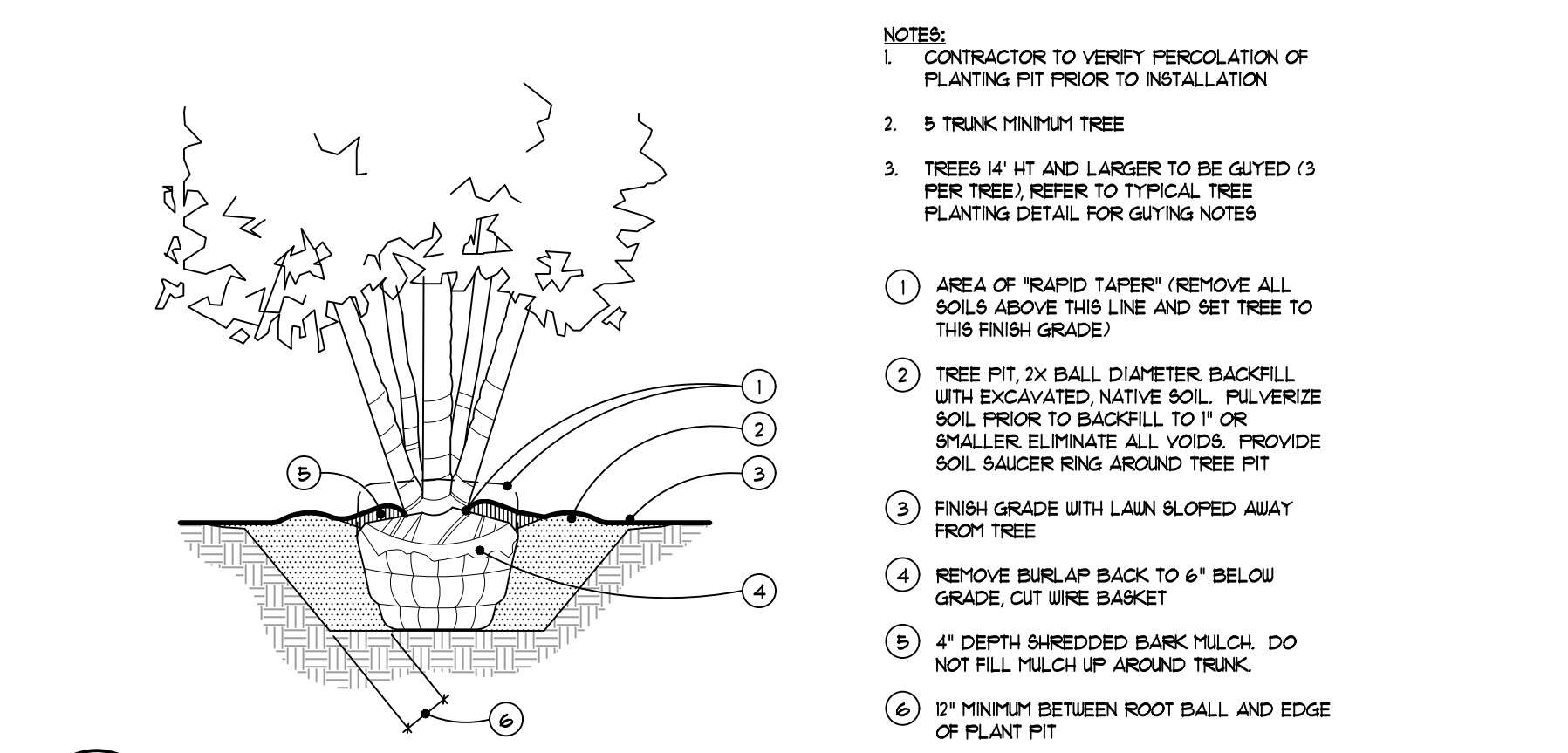
6 Typical Perennial / Groundcover Planting Detail
NOT TO SCALE



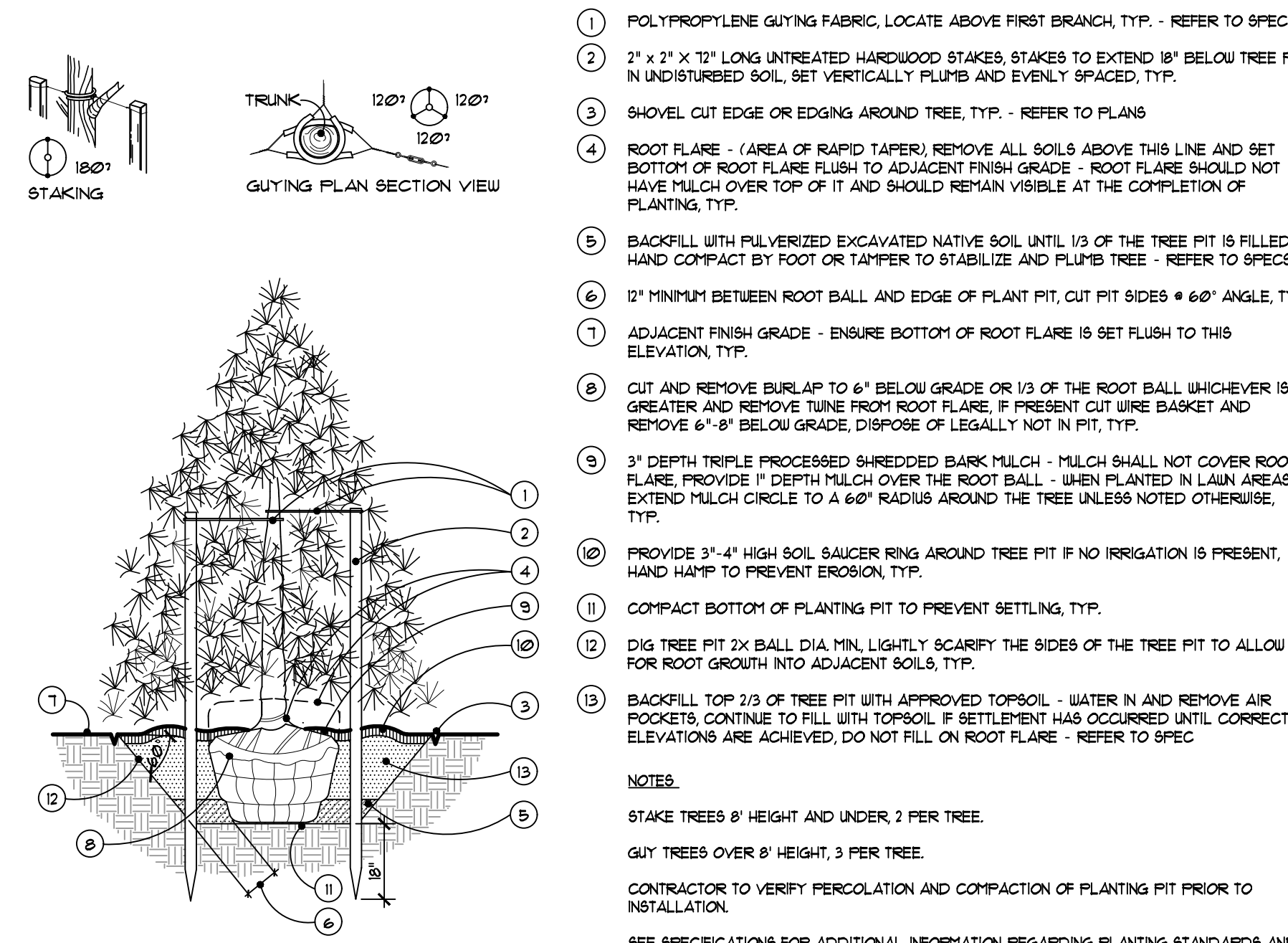
5 Typical Ornamental Grass Planting Detail
NOT TO SCALE



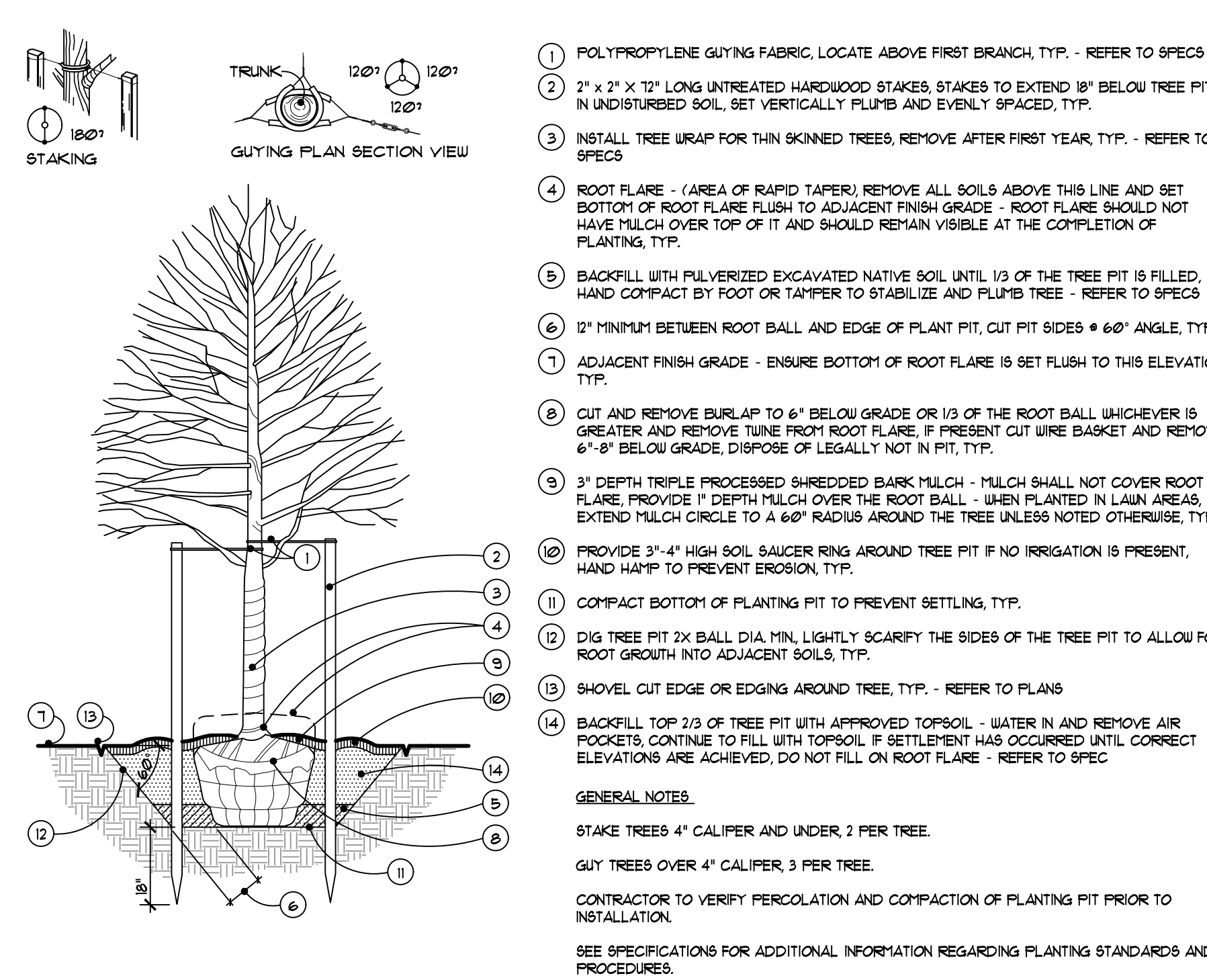
4 Typical Shrub Planting Detail
NOT TO SCALE



3 Typical Multi-Stem Tree Planting Detail
NOT TO SCALE



2 Typical Evergreen Tree Planting Detail
NOT TO SCALE



1 Typical Deciduous Tree Planting Detail
NOT TO SCALE

**GRISSIM
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Sheet:
Site Details

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