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City of Tyler, Texas

Capital Improvements Project (CIP) Contract

CONTRACT DOCUMENTS FOR

City of Tyler Bid Number Bid # 24-012
Project Name W.E. Winters Park

CITY OFFICIALS:

Mayor Donald P. Warren

City Council

District 1: Central	Stuart Hene
District 2: West	Broderick McGee
District 3: Northwest	Shirley McKellar
District 4: Northeast	James Wynne
District 5: East	Lloyd Nichols
District 6: South	Brad Curtis

City Manager Edward Broussard

Director of Parks,
Recreation, &
Tourism Leanne Robinette

PREPARED BY:

Project Designer MHS Planning &
Design, LLC

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Section 1 ADDENDA

[Insert Addenda Here If Applicable]

Section 2 NOTICE TO BIDDERS

[Insert Notice to Bidders Here]

Section 3 INSTRUCTIONS TO BIDDERS

3.1 PROPOSAL FORM

The **CITY** will furnish bidders with proposal forms which state the general location and description of the contemplated Work, an approximate estimate of the materials to be furnished and/or Work to be done and upon which bid prices are asked, and the time in which the Work is to be completed. The **Proposal** form will provide a space for entering the amount of proposal guaranty.

3.2 EXAMINATION OF PLANS, SPECIFICATIONS AND SITE OF THE WORK

Bidders are advised that the plans, specifications, and other documents on file with the **CITY** will constitute all the information furnished by the **CITY**. Bidders are required, prior to submitting any bid package, to read the specifications, **Proposal**, contract and bond forms carefully, to visit the site of the Work, to examine carefully local conditions, to inform themselves by their independent research, tests, and investigations of the difficulties to be encountered and assess for themselves the accessibility of the Work and all attending circumstances affecting the cost of doing the Work and time required for its completion, and obtain all information required to make an intelligent bid. No information given by the **CITY** or any officials thereof, other than that shown on plans and contained in the specifications, **Proposal** and other documents, will be binding upon the **CITY**. Bidders must rely exclusively upon their own estimates, investigations, tests, and other data which are necessary for full and complete information upon which the bid may be based. It is mutually agreed that submission of a bid package is evidence that the bidder has made the examinations, investigations, and tests required herein. Should a bidder find discrepancies in, or omissions from the plans, specifications or other documents, or be in doubt as to their meaning, the bidder should notify the **CITY** immediately and obtain a clarification prior to submitting any bid package. Claims for additional compensation due to variations between conditions actually encountered in construction and as indicated by the plans will not be allowed.

3.3 PRE-BID CONFERENCE

If a Pre-Bid Conference is scheduled, it will be set a minimum of four (4) working days prior to the bid opening time. If attendance at the Pre-Bid Conference is mandatory due to the size or nature of the project, bidders must attend to ensure their understanding of the project scope as well as the **CITY'S** bidding and contracting requirements; a bidder's absence from a mandatory Pre-Bid Conference shall result in disqualified from bidding.

3.4 ADDENDA

Should a bidder find discrepancies in, or omissions from the plans or specifications or other contract documents, or should he be in doubt as to their meaning, he should at once notify the Project Designer in order that a written addendum may be sent to all bidders. Bidders desiring further information or interpretations must make request for such information to the Project Designer prior to four (4) working days before the time of the bid opening. The person submitting the request will be responsible for its prompt delivery. Appropriate clarification and addenda will be issued at least forty-eight (48) hours prior to the time of the bid opening. Answers to all such requests will be given in writing to all bidders, in addendum form, and all addenda will be bound with and made a part of the contract documents. No other explanation or interpretation will be considered official or binding. Any addenda issued will be mailed, faxed or delivered to each person to whom a set of such documents has been furnished and receipt of same must be

acknowledged by noting the addendum number and date of receipt of said addenda in the space provided on the **Proposal** form. The proposal, as submitted by the **CONTRACTOR**, will be so constructed as to include any addenda if such are issued by the Project Designer (prior to forty-eight (48) hours of the bid opening).

3.5 QUANTITIES IN PROPOSAL FORM

The quantities of the Work and materials set forth in the **Proposal** form or on the plans approximately represent the Work to be performed and materials to be furnished, and are for the purpose of comparing the bids on a uniform basis. Payment will be made by the **CITY** to the **CONTRACTOR** only for the actual quantities of Work performed or materials furnished in accordance with the plans and specifications, and it is understood that the quantities may be increased or decreased as provided for in Section 16.13.2 "Estimated Quantities", without in any way invalidating the bid prices.

3.6 UNIT PRICES

Unit prices written in words will be the basis for the award of the proposal. Unit prices are used by the **CITY** in scheduling interim payments to the **CONTRACTOR**. The unit price written in words, multiplied by the estimated bid quantity, will be used to determine the item extension and the actual total bid price. All mathematical errors found when the bids are tabulated will be corrected by the **CITY**, and the bids will be revised to reflect the correct item extension and/or total bid price. The corrected total bid amount will then become the official proposal for that **CONTRACTOR**. All bidders will be notified of any errors in their bid, and will be notified and given the opportunity to review the official bid tabulation prior to award recommendation.

The unit prices shown in the proposals must be balanced to reflect actual cost of the item, including a fair and reasonable cost for overhead and profit. If the unit price is considered to be unbalanced, the **CITY** reserves the right to reject the entire proposal. If required by the **CITY**, the **CONTRACTOR** must provide documentation to substantiate that the unit prices reflect fair and reasonable material costs, labor costs, overhead and profit, as determined by industry standards.

3.7 PROJECT COMPLETION TIME

Project completion time will be established according to the requirements of the **Proposal**. The amount bid for the contract will adequately represent the effort required to complete the project within the specified time on the **Proposal**.

3.8 ASSIGNMENT AND SUBCONTRACTING

The **CONTRACTOR** will retain full control and will give personal attention to the fulfillment of this contract and will not assign by Power of Attorney or otherwise without the written consent of the **CITY**.

The **CONTRACTOR** may utilize the services of specialty subcontractors on those parts of the Work which, under normal contracting practices, are performed by specialty subcontractors. However, the **CONTRACTOR** shall not employ any subcontractor against whom the **CITY** may have a reasonable objection.

The **CONTRACTOR** must perform, with the **CONTRACTOR'S** own forces, at least thirty percent (30%) of the total contract, based on unit bid prices, unless this requirement is waived by the **CITY**.

Subcontracting any portion or feature of the Work, or materials required in the performance of this contract, shall not relieve the **CONTRACTOR** from his full obligations to the **CITY**, as provided by this AGREEMENT. The **CONTRACTOR** will be fully responsible to the **CITY** for the acts and omissions of subcontractors, and of persons either directly or indirectly employed by them, as the **CONTRACTOR** is for the acts and omissions of persons directly employed by the **CONTRACTOR**.

The **CONTRACTOR** must cause appropriate provisions to be inserted in all subcontracts relative to the Work, to bind subcontractors to the **CONTRACTOR** by the terms of the contract documents, insofar as applicable to the Work of the subcontractors, and to give the **CONTRACTOR** the same power as regards to terminating any subcontract that the **CITY** may exercise over the **CONTRACTOR** under any provision of the contract documents.

In the event that a portion of the Work is subcontracted, the **CITY** will not recognize such subcontractors in supervision of the construction or in making monthly payments for Work accomplished. The **CONTRACTOR** shall be primarily responsible for all Work, and shall receive all payments. Nothing contained in this contract shall create any contractual relation between any subcontractor and the **CITY**.

3.9 OUT-OF-STATE CONTRACTORS

All out-of-state **CONTRACTORS** are required to submit with their bid package a copy of any law from their state of residence which would give a preference to **CONTRACTORS** domiciled in their state over out-of-state **CONTRACTORS**.

3.10 NON-DISCRIMINATORY EMPLOYMENT

The City Council adopted on October 21, 1975, a Resolution requiring non-discriminatory employment by persons who contract with the **CITY** to supply labor, materials, goods, or services to the **CITY**. A copy of the latest City Manager's *Policy Statement On Equal Employment Opportunity* shall be included in the contract documents and is on file in the City Clerk's Office. The **CONTRACTOR** and **CONTRACTOR'S** subcontractors or agents must not engage in any discriminatory employment practices.

3.11 WAGE RATES

Wage rates for the various classes of labor involved in the project shall be not less than those prevailing for each class of labor in this area. Time and one-half shall be paid all workers, whether skilled or semi-skilled, for all labor done in excess of forty (40) hours weekly. The inclusion, if any, of a schedule of minimum wage does not relieve the **CONTRACTOR** from responsibility to comply with any State or Federal wage law that may be applicable.

The **CONTRACTOR** shall deduct from all workers' wages social security, withholding tax, and all deductions required by law and shall not make any deductions other than those required or authorized by law.

3.12 PROPOSAL GUARANTY (BID BOND)

Bidders must submit an acceptable Cashier's or Certified Check upon a national or state bank in the amount of five percent (5%) of the total maximum bid payable without recourse to the City of Tyler, Texas, or an acceptable *Bid Bond* in the same amount from a reliable surety company,

registered by the State Board of Insurance to conduct business in the State of Texas, and acceptable according to the most recent list of the companies holding Certificates of Authority from the Secretary of the Treasury of the United States, shown on the Treasury List, as a guarantee that the bidder will enter into a contract. The proposal guaranty must be enclosed in the same envelope containing the bid package. Bid packages without the required enclosed check or ***Bid Bond*** will not be considered. All proposal guaranties will be returned un-negotiated, after the bids are opened, except those of the three (3) lowest bidders, which the **CITY** may elect to hold until the successful bidder has executed the contract.

3.13 PREPARATION OF PROPOSAL

The bidder has the option of either submitting the proposal on the forms furnished by the **CITY** in the contract documents, or submitting a computer print-out proposal in lieu of the **CITY'S Proposal** form.

Preparation of Proposal on forms supplied by CITY:

All blank spaces in the form must be correctly filled in and the bidder must state the prices, typed or written in ink, both in words and numerals, for which the bidder proposes to do the Work contemplated or furnish the material required. It will be the bidder's responsibility to ensure that all unit prices written in words will be clear and legible. Illegibly written unit prices will result in the proposal being rejected and will not be considered as an irregularity of the proposal. In case of a discrepancy between the unit price written in words, the unit price written in figures, and/or the item extension written in figures, the unit price written in words will govern.

The Total Bid Price must be shown in both numbers and words.

Acknowledgement of all addenda, typed name and title of person signing proposal, authorized signature and date shall also be included.

Preparation of Proposal on computer print-out supplied by bidder:

The computer print-out proposal shall be in spreadsheet format, using software of the bidder's selection. As a minimum, a computer print-out must include the following information: Bid Item Number, Approximate Quantities, Unit of Measure, Bid Item Description, Written Unit Price, Unit Bid Price, Extended Price (Amount), as well as Total Bid Price. Line items must be in the same order as on the **CITY'S Proposal** form (see example below).

Bid Item	Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
----------	----------	------	--	------------	--------

The Total Bid Price must be shown in both numbers and words.

Acknowledgement of all addenda, typed name and title of person signing proposal, authorized signature and date shall also be included.

All computer print-out proposals shall be delivered, in hard copy (i.e. no fax or e-mail submittals) to the designated location, at or before the designated time and include the following certification:

[Insert bidder's name here] certifies that the unit prices shown on this complete computer print-out for all the bid items and alternates contained in this proposal are the unit prices intended and that its bid will be tabulated using these unit prices and no other information from this print-out. [Insert bidder's name here] acknowledges and agrees that the total bid amount shown will be read as its total bid and further agrees that the official total bid amount will be determined by multiplying the unit bid prices shown in this print-out by the respective estimated quantities shown in the City of Tyler issued proposal and totaling all of the extended amounts.

Typed Name: _____
 Title: _____
 Signature: _____
 Date: _____

3.14 SIGNATURE REQUIREMENTS OF PROPOSAL

1. If a proposal is submitted by an **individual**, the proposal must be signed by the individual or the individual's duly authorized agent.
2. If the proposal is submitted by a **firm, association, partnership or company**, the name and address of each member must be given and the proposal signed by a member of the firm, association, partnership, company or person duly authorized.
3. If the proposal is submitted by a **corporation**, the company or corporate name and address must be given and the proposal signed by an official or duly authorized agent and sealed with the corporate seal. Powers of attorney authorizing agents or others to sign proposals must be properly certified and must be in writing and submitted with the proposal.

3.15 FILING OF BID PACKAGES

No bid package will be considered unless it is received in the Water Utilities Administrative Office, Tyler, Texas within the time limit for receiving bid packages as stated in the advertisement. Each bid package must be in a sealed envelope, plainly marked with the word "proposal", and the project name and time and date the bid package is to be opened as designated in the ***Notice to Bidders***.

The bid package must consist of the following items to be considered complete:

1. Acknowledgment of all addenda
2. ***Proposal***
3. ***Bid Bond***

Any bid package received without each of the required items may be rejected and may not be read at the bid opening.

CONTRACTORS building public streets and drainage, water and/or sewer facilities (not including specialty work such as pipeline camera inspection, interior lining of pipes, etc.) shall have a fully executed ***Contractor's Qualification Statement*** on file with the **CITY** prior to bid opening or include it as part of the **CONTRACTOR'S** bid package. Forms are available for download at <https://www.cityoftyler.org/government/departments/engineering-services/engineering-and-construction-standards>. **CONTRACTORS** performing any other type of work (i.e., not public streets, drainage or utilities) are not required to have a ***Contractor's Qualification***

Statement on file or include it as part of the bid package unless required by a City Operational Department. Other information from the **CONTRACTOR** such as company history, relevant work experience, project references, etc. may be required in lieu of the **Contractor's Qualification Statement**.

3.16 WITHDRAWING OR MODIFYING BID PACKAGES

A bidder may withdraw a bid package provided a written request to do so is in the hands of the official indicated in the **Notice to Bidders** by the time set for opening of bid packages. A bidder may change the unit prices in the proposal provided a written request to do so is in the hands of the Purchasing Agent prior to the time set for opening of bid packages. Requests by telephone or FAX for changes in bid prices or for withdrawal of bid packages will not be considered. No bid packages will be withdrawn within sixty (60) calendar days after the bid opening.

3.17 OPENING BID PACKAGES

The bid package filed with the Purchasing Agent will be opened at the time stated in the **Notice to Bidders** and publicly read aloud, and will thereafter remain on file with the **CITY**. Bidders or their agents are invited to be present.

3.18 IRREGULAR PROPOSALS

Proposals will be considered irregular if they show any omissions, alterations of form, additions, or conditions not called for, unauthorized alternate bids, or irregularities of any kind. However, the **CITY** reserves the right to waive any irregularities and to make the award in the best interests of the **CITY**.

3.19 DISQUALIFICATION OF BIDDERS

Bidders may be disqualified and their bid package not considered for any of the following specific reasons:

1. Reason to believe collusion exists among the bidders.
2. The bidder is in arrears on any existing contract or has defaulted on a previous contract.
3. The bidder is interested in any litigation against the **CITY**.
4. Uncompleted Work which in the judgment of the **CITY** will prevent or hinder the prompt completion of additional Work if awarded.
5. Poor performance in the execution of Work under previous contracts.
6. The bidder is determined to have an unacceptable safety record.
7. Incomplete bid packages (*see* Section 3.15, "Filing of Bid Packages").
8. Proposals in which prices are obviously unbalanced (*see* Section 3.6, "Unit Prices").
9. Proposals which are irregular (*see* Section 3.18, "Irregular Proposals").
10. **CONTRACTORS** not qualified to perform this Work, as determined by the **CITY**.
11. **CONTRACTOR** is not on **CITY'S** Approved Contractors List or **Contractor's Qualification Statement** is not on file with the **CITY** prior to bid opening nor included as part of the bid package.
12. Failure to have an authorized agent of the bidder at a Pre-Bid Conference, when attendance is mandatory.

3.20 CONSIDERATION OF PROPOSALS

After bid packages are opened, the proposals will be tabulated for comparison on the basis of the bid prices and quantities shown in the proposal.

3.21 CITY MAY REJECT BID PACKAGES

Until final award of the contract, the **CITY** reserves the right to reject any or all bid packages, to waive technicalities, and to re-advertise for new bids, or proceed to do the Work otherwise in the best interests of the **CITY** (TEX. LOC. GOV'T CODE ANN. §252.043(f); §271.027(a)).

3.22 AWARD OF CONTRACT

After all submitted bid packages have been opened and read aloud, the proposals submitted will be reviewed and tabulated in order from low to high bid. Upon request, a copy of the tabulation will be forwarded to each bidder submitting a qualified bid package.

The award of the contract, if it is awarded, will be to the lowest responsible bidder in accordance with the **General Conditions**. The tabulated bids, along with the recommendation of the Project Designer shall be placed on the agenda of a regularly scheduled City Council Meeting within sixty (60) calendar days of bid opening.

If the contract is awarded, it will be awarded to the lowest responsible bidder, but the contract may not be awarded to a bidder who is not the **lowest bidder** unless before the award, the **CITY** gives notice to each lower bidder of the proposed award and each lower bidder is given an opportunity to appear before the City Council, or the designated representative of the City Council, and present evidence concerning the bidder's responsibility. TEX. LOC. GOV'T CODE ANN. § 271.027. Notification of the City Council action will be issued to the affected bidders.

3.23 RETURN OF BIDDER'S BOND

As soon as bid prices have been tabulated for comparison of bids, the **CITY** may, at its discretion, return the proposal guaranties accompanying the bid packages which, in its judgment, would not be considered in the award; all other proposal guaranties will be retained by the **CITY** until the required contract and bonds have been executed, after which they will be returned. No proposal guaranties will be returned until at least two (2) calendar days have elapsed from time of opening bid packages.

3.24 SUBMISSION OF POST BID INFORMATION

Upon request by the **CITY**, the selected bidder must, within seven (7) calendar days thereafter, submit the following:

1. A designation of the Work to be performed by the bidder with the bidder's own forces.
2. A list of names of the subcontractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for such portions of the Work as may be designated in the bidding documents or, if no portions are so designated, the names of the subcontractors proposed for stated portions of the Work.

The bidder will be required to establish to the satisfaction of the Project Designer and the **CITY** the reliability and responsibility of the proposed subcontractors to furnish and perform such portions of the Work. Prior to the award of the contract, the Project Designer will notify the bidder in writing if either the **CITY** or the Project Designer, after due investigation, has reasonable and substantial objection to any person or organization on such list. Subcontractors and other persons and organizations proposed by the bidder and accepted by the **CITY** and the Project Designer must be used on the Work for which they were proposed and accepted and will not be changed except

with the written approval of the **CITY** and the Project Designer.

3.25 CONTRACT BONDS

The **CONTRACTOR** is required, pursuant to TEX. GOV'T CODE ANN. § 2253.021, and/or the *Standard Form of Agreement* to execute all bonds before commencing the work. The contract shall not be in effect until **CONTRACTOR** executes the AGREEMENT and files with the **CITY** a good and sufficient *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* on standard forms and in the amount equal to one hundred percent (100%) of the total amount of the contract. Such bonds are furnished by the **CONTRACTOR** and approved by the **CITY**.

A *Performance and Maintenance Bond and Payment Bond* shall be required for contract amounts in excess of one hundred thousand dollars (\$100,000).

Payment Bond shall be required for all projects regardless of value.

Within fifteen (15) calendar days after written notification of the award of the contract, the **CONTRACTOR** shall submit *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* to **CITY** on standard forms as required by the AGREEMENT.

3.26 INSURANCE

CONTRACTOR agrees, at its sole expense, to maintain on a primary basis during the life of the Contract and the performance of Work, required insurance coverages, limits, and endorsements. Insurance required by the AGREEMENT for the **CITY** as additional insured shall be primary insurance and not contributing with any other insurance available to **CITY**.

CONTRACTOR agrees to provide evidence of the required coverages at execution of contract. In the event the **CONTRACTOR** performs any site work, other than testing, then all the insurance required will need to be evidenced prior to commencement of said site work.

3.27 EXECUTION OF CONTRACT

The person(s), partnership, company, firm, association or corporation to whom a contract is awarded must, within fifteen (15) calendar days after receipt of the contract, sign the necessary agreements entering into the required contract with the **CITY**. No contract will be binding on the **CITY** until it has been approved by the City Attorney, executed by the City Manager, attested by the City Clerk, and delivered to the **CONTRACTOR**.

3.28 FAILURE TO EXECUTE CONTRACT

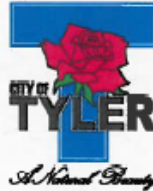
The failure of the bidder to execute the required bonds or to sign the required contract within fifteen (15) calendar days after receipt of the contract will be considered by the **CITY** as an abandonment of the proposal and the **CITY** may annul the award. By reason of the uncertainty of the market prices of materials and labor, and it being impracticable and difficult to determine accurately the amount of damages accruing to the **CITY** by reason of said bidder's failure to execute said bonds and contract within said fifteen (15) calendar days, the proposal guaranty accompanying the proposal will be the agreed amount of damages which the **CITY** will suffer by reason of such failure on the part of the bidder, and will thereupon immediately be forfeited to the **CITY**. The filing of a bid package will be considered as an acceptance of this provision.

3.29 BEGINNING OF WORK

The **CONTRACTOR** will not begin Work until notified in writing by the **CITY** to do so.

Section 4 POLICY STATEMENT ON EEO

Edward Broussard
City Manager



The City of Tyler
Office of the City Manager
P.O. Box 2039
Tyler, Texas 75710-2039

Phone: (903) 531-1253
Fax: (903) 531-1166
www.cityoftyler.org

POLICY STATEMENT ON EQUAL EMPLOYMENT OPPORTUNITY

The City of Tyler takes positive steps to maintain and promote equal opportunity for all individuals. The following policy statement is to keep you advised of the commitment of the City of Tyler, Texas, toward equal employment opportunity and to ensure that none of its personnel policies, procedures or practices unlawfully discriminate against any individual.

You are urged to share this commitment in your employment practices and procedures.

2-1

Need for a policy

Equal opportunity for all people, without regard to race, color, religion, sex, age, disability, national origin or other protected status, is part of the American ideal. Local governments, as a mirror of public policy, can make vital contributions toward this ideal by taking affirmative action to provide equal employment opportunities for all.

Statement of Policy

It is the policy of the City to recruit, employ and provide compensation, promotion and other conditions of employment without regard to race, color, religion, sex, age, national origin, disability, genetic information or status as a Vietnam era or special disabled veteran, recently separated veteran and other protected veteran. The City affirms that employment decisions shall be made only on the basis of a person's ability to perform essential functions of the job. The City shall continually review its employment practices and personnel procedures to take positive steps to ensure that equality of employment opportunity in the City of Tyler, Texas is a fact as well as an ideal.

Application

Rose Ray, (rgray@tylertexas.com) (903-531-1103), has been designated as EEO Coordinator with authority and responsibility to develop and recommend strategies to ensure the achievement of the intent of the Policy. This Policy shall be uniformly applied by all levels of management in every department, work unit and other component of the City.

Responsibility

Each department leader and supervisor is responsible for the application of this Policy within his/her component. This includes all supporting programs and practices developed in accordance with this Policy. All employees of the City are responsible for cooperating with any reviews, investigations and other activities initiated within the framework of this Policy. To achieve ultimate effectiveness in the application of this Policy, the cooperation, support and commitment of every employee is essential.

Edward Broussard
City Manager

Section 5 PROPOSAL

Bid Proposal

Client: City of Tyler

Project: W.E. Winters Park

Sht. GN-1 to CD-5

The following bid items to include all labor, tools, equipment, superintendence, materials and any other requisite necessary to perform the work stated in accordance with the plans & specifications, complete and in place.

Item #	Quantity/Unit	Item Description & Written Price	Unit Price	Total
1	LS	Mobilize for the Project, including but not limited to project start-up and delivery of equipment _____ Dollars _____ Cents		
2	LS	General Conditions, including but not limited to project management, supervision and administration _____ Dollars _____ Cents		
3	LS	Site preparation, including but not limited to silt fencing, and tree protection, complete and in place per the plans and specifications _____ Dollars _____ Cents		
4	LS	Storm Water Pollution Prevention Plan and Erosion Control Elements, including but not limited to inlet protection, construction fencing, construction entrance and erosion silt fence _____ Dollars _____ Cents		
5	LS	Demolition items, including but not limited to the removal and disposal of existing sidewalk, playground equipment, border and gravel, water fountain, benches and one tree, _____ Dollars _____ Cents		
6	LS	Rough Site Grading, including but not limited to excavation and backfill _____ Dollars _____ Cents		
7	LS	Finish Site Grading, including but not limited to final grading for paving, concrete slabs, and other misc. areas _____ Dollars _____ Cents		

Item #	Quantity/Unit	Item Description & Written Price	Unit Price	Total
8	664 LF	6' Wide Concrete Trail (CD-2, Detail 6), including but not limited to excavation, subgrade preparation, reinforcing steel, concrete, saw joints, longitudinal butt joints, and expansion joints, complete and in place per the plans and specifications _____ Dollars _____ Cents		
9	82 LF	Playground Sidewalk Drop Ledge (CD-2, Detail 7), including but not limited to excavation, subgrade preparation, reinforcing steel, concrete, saw joints, longitudinal butt joints, and expansion joints, complete and in place per the plans and specifications _____ Dollars _____ Cents		
10	73 LF	Decomposed Granite Concrete Border (CD-3, Detail 8), including but not limited to excavation, subgrade preparation, reinforcing steel, concrete, saw joints, longitudinal butt joints, and expansion joints, complete and in place per the plans and specifications _____ Dollars _____ Cents		
11	102 LF	Concrete Playground Retaining Wall (CD-3, Detail 4), including but not limited to excavation, subgrade preparation, reinforcing steel, concrete, saw joints, longitudinal butt joints, and expansion joints, complete and in place per the plans and specifications _____ Dollars _____ Cents		
12	1,479 SF	4" Concrete Pavement, including but not limited to excavation, subgrade preparation, reinforcing steel, concrete, saw joints, longitudinal butt joints, and expansion joints, complete and in place per the plans and specifications _____ Dollars _____ Cents		
13	1 EA	Concrete ADA Playground Ramp (CD-3, Detail 1), including but not limited to excavation, subgrade preparation, reinforcing steel, concrete, saw joints, longitudinal butt joints, and expansion joints, complete and in place per the plans and specifications, complete and in place per the plans and specifications _____ Dollars _____ Cents		

Item #	Quantity/Unit	Item Description & Written Price	Unit Price	Total
14	778 SF	4" Crushed Decomposed Granite Paving (CD-3, Detail 2), including but not limited to excavation, subgrade preparation and compaction per plans and specifications, complete and in place per the plans and specifications, complete and in place per the plans and specifications _____ Dollars _____ Cents		
15	LS	Provide and Install NDS 12"x12" Catch Basin, 33.5 LF of 6" Courrugated Drain Pipe and 40 SF of River Rock with Steel Edging, including but not limited to excavation, subgrade preparation, gravel, filter fabric, and connections joints _____ Dollars _____ Cents		
16	LS	Provide and Install Playgroung Drainage with 49 LF of playground french drain (CD-4, Detail 4), 24 LF of 4" Perforated S&D pipe, associated aggregate infill and Concrete End Treatment (CD-4, Detail 5), including but not limited to excavation, subgrade preparation, reinforcing steel, concrete, gravel, filter fabric, and connections joints _____ Dollars _____ Cents		
17	1 EA	Concrete Sidewalk Cross Drain (CD-2, Detail 8-9) and 1 CY of 6" Rip Rap, including but not limited to excavation, subgrade preparation, reinforcing steel, concrete, saw joints, longitudinal butt joints, and expansion joints _____ Dollars _____ Cents		
18	2,047 SF	Subgrade preparation and installation of compacted aggregate for playground area, per plans and specifications (CD-3, Detail 3) _____ Dollars _____ Cents		
19	5,428 SF	Sodding of disturbed areas with Zosia sod, including but not limited to purchase, delivery, bed prep, planting and warranty in accordance with the plans and specifications _____ Dollars _____ Cents		

Item #	Quantity/Unit	Item Description & Written Price	Unit Price	Total
20	9,475 SF	Hydromulch of disturbed areas with Common Bermuda sod, including but not limited to purchase, delivery, bed prep, planting and warranty in accordance with the plans and specifications <div> <div></div> <div>Dollars</div> <div></div> <div>Cents</div> </div>		
21	3 EA	15-Gal Eastern Redbud, including but not limited to purchase, delivery, bed prep, planting and warranty in accordance with the plans and specifications <div> <div></div> <div>Dollars</div> <div></div> <div>Cents</div> </div>		
22	LS	Installation of City provided site furniture included but not limited to picnic tables, bench, and trash receptical, and any required concrete footings (CD-3, Detail 8) <div> <div></div> <div>Dollars</div> <div></div> <div>Cents</div> </div>		
23	AL	Materials Testing and Contingency Allowance <div> <div>\$27,800</div> <div>Dollars</div> <div></div> <div>Cents</div> </div>	\$27,800.00	\$27,800.00
Total Base Bid		<div> <div>\$</div> <div></div> <div>Dollars</div> <div></div> <div>Cents</div> </div>		

Section 6 BID BOND

Check Here if this Section is NOT Used ☐

THE STATE OF TEXAS

§

§

COUNTY OF SMITH

§

BID BOND

THAT, _____ [contractor], as **PRINCIPAL**,
and _____ [surety], as **SURETY**,
acknowledge their indebtedness and are held and firmly bound unto the City of Tyler (CITY),
Texas in Smith County, as **OBLIGEE**, in the amount of

_____ [insert
figure using written words], (\$ _____) [insert numerical figure]
payable to the City of Tyler, Texas for the payment of which, the said **PRINCIPAL** (Contractor)
and **SURETY** bind themselves, and their heirs, administrators, executors, successors, legal
representatives, and assigns, jointly and severally, firmly by these presents.

PRINCIPAL (Contractor) is about to submit to **OBLIGEE** (City) a bid or proposal for:

City of Tyler Bid Number Bid # 24-012

Project Name W.E Winters Park

in accordance with plans and specifications filed in **OBLIGEE'S** (City's) office and under the
Request for Quotation (RFQ) / Request for Proposal (RFP) / Invitation to Bid therefor.

NOW THEREFORE:

THE CONDITION OF THIS OBLIGATION IS THAT IF:

- 1) the bid or proposal is rejected, or
- 2) the bid or proposal of **PRINCIPAL** (Contractor) is accepted; and
 - a. the contract for the work is awarded to **PRINCIPAL** (Contractor) by **OBLIGEE** (City),
 - b. **PRINCIPAL** (Contractor) enters into a written contract in the form of contract provided in these contract documents (properly completed in accordance with the bid),
 - c. **PRINCIPAL** (Contractor) furnishes a **Performance and Maintenance Bond** for the performance of the work as required by law and/or the AGREEMENT,
 - d. **PRINCIPAL** (Contractor) furnishes a **Payment Bond** for the payment of all persons performing labor or furnishing materials in connection therewith as required by law and/or the AGREEMENT, and
 - e. **PRINCIPAL** (Contractor) in all other respects performs the agreement created by the acceptance of the bid,

then this obligation will be null and void; otherwise, subject to the following limitation, it will remain in full force and effect.

The limitation referred to above is that surety, in any event, will not be liable for a greater amount than the difference between the amount of principal's bid or proposal and the lowest amount in excess of that bid or proposal for which **CITY** may be able to award the contract within a reasonable time.

The **SURETY**, for value received, hereby stipulates and agrees that the obligations of said

SURETY and its Bond shall be in no way impaired or affected by any extension of the time within which the **OBLIGEE** (City) may accept such bid; and said **SURETY** does hereby waive notice of any such extension.

I (WE) CERTIFY that the **SURETY** is registered by the State Board of Insurance to conduct business in the State of Texas, and acceptable according to the latest list of companies holding Certificates of Authority from the Secretary of the Treasury of the United States, shown on the Treasury List.

I (WE) CERTIFY that the **SURETY** has reviewed the financial condition of the **PRINCIPAL** and the **PRINCIPAL'S** qualification to perform the work required by this project.

IN WITNESS WHEREOF the **PRINCIPAL** (Contractor) and **SURETY** have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, the day and year set forth below.

Signed this _____ day of _____, 20_____.

BOND NUMBER: _____

PRINCIPAL (Contractor)

SURETY

Printed Name of Principal

Printed Name of Surety

Physical Address

Physical Address

Mailing Address

Mailing Address

Telephone Number

Telephone Number

By:

Signature

By:

Signature

Title

Title

SURETY'S SEAL:

******* NOTE *******

If signed by an Attorney-in-Fact a copy of the Power of Attorney shall be attached, or

If signed by an officer of the Surety Company a certified extract from the by-laws showing that this person has authority to sign obligation shall be attached.

Section 7 STANDARD FORM OF AGREEMENT

THE STATE OF TEXAS	§	STANDARD FORM OF AGREEMENT
	§	FOR
	§	
	§	CITY OF TYLER
	§	
COUNTY OF SMITH	§	CAPITAL IMPROVEMENT PROJECT (CIP)

City of Tyler Bid Number Bid # 24-012
Project Name W.E Winters Park

THIS AGREEMENT, made and entered into this _____ day of _____, 20_____, by and between the City of Tyler, Texas, of the County of Smith and State of Texas, hereinafter termed "CITY", acting through the City Manager, and _____ [insert name of Contractor], of the City of _____, the County of _____, the State of Texas, hereinafter termed "CONTRACTOR".

THAT FOR AND IN CONSIDERATION of the payments and mutual covenants set forth in this *Standard Form of Agreement* and under the conditions expressed in the contract documents and in the bond bearing even date herewith, **CONTRACTOR** hereby agrees with **CITY** as follows:

WITNESSETH:

7.1 DESCRIPTION OF WORK

CONTRACTOR will perform all the work required by the contract documents and said work shall be done under the supervision of the representative of the **CITY**. The work will consist of the completion of construction of certain improvements and all extra work in connection therewith, in accordance with the prices and conditions stated in the contract documents and at **CONTRACTOR'S** cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said construction.

7.1.1 If the Project is a "civil works" project, as defined by Sec. 2269.351 of Tex. Gov. Code Ann., then the *PROCEDURE FOR CORRECTING CONSTRUCTION DEFECTS* herein does **NOT** apply. "Civil works" projects are those related to roads, streets, bridges, utilities, water supply projects, water plants, waste water plants, water distribution and wastewater conveyance facilities, desalination projects, wharves, docks, airport runways and taxiways, storm drainage, flood control projects and transit projects.

7.1.2 If the Project is related to "public works" projects or construction contracts affecting City-owned buildings, then this contract IS SUBJECT TO ADDITIONAL PROVISIONS FOUND IN the *PROCEDURE FOR CORRECTING CONSTRUCTION DEFECTS* herein. "Public Works" is defined by Tex. Gov. Code Ann., Sec. 2269.001 (6) as a contract for constructing, altering, or repairing a public building or carrying out any public work.

7.1.3 If the *PROCEDURE FOR CORRECTING CONSTRUCTION DEFECTS* is applicable and there is a conflict between any other clause in this Agreement and the *PROCEDURE*, the

PROCEDURE shall control.

7.2 CONTRACT DOCUMENTS

The contract documents constitute the entire AGREEMENT between the CITY and CONTRACTOR, and all are as fully a part of the AGREEMENT as if attached to or repeated in this *Standard Form of Agreement*.

The contract documents are as follows:

- **Notice to Bidders,**
- All addenda issued prior to execution of this *Standard Form of Agreement*,
- **Instructions to Bidders,**
- **CITY Policy Statement on Equal Opportunity Employment,**
- **Proposal,**
- Bid Bond and Special Bonds (if any),
- **Standard Form of Agreement,**
- **Statutory Performance and Maintenance Bond and Payment Bond** (if applicable),
- **Payment Bond,**
- Certificate(s) of Insurance,
- Endorsements,
- **Contractor's Affidavit of Bills Paid and Waiver and Lien Releases,**
- **Procedure for Correcting Construction Defects** (if applicable)
- **General Conditions,**
- **Special Conditions,**
- CITY specifications governing water and/or sanitary sewer installation within the CITY titled *City of Tyler Standard Specifications*,
- **Trench Safety Systems,**
- Plans and other drawings and printed or written explanatory matter thereof, and
- All field orders and change orders issued after execution of this *Standard Form of Agreement*.

In case of conflict between any of the contract documents, priority of interpretation shall be in the following order:

1. Signed *Standard Form of Agreement*,
2. **Performance and Maintenance Bond and Payment Bond** (if applicable) and/or **Payment Bond**,
3. Special Bonds (if any),
4. Proposal,
5. **Special Conditions,**
6. **Special Specifications,**
7. **City of Tyler Standard Specifications,**
8. **Technical Specifications,**
9. Plans, and
10. **General Conditions.**

7.3 TIME OF COMMENCEMENT AND COMPLETION

CONTRACTOR hereby agrees to commence work within ten (10) calendar days after the date specified in the *Notice to Proceed*, to diligently pursue the work without extended interruption and to **complete in full** the same either:

- 1) ☐ within Enter amount using words, (Enter amount using figures) Choose an item after the date specified in the written *Notice to Proceed*, or
- 2) ☐ on or before the **mandatory completion** date of January 23, 2023,
subject to such extensions of time as are provided by the *General Conditions*.

7.4 CONTRACT PRICE

CITY agrees to pay to the **CONTRACTOR** the contract amount of _____ [insert figure using written words], (\$ _____) [insert numerical figure] such payments to be subject to the *General Conditions* of the contract.

7.5 BONDS

The **CONTRACTOR** is required, pursuant to TEX. GOV'T CODE ANN. § 2253.021, and/or this *Standard Form of Agreement* to execute all bonds before commencing the work. The contract shall not be in effect until **CONTRACTOR** executes the AGREEMENT and files with the **CITY** a good and sufficient *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* on standard forms and in the amount equal to one hundred percent (100%) of the total amount of the contract. Such bonds are furnished by the **CONTRACTOR** and approved by the **CITY**.

A *Performance and Maintenance Bond and Payment Bond* shall be required for contract amounts in excess of one hundred thousand dollars (\$100,000).

Payment Bond shall be required for all projects regardless of value.

Within fifteen (15) calendar days after written notification of the award of the contract, the **CONTRACTOR** shall submit *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* to **CITY** on standard forms as required by the AGREEMENT.

See Section 16.7, "Bonds" in the *General Conditions* for a description and explanation of the bonds required for this AGREEMENT.

7.6 INSURANCE

CONTRACTOR agrees, at its sole expense, to maintain on a primary basis during the life of this Contract and the performance of Work hereunder, insurance coverages, limits, and endorsements. Insurance required by this AGREEMENT for the **CITY** as additional insured shall be primary insurance and not contributing with any other insurance available to **CITY**.

CONTRACTOR agrees to provide evidence of the required coverages at execution of contract. In the event the **CONTRACTOR** performs any site work, other than testing, then all the insurance required by AGREEMENT will need to be evidenced prior to commencement of said site work.

See Section 16.8, “Insurance Required” in the **General Conditions** for the contractual types and amounts of insurance and endorsements required for this AGREEMENT.

See Section 10, “Certificate(s) of Insurance” for a chart and checklist providing a summary and overview of the insurance requirements.

See Section 11, “Endorsements” for a chart providing a summary and overview of the endorsement requirements.

In case of conflict between Section 10 and/or Section 11 and/or the insurance requirements described in the **General Conditions**, priority of interpretation shall be given first to the **General Conditions**.

7.7 CITY AND OTHERS INDEMNIFIED

CONTRACTOR AGREES TO INDEMNIFY, HOLD HARMLESS AND DEFEND THE **CITY**, ITS **PROJECT DESIGNER**, AND THEIR OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS, (COLLECTIVELY REFERRED TO AS THE “INDEMNIFIED PARTIES”) FROM AND AGAINST ALL LIABILITY FOR ANY AND ALL CLAIMS, LIENS, DEMANDS, AND DAMAGES OF EVERY KIND FOR INJURIES TO PERSONS INCLUDING DEATH, PROPERTY DAMAGE INCLUDING LOSS OF USE, AND EXPENSES INCLUDING ATTORNEY’S FEES (COLLECTIVELY, THE “HARM”) ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF THIS AGREEMENT, BUT ONLY PROPORTIONALLY TO THE EXTENT THAT THE HARM WAS CAUSED BY THE NEGLIGENT OR INTENTIONAL ACTS OR OMISSIONS OF (I) **CONTRACTOR**, (II) ANY PERSON OR ENTITY ACTING BY OR THROUGH THE AUTHORITY OF THE **CONTRACTOR** IN FURTHERANCE OF THE PERFORMANCE OF THIS CONTRACT, AND/OR (III) ANY SUBCONTRACTOR, OR ANYONE FOR WHOSE ACTS THE **CONTRACTOR** OR SUBCONTRACTOR IS LIABLE, REGARDLESS OF WHETHER OR NOT SUCH HARM OCCURRED ON PROPERTY BELONGING TO THE **CITY**. THE **CONTRACTOR**’S INDEMNIFICATION OBLIGATION PROVIDED HEREIN SHALL SURVIVE THE EXPIRATION OR TERMINATION OF THIS AGREEMENT. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE **CONTRACTOR**’S INDEMNIFICATION OBLIGATIONS PROVIDED HEREIN SHALL SURVIVE AND BE ENFORCEABLE BY THE INDEMNIFIED PARTIES (SUBJECT TO THE PROPORTIONALITY LIMITATIONS SET FORTH IN THIS PARAGRAPH) DESPITE A DETERMINATION OR FINDING OF CONCURRENT, COMPARATIVE, OR CONTRIBUTORY NEGLIGENCE OF EITHER THE **CONTRACTOR** OR THE INDEMNIFIED PARTIES.

CONTRACTOR agrees to comply with the Worker’s Compensation Act of the State of Texas and to pay or cause to be paid all compensation, medical or hospital bills which may become due and payable thereunder, and to indemnify, hold harmless and defend **CITY** from and against any and all liability by reason of injury of employees of **CONTRACTOR**. **CONTRACTOR** shall furnish **CITY** with a Certificate from its Insurance Carrier evidencing **CONTRACTOR**’S compliance therewith (*see* Section 16.8, “Insurance Required”).

CONTRACTOR AGREES TO COMPLY WITH ABOVE REQUIREMENTS IN CONNECTION WITH SERVICES AND/OR WORK COVERED UNDER THIS PROJECT.

7.8 VENUE

This agreement shall be construed in accordance with the laws of the State of Texas and the ordinances of the City of Tyler. Venue for any action brought to enforce or interpret this agreement

shall lie exclusively in a court of competent jurisdiction in Smith County, Texas for actions in state court, and in the Eastern District of Texas, Tyler Division, for actions in federal court.

7.9 AFFIDAVIT OF BILLS PAID AND FINAL PAYMENT TO CONTRACTOR

Pursuant to TEX. PROP. CODE ANN. § 53.085(a) and this *Standard Form of Agreement* **CONTRACTOR** shall furnish a *Contractor's Affidavit of Bills Paid* and executed *Waiver and Lien Release forms* to **CITY** stating that the work for the construction of said project has been satisfactorily completed; and that all bills for materials, supplies, apparatus, fixtures, machinery, labor, subcontractors, laborers and materialmen used in connection with the construction of this project have been fully paid.

Upon receipt of the notification of completion, the Project Designer shall proceed to make final measurements and prepare a final statement of the value of all work performed and materials furnished under the terms of the AGREEMENT and shall certify same to **CITY**, who shall pay to the **CONTRACTOR**, the balance due the **CONTRACTOR** under the terms of this *Standard Form of Agreement*, provided he has fully performed his contractual obligations under the terms of the AGREEMENT; and said payment shall become due in any event upon said performance by the **CONTRACTOR**. Neither the *Certificate of Acceptance* nor the final payment, nor any provision in the contract documents, shall relieve the **CONTRACTOR** of the obligation for fulfillment of any warranty which may be required.

7.10 RESERVED

7.11 NOTICES

Any notices provided under this *Standard Form of Agreement* shall occur in writing. For purposes of such notice, the addresses of the parties, until changed by written notice, shall be:

CITY'S CONTACT:

Name	<u>Leanne Robinette</u>
Address	<u>City of Tyler</u>
	<u>P.O. Box 2039</u>
	<u>Tyler, TX 75710</u>
Phone	<u>(903) 531-1370</u>
FAX	<u>(903) 531-1372</u>
E-mail	<u>lrobinette@tylertexas.com</u>

CONTRACTOR'S CONTACT:

Name	<u></u>
Address	<u></u>
	<u></u>
	<u></u>
Phone	<u></u>
FAX	<u></u>
E-mail	<u></u>

CITY and **CONTRACTOR** hereby bind themselves, their heirs, successors and assigns and representatives for the faithful and full performance of the terms and provisions of this contract, jointly and severally.

IN WITNESS WHEREOF, the parties to these presents have executed this *Standard Form of Agreement* in the year and day first above written.

FOR THE CITY OF TYLER, TEXAS:

ATTEST:

By:

City Manager

Edward Broussard

Printed Name

By:

City Clerk

Cassandra Brager

Printed Name

APPROVED:

RECOMMENDED:

By:

City Attorney's Office

Printed Name

By:

Department Leader

Enter printed name of Dept. Leader here

Printed Name

City of Tyler Bid Number Bid # 24-012
Project Name W.E Winters Park

AGENDA ITEM NUMBER: _____

DATE CITY COUNCIL APPROVED: _____

FOR THE CONTRACTOR:**By:** __________
Title_____
Printed Name

THE STATE OF TEXAS

§
§
§

COUNTY OF SMITH

CONTRACTOR'S ACKNOWLEDGEMENT

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared _____, who is known to me, or who was proved to me through _____ to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the _____ day of _____, 20____.

Notary Public In and For The State of Texas

My Commission Expires: _____ Notary's Printed Name _____

Section 8 PERFORMANCE AND MAINTENANCE BOND AND PAYMENT BOND

Check Here if this Section is NOT Used ☐

THE STATE OF TEXAS	§	STATUTORY
	§	PERFORMANCE AND MAINTENANCE BOND
	§	AND
	§	PAYMENT BOND
	§	
	§	
	§	PURSUANT TO
	§	
	§	CITY POLICY, AGREEMENT
	§	AND/OR
COUNTY OF SMITH	§	TEX. GOV'T CODE, TITLE 10, CHAPTER § 2253

THAT, _____ [contractor], as
PRINCIPAL, and _____ [surety], a
 corporation organized and existing under the laws of the State of Texas, licensed to do business
 in the State of Texas and admitted to write bonds, as **SURETY**, are held and firmly bound unto
 the City of Tyler (**CITY**), Texas in Smith County, as **OBLIGEE**, in the amount of
 _____ [insert
figure using written words], (\$ _____) [insert numerical figure]
 payable to the City of Tyler, Texas for the payment of which, the said **PRINCIPAL** (Contractor)
 and **SURETY** bind themselves, and their heirs, administrators, executors, successors, legal
 representatives, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the **PRINCIPAL** (Contractor) has entered into a certain contract with the **OBLIGEE**
 (City), dated the _____ day of _____, 20____ [insert date from *Standard Form*
of Agreement], for:

City of Tyler Bid	Bid # 24-012
Number	
Project Name	W.E Winters Park

which contract is hereby referred to as the AGREEMENT and made a part hereof as fully and to
 the same extent as if copied at length herein;

WHEREAS, the performance bond guarantees the **OBLIGEE** (City) that the **PRINCIPAL**
 (Contractor) will fully and faithfully execute the Work and performance of the AGREEMENT
 according to its terms including price and time and is solely for the protection of the **OBLIGEE**
 (City) in the amount of the contract and conditioned on the faithful performance of the work in
 accordance with the plans, specifications, and contract documents;

WHEREAS, pursuant to TEX. GOV'T CODE ANN. § 2253.021 and the *Standard Form of*
Agreement, a performance bond is required when the contract amount is in excess of one hundred
 thousand dollars (\$100,000);

WHEREAS, the maintenance bond guarantees the **OBLIGEE** (City) that the **PRINCIPAL**

(Contractor) will guarantee the Work against faulty workmanship and/or materials for a specified period of time following completion of the AGREEMENT;

WHEREAS, pursuant to **CITY** policy and the ***Standard Form of Agreement*** a maintenance bond shall accompany the performance bond for the **PRINCIPAL** (Contractor) to guarantee the Work against faulty workmanship and/or materials for a maintenance period of a specified period of one (1) year after the date of final acceptance of the Work;

WHEREAS, the payment bond guarantees the **OBLIGEE** (City) that the **PRINCIPAL** (Contractor) shall pay all bills for materials and labor for work provided for in said AGREEMENT and is solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the prime contractor or a subcontractor to supply public work, labor or material and in the amount of the contract;

WHEREAS, pursuant to TEX. GOV'T CODE ANN. § 2253.021, for contracts in excess of \$25,000 a payment bond is required; however, pursuant to **CITY** Policy and the ***Standard Form of Agreement*** a payment bond shall be required for ALL projects regardless of value;

WHEREAS, the **PRINCIPAL** (Contractor), is required by law, pursuant to TEX. GOV'T CODE ANN. § 2253.021 and/or the ***Standard Form of Agreement***, to execute all bonds before commencing the Work.

NOW THEREFORE:

THE FIRST (1st) CONDITION OF THIS OBLIGATION IS SUCH, that if the said **PRINCIPAL** shall faithfully perform the Work required by and in accordance with the AGREEMENT then this obligation shall be null and void; otherwise it shall remain in full force and effect;

THE SECOND (2nd) CONDITION OF THIS OBLIGATION IS SUCH, that if the said **PRINCIPAL** (Contractor) shall faithfully perform the Work required by and in accordance with the AGREEMENT including any performance required of said **PRINCIPAL** (Contractor) for a maintenance period of one (1) year after the date of final acceptance of the work, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

THE THIRD (3rd) CONDITION OF THIS OBLIGATION IS SUCH, that if the said **PRINCIPAL** (Contractor) shall pay all claimants supplying the labor and material to him or a subcontractor in the prosecution of the Work provided for in said AGREEMENT, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253 of the TEX. GOV'T CODE ANN. and all liabilities on this bond shall be determined in accordance with the provision, conditions and limitations of said Chapter to the same extent as if it were copied at length herein.

SURETY, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the AGREEMENT, or to the Work performed hereunder, or the plans, specifications, or drawings accompanying the same, shall in anywise affect its obligation on this bond, and **SURETY** does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the AGREEMENT, or to the Work performed thereunder.

The undersigned **SURETY** company represents that it is duly qualified to do business in Texas and is registered by the State Board of Insurance to conduct business in the State of Texas, and acceptable according to the latest list of the companies holding Certificates of Authority from the Secretary of the Treasury of the United States and hereby designates

_____ [insert Agent's name], an agent in Smith County to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of such suretyship and to establish venue in Smith County, Texas.

IN WITNESS WHEREOF, the said **PRINCIPAL** (Contractor) and **SURETY** have signed and sealed this instrument this _____ day of _____, 20_____.

DATE OF BONDS MUST NOT BE PRIOR TO DATE ON *Standard Form of Agreement*

BOND NUMBER: _____

PRINCIPAL (Contractor)

SURETY

Printed Name of Principal

Printed Name of Surety

Physical Address

Physical Address

Mailing Address

Mailing Address

Telephone Number

Telephone Number

By:

Signature

By:

Signature

Title

Title

SURETY'S SEAL:

******* NOTE *******

If signed by an Attorney-in-Fact a copy of the Power of Attorney shall be attached, or

If signed by an officer of the Surety Company a certified extract from the by-laws showing that this person has authority to sign obligation shall be attached.

Section 9 PAYMENT BOND ONLY

Check Here if this Section is NOT Used ☐

THE STATE OF TEXAS	§	PAYMENT BOND
	§	
	§	
	§	PURSUANT TO
	§	
	§	CITY POLICY, AGREEMENT
	§	AND/OR
COUNTY OF SMITH	§	TEX. GOV'T CODE, TITLE 10, CHAPTER § 2253

THAT, _____ [*Contractor*], as
PRINCIPAL, and _____ [*surety*], a
 corporation organized and existing under the laws of the State of Texas, licensed to do business
 in the State of Texas and admitted to write bonds, as **SURETY**, are held and firmly bound unto
 the City of Tyler (**CITY**), Texas in Smith County, as **OBLIGEE**, in the amount of
 _____ [*insert*
figure using written words], (\$ _____) [*insert numerical figure*]
 payable to the City of Tyler, Texas for the payment of which, the said **PRINCIPAL** (Contractor)
 and **SURETY** bind themselves, and their heirs, administrators, executors, successors, legal
 representatives, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the **PRINCIPAL** (Contractor) has entered into a certain contract with the **OBLIGEE**
 (City), dated the _____ day of _____, 20____ [*insert date from **Standard Form***
of Agreement], for:

City of Tyler Bid	Bid # 24-012
Number	
Project Name	W.E Winters Park

which contract is hereby referred to as the AGREEMENT and made a part hereof as fully and to
 the same extent as if copied at length herein;

WHEREAS, the payment bond guarantees the **OBLIGEE** (City) that subcontractors and suppliers
 will be paid monies that they are due from the **PRINCIPAL** (Contractor) and is solely for the
 protection and use of payment bond beneficiaries who have a direct contractual relationship with
 the prime contractor or a subcontractor to supply public work, labor or material and in the amount
 of the contract;

WHEREAS, pursuant to TEX. GOV'T CODE ANN. § 2253.021, for contracts in excess of \$25,000 a
payment bond is required; however, pursuant to **CITY** Policy and the **Standard Form of**
Agreement a payment bond shall be required for ALL projects regardless of value;

WHEREAS, the **PRINCIPAL** (Contractor), is required, pursuant to TEX. GOV'T CODE ANN. §
 2253.021, and/or the **Standard Form of Agreement**, to execute the payment bond before
 commencing the Work.

NOW THEREFORE:

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said **PRINCIPAL** (Contractor) shall **pay** all claimants supplying the labor and material to him or a subcontractor in the prosecution of the Work provided for in said AGREEMENT, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of TEX. GOV'T CODE ANN. Chapter 2253 and all liabilities on this bond shall be determined in accordance with the provision, conditions and limitations of said Chapter to the same extent as if it were copied at length herein.

SURETY, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the AGREEMENT, or to the Work performed hereunder, or the plans, specifications, or drawings accompanying the same, shall in anywise affect its obligation on this bond, and **SURETY** does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the AGREEMENT, or to the Work performed thereunder.

The undersigned **SURETY** company represents that it is duly qualified to do business in Texas and is registered by the State Board of Insurance to conduct business in the State of Texas, and acceptable according to the latest list of the companies holding Certificates of Authority from the Secretary of the Treasury of the United States and hereby designates

_____ [*insert Agent's name*], an agent in Smith County to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of such suretyship and to establish venue in Smith County, Texas.

IN WITNESS WHEREOF, the said **PRINCIPAL** (Contractor) and **SURETY** have signed and sealed this instrument this _____ day of _____, 20____.

DATE OF BONDS MUST NOT BE PRIOR TO DATE ON *Standard Form of Agreement*

BOND NUMBER: _____

PRINCIPAL (Contractor)

SURETY

Printed Name of Principal

Printed Name of Surety

Physical Address

Physical Address

Mailing Address

Mailing Address

Telephone Number

Telephone Number

By:

Signature

By:

Signature

Title

Title

SURETY'S SEAL:

******* NOTE *******

If signed by an Attorney-in-Fact a copy of the Power of Attorney shall be attached, or

If signed by an officer of the Surety Company a certified extract from the by-laws showing that this person has authority to sign obligation shall be attached.

Section 10 **CERTIFICATE(S) OF INSURANCE**

[Certificate of Liability Insurance Shall Be Inserted Here]

INSURANCE COVERAGE REQUIRED		* Endorsement Required
TYPE	AMOUNT	
1) COMMERCIAL GENERAL LIABILITY * Policy shall include (but not limited to) the following: a) Products - Completed Operations b) Independent Contractors c) Broad Form Property Damage d) X-C-U Coverage X = Explosion Hazard C = Collapse Hazard U = Underground Damage e) Contractual Liability or Cross Liability	Not Less than: \$1,000,000 (1 million) Each Occurrence \$2,000,000 (2 million) General Aggregate Per Project Any Self-Insured-Retention or Deductible shall not exceed \$25,000.	
2) BUSINESS AUTOMOBILE LIABILITY Policy shall include (but not limited to) bodily injury and property damage liability for the following: a) Any Auto; OR b) All Owned Autos, and c) Hired Autos, and d) Non-Owned Autos.	Not Less than: \$1,000,000 (1 million) Each Occurrence	
3) ♦ CONTRACTOR'S PROFESSIONAL ERRORS & OMISSIONS LIABILITY Policy shall include (but not limited to) the following: a) A minimum three (3) year Discovery (tail) Reporting period, and b) A Retroactive Date that equals or precedes the effective date of the Contract, or the performance of services hereunder.	♦ <input type="checkbox"/> Check Here If Contract Includes Professional/Design Liability Exposures or If Coverage is otherwise required by a City Operational Department Not Less than: \$1,000,000 (1 million) Each Occurrence \$2,000,000 (2 million) General Aggregate Any Self-Insured-Retention or Deductible shall not exceed \$25,000.	
4) ♦ INLAND MARINE BUILDER'S RISK INSURANCE * Policy shall include (but not limited to) the following: a) Amended Policy period of no less than twenty-two (22) months or estimated project length whichever is longer.	♦ <input type="checkbox"/> Check Here If Coverage is Required by a City Operational Department An amount at least equal to one-hundred percent (100%) of the projected completed value of the Work, as well as subsequent modifications of that sum due to Change Orders.	
5) ♦ CONTRACTOR'S POLLUTION LIABILITY INSURANCE *	♦ <input type="checkbox"/> Check Here If Coverage is Required by a City Operational Department Not Less than: \$1,000,000 (1 million) Each Occurrence \$2,000,000 (2 million) General Aggregate	
6) COMMERCIAL UMBRELLA / EXCESS LIABILITY *	Not Less than: \$5,000,000 (5 million) Each Occurrence \$5,000,000 (5 million) General Aggregate Any Self-Insured-Retention or Deductible shall not exceed \$25,000.	

INSURANCE COVERAGE REQUIRED		* Endorsement Required
TYPE	AMOUNT	
7) WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY	Statutory Limits for Workers' Compensation TEX. LAB. CODE ANN. Title 5, Subtitle A, Chapter 401 TEX. ADMIN. CODE, Title 28, Part 2 Employer's Liability Limits \$1,000,000 (1 million) Bodily Injury by Accident \$1,000,000 (1 million) Bodily Injury by Disease Each Occurrence \$1,000,000 (1 million) Bodily Injury by Disease Aggregate Limit	

Checklist: Certificate(s) of Insurance

*** Provided only as a courtesy ***

[See generally Section 16.8 General Conditions for contract insurance requirements]

1.	All pages of the <i>Certificate of Liability Insurance</i> shall be attached. <i>See</i> lower right corner of certificate for <i>ex toto</i> pagination. E.g. Page 1 of 2
2.	Policy Effective and Expiration Dates (for each type of coverage) Policy effective date is ON or BEFORE Contract date, and Policy expiration date should extend at least 6 months into the future OR for the estimated project length, whichever is greater.
3.	General Liability [<i>See</i> Section 16.8.3] <input type="checkbox"/> Occurrence Box is Checked <input type="checkbox"/> Per Project Box is Checked for General Aggregate Limit.
4.	Automobile Liability [<i>See</i> Section 16.8.4] At a minimum each of the following boxes should be checked: <input type="checkbox"/> Any Auto OR <input type="checkbox"/> All Owned Autos, and <input type="checkbox"/> Hired Autos, and <input type="checkbox"/> Non-Owned Autos.
5.	Excess/Umbrella Liability [<i>See</i> Section 16.8.8] <input type="checkbox"/> Occurrence Box is Checked
6.	Workers Compensation and Employers Liability [<i>See</i> Section 16.8.15] <input type="checkbox"/> WC Statutory Limits Box is Checked
7.	Look at the “Description of Operations . . . Special Provisions” Box. [<i>See</i> Section 16.8.9] [<i>See also</i> Section 16.8.11] Clearly indicate the CITY has been endorsed by using this language: “The City of Tyler (i.e. Certificate Holder) shall be named as Additional Insured as respects to General Liability and Auto and shall have a Waiver of Subrogation as respects to General Liability, Auto and Workers’ Compensation all as required by written contract subject to policy terms, conditions and exclusions. Coverage is primary, non-contributory as respects to General Liability and Auto as required by written contract.”
8.	Clearly identify each policy’s limits, flat & percentage deductibles, sub-limits, or self-insured retentions, which exceed the amounts or percentages set forth herein.
9.	Certificate Holder: [<i>See generally</i> Section 16.8] [<i>See</i> Section 16.8.9] <div style="text-align: center;"> City of Tyler P.O. Box 2039 Tyler, TX 75710 </div>

Section 11 ENDORSEMENTS

[Endorsements Shall Be Inserted Here]

* ENDORSEMENT(S) REQUIRED	
Name of Additional Insured Person(s) or Organization(s): <div style="text-align: center;">City of Tyler P.O. Box 2039 Tyler, TX 75710</div>	Location(s) of Covered Operations: <div style="text-align: center;">Project <i>[insert project name]</i>, City of Tyler Bid Number <i>[insert bid number]</i>, Dated <i>[insert month and year of contract]</i>.</div>
Contractor shall choose one of the three Endorsement Option stated below. All Endorsements shall be in the form required. All pages of the Endorsement(s) shall be attached.	
COMMERCIAL GENERAL LIABILITY	
CONTRACTOR agrees to endorse the CITY as an “Additional Insured” on the Commercial General Liability with: <i>[Select Option 1, Option 2 or Option 3 below]</i> <i>[See Section 16.8.3 and 16.8.9]</i>	
Option 1	FORM: CG 20 10 10 01 <u>Additional Insured - Owners, Lessees, or Contractors – Scheduled Person or Organization</u> AND FORM: CG 20 37 07 04 <u>Additional Insured – Owners, Lessees, or Contractors – Completed Operations</u>
OR	
Option 2	FORM: CG 20 10 07 04 <u>Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization</u> AND FORM: CG 20 37 07 04 <u>Additional Insured – Owners, Lessees, or Contractors – Completed Operations</u>
OR	
Option 3	FORM: ISO/PROPRIETARY FORM STATING SAME OR SUBSTANTIALLY SIMILAR LANGUAGE AS CG 20 10 07 04 /CG 20 10 10 01 AND THAT PROVIDES THE SAME OR BETTER COVERAGE. <u>Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization – Your Work</u> AND FORM: ISO/PROPRIETARY FORM STATING SAME OR SUBSTANTIALLY SIMILAR LANGUAGE AS CG 20 37 07 04 AND THAT PROVIDES THE SAME OR BETTER COVERAGE. <u>Contractors’ Commercial General Liability Broadened – with coverage for Completed Operations in conformance to specific written contract</u>
COMMERCIAL UMBRELLA / EXCESS LIABILITY	
CONTRACTOR agrees to endorse the CITY as an “Additional Insured” under the Commercial Umbrella / Excess Liability as also provided herein. <i>[See Section 16.8.8 and 16.8.9]</i>	
INLAND MARINE BUILDER’S RISK INSURANCE	
♦ If applicable CONTRACTOR agrees to endorse the CITY as an “Additional Insured” under the Inland Marine Builders Risk Insurance as also provided herein. <i>[See Section 16.8.6 and 16.8.9]</i>	

Section 12 CONTRACTOR'S AFFIDAVIT OF BILLS PAID

THE STATE OF TEXAS §
 §
 §
 §
 §
 COUNTY OF SMITH §
 § **Tex. Prop. Code Ann. § 53.085(a)**

THIS AFFIDAVIT is made for the purpose of obtaining balance due from City of Tyler, "CITY", on the construction work described herein provided the **CONTRACTOR** has fully performed his contractual obligations under the terms of the AGREEMENT.

I, _____ *[Name of Affiant]*, do solemnly swear or affirm that I am the legal representative of _____ *[Contractor's Company / Corporation Name]*, the City of _____, the County of _____, the State of _____, and that the work for the construction of the project designated below has been satisfactorily completed:

City of Tyler Bid Bid # 24-012
Number
Project Name W.E Winters Park

Additionally, I do solemnly swear or affirm:

☐ All bills for materials, supplies, apparatus, fixtures, machinery, labor, subcontractors, laborers and materialmen used in connection with the construction of this project have been fully paid.

OR

☐ The following bills have **not** been fully paid (☐ attach additional pages if necessary):

<u>Name</u>	<u>Amount</u> <u>Owed</u>	<u>Telephone</u>	<u>Address</u>
	\$		
	\$		
	\$		

 Signature of Contractor

Sworn to and subscribed before me by *Affiant* on the _____ day of _____, 20____.

 Notary Public In and For The State of Texas

My Commission Expires: _____ Notary's Printed Name

Section 13 RESERVED

Section 14 WAIVER AND RELEASE

THE STATE OF TEXAS § **CONDITIONAL WAIVER AND RELEASE ON FINAL
PAYMENT**

§

PURSUANT TO

§

§

AGREEMENT

§

AND/OR

§

COUNTY OF SMITH

§

**PURSUANT TO TEX. PROPERTY CODE § 53.284
FORMS FOR WAIVER AND RELEASE OF LIEN OR PAYMENT
BOND CLAIM**

CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

**City of Tyler Bid
Number**

Bid # 24-012

Project Name

W.E Winters Park

On receipt by the signer of this document of a check from _____ *[Maker of Check]* in the sum of \$ _____ payable to _____ *[Payee(s) of Check]* and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the property of _____ *[Owner]* located at _____ *[Location]* to the following extent: _____ *[Job Description]*.

This release covers the final payment to the signer for all labor, services, equipment, or materials furnished to the property or to _____ *[Person with Whom Signer Contracted]*.

Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this final payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project up to the date of this waiver and release.

Date _____
_____ (Company name)

By _____ (Signature)
_____ (Title)

THE STATE OF TEXAS	§	UNCONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT
	§	
	§	PURSUANT TO
	§	
	§	AGREEMENT
	§	AND/OR
COUNTY OF SMITH	§	PURSUANT TO TEX. PROPERTY CODE § 53.284 FORMS FOR WAIVER AND RELEASE OF LIEN OR PAYMENT BOND CLAIM

NOTICE:

This document waives rights unconditionally and states that you have been paid for giving up those rights. It is prohibited for a person to require you to sign this document if you have not been paid the payment amount set forth below. If you have not been paid, use a conditional release form.

UNCONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

City of Tyler Bid	Bid # 24-012
Number	
Project Name	W.E Winters Park

The signer of this document has been paid in full for all labor, services, equipment, or materials furnished to the property or to _____ *[Person with Whom Signer Contracted]* on the property of _____ *[Owner]* located at _____ *[Location]* to the following extent: _____ *[Job Description]*. The signer therefore waives and releases any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position.

The signer warrants that the signer has already paid or will use the funds received from this final payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project up to the date of this waiver and release.

Date _____
_____ (Company name)

By _____ (Signature)
_____ (Title)

Section 15 PROCEDURE FOR CORRECTING CONSTRUCTION DEFECTS

Check Here if this Section IS Applicable to This Contract ☐

****ONLY APPLICABLE FOR CONSTRUCTION ACTIVITIES AFFECTING CITY-OWNED BUILDINGS AND OTHER PUBLIC WORKS PROJECTS AS DEFINED IN TEX. GOV. CODE ANN., SEC. 2269.001 (6)****

This PROCEDURE is not applicable to “civil works” projects as defined in Tex. Gov. Code Ann., Sec. 2269.351

I. DEFINITIONS

- A. **“Public Works”** projects, as defined in Tex. Gov. Code Ann., Sec. 2269.001 (6), are those related to constructing, altering, or repairing a public building or carrying out any public work.
- B. **“Civil works”** projects, as defined in Tex. Gov. Code Ann., Sec. 2269.351 are those related to roads, streets, bridges, utilities, water supply projects, water plants, waste water plants, water distribution and wastewater conveyance facilities, desalination projects, wharves, docks, airport runways and taxiways, storm drainage, flood control projects and transit projects.

II. NOTIFICATION OF DEFECT

- A. **ENGINEER/ARCHITECT SHALL NOTIFY OWNER IN WRITING OF ANY CONSTRUCTION DEFECT** of which the ENGINEER is aware, and which shall include any deficiency in the construction of an improvement to real property, including a deficiency in or arising out of the design, specifications, surveying, planning or supervision of the construction that is a result of:
 - i. The use of defective materials, products, or components in the construction;
 - ii. A violation of a building code applicable by law to the construction;
 - iii. A failure of the design of an improvement to real property to meet the professional standards of care applicable at the time of governmental approval of the design or as otherwise applicable if no governmental approval of the design was required or obtained; and/or
 - iv. A failure to perform the construction in accordance with the accepted trade standards for good and workmanlike construction.
- B. The E/A’s writing shall identify the specific construction defect, describe the present physical condition of the affected structure; and describe any modification, maintenance, or repairs to the affected structure made by the governmental entity or others since the affected structure was initially occupied or used.

III. PROCEDURE TO CORRECT CONSTRUCTION DEFECTS

- A. Before bringing an action asserting a claim for a construction defect under this Agreement, the OWNER must:
 - i. Provide a written report. A written report shall be provided to each party with whom the OWNER has a contract for the design, construction or construction oversight of an affected structure by certified mail, return receipt requested.
 - ii. Contents of Report. The report shall clearly identify the specific construction defect(s) of which the claim is based, which shall include any deficiency in the construction of an

-
- improvement to real property, including a deficiency in or arising out of the design, specifications, surveying, planning, or supervision of the construction that is a result of:
- a. The use of defective materials, products, or components in the construction;
 - b. A violation of a building code applicable by law to the construction;
 - c. A failure of the design of an improvement to real property to meet the professional standards of care applicable at the time of governmental approval of the design or as otherwise applicable if no governmental approval of the design was required or obtained; and/or
 - d. A failure to perform the construction in accordance with the accepted trade standards for good and workmanlike construction.
- iii. The report shall:
- a. Identify the specific construction defect on which the claim is based;
 - b. Describe the present physical condition of the affected structure; and
 - c. Describe any modification, maintenance, or repairs to the affected structure made by the governmental entity or others since the affected structure was initially occupied or used.
- B. OWNER shall allow each party with whom the OWNER has a contract for the design or construction of an affected structure and who is subject to the claim, and any known subcontractor or supplier who is subject to the claim a reasonable opportunity to inspect any construction defect or related condition identified in the report for a period of 30 days after receiving the report.
- C. OWNER shall allow at least 120 days *after* the inspection to:
- i. Correct any construction defect or related condition identified in the report; or
 - ii. Enter into a separate agreement with the governmental entity to correct any construction defect or related condition identified in the report.
- D. OWNER is not required to allow a party to make a correction or repair under Subsection B. if the party:
- i. Is a contractor and cannot provide payment and performance bonds to cover the corrective work; and or
 - ii. Cannot provide liability insurance or workers' compensation insurance; and/or
 - iii. Has been previously terminated for cause by OWNER; and/or
 - iv. Has been convicted of a felony; or
- E. OWNER is not required to allow a party to make a correction or repair under Subsection II.C.i. if OWNER previously complied with the process required by Subsection II.A. regarding a construction defect or related condition identified in the report and:
- i. The defect or condition was not corrected as required by Subsection II.C.i. or by an agreement under Subsection II.C.ii.; or
 - ii. The attempt to correct the construction defect or related condition identified in the report resulted in a new construction defect or related condition.
- F. Recovery of Report Costs. If the report described in Subsection II.A. identifies a construction defect that is corrected or for which the OWNER recovers damages, the party responsible for that construction defect shall pay the reasonable amounts incurred by OWNER to obtain the report with respect to identification of that construction defect.
- G. These provisions do not prohibit or limit the OWNER from making emergency repairs to the property as necessary to protect the health, safety, and welfare of the public or a building occupant.

Section 16 GENERAL CONDITIONS

General Conditions of Agreement for Capital Improvement Project (CIP) Contracts

16.1 DEFINITIONS OF TERMS

16.1.1 Addenda

Written or graphic instrument issued prior to the opening of bid packages which clarify, correct or change the bidding requirements or contract documents.

16.1.2 Agreement

The entire “AGREEMENT” between the **CITY** and **CONTRACTOR** including all contract documents.

16.1.3 Calendar Day

Any day of the week or month, no days being excepted.

16.1.4 Change Order

A document recommended by the Project Designer, which is signed by the **CONTRACTOR** and **CITY** and which authorizes an addition, deletion or revision of the Work which requires an adjustment in the contract price or contract times, issued on or after the effective date of the AGREEMENT.

16.1.5 City

The word “**CITY**” in these documents shall be understood as referring to the City of Tyler, Texas, a municipal corporation acting through the City Manager or his/her designee, officers, agents or employees.

16.1.6 Contract Documents

The contract documents constitute the entire AGREEMENT between the **CITY** and **CONTRACTOR**.

16.1.7 Contract Price

The moneys payable by **CITY** to **CONTRACTOR** for completion of the Work in accordance with the contract documents as stated in the *Standard Form of Agreement*.

16.1.8 Contract Time

The number of days stated in the *Standard Form of Agreement* to achieve final completion so that it is ready for final payment as evidenced by the Project Designer’s written recommendation of final payment.

16.1.9 Contractor

The individual, firm, corporation, or other business entity with whom **CITY** has entered into this AGREEMENT for performance of the Work (*see* Section 16.3, “Responsibilities of the Contractor”).

16.1.10 Extra Work

All work that may be required by the **CITY** to be done by the **CONTRACTOR** to accomplish

any addition, deletion or revision to the Work not originally shown on the plans, reasonably implied by the specifications or covered by the **CONTRACTOR'S** proposal (*see* Section 16.14, "Extra Work and Claims").

16.1.11 Field Order

A written order issued by the Project Representative which orders minor changes in the Work but which does not involve a change in the contract price or contract time.

16.1.12 Final Completion (a.k.a. Complete in Full or Completed in Full)

The point when the **CITY** determines that all Work has been completed and final payment to **CONTRACTOR** will be made in accordance with the contract documents.

16.1.13 Notice to Proceed

A written notice by the **CITY** to the **CONTRACTOR** fixing the date on which the contract time will commence and run and which on or before **CONTRACTOR** shall start to perform.

16.1.14 Reserved

16.1.15 Ozone Action Day

Any day between May 3 through September 30, inclusive, in which the eight (8)-hour concentration of ozone is expected to reach or exceed a target level of seventy-six (76) parts per billion (ppb), as determined by the Texas Commission on Environmental Quality (TCEQ). Notification of an Ozone Action Day will result in the implementation of the City of Tyler's Ozone Action Plan (*see* Section 16.11.4, "Ozone Action Day").

16.1.16 Proposal

The offer of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

16.1.17 Project Designer

The individual, firm or corporation, including their representatives, retained by the **CITY** to design and/or engineer the project. Nothing contained in the contract documents shall create any contractual or agency relationship between the Project Designer and the **CONTRACTOR** (*see* Section 16.4, "Responsibilities of the Project Designer").

16.1.18 Project Representative

The authorized representative of the **CITY** during the performance of the Work by the **CONTRACTOR** (*see* Section 16.5, "Responsibilities of the Project Representative").

16.1.19 Rain Day

Under a calendar day contract, a rain day is a day of normal precipitation for which no extension of time will be granted (*see* Section 16.12.5, "Inclement Weather").

16.1.20 Standard Specifications

The standard specifications for the **CITY** are the City of Tyler Standard Specifications, the latest edition in effect at time of bidding and the Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges, the latest edition in effect at time of bidding except where specifically superseded in the City of Tyler Standard Specifications

and/or City of Tyler Standard Details, both of which are hereby made a part of this contract by reference, unless otherwise specified, and in such force and effect as if contained at length herein.

16.1.21 Sub-Contractor

An individual, firm, corporation, or other business entity having a direct contract with the **CONTRACTOR** for the performance of a portion of the Work under the contract.

16.1.22 Substantial Completion

The point when the Work has been made suitable for use or occupancy or is in a condition to serve its intended purpose, but still may require minor miscellaneous work and adjustment.

16.1.23 Supplier

A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with **CONTRACTOR** or with any Subcontractor to furnish materials or equipment to be incorporated into the Work by **CONTRACTOR** or Subcontractor.

16.1.24 Traffic Engineer

The person employed by, and named as such by, the City of Tyler, or his/her designee.

16.1.25 Work

The entire completed construction required to be furnished under the contract documents. Work includes, and is the result of furnishing, all materials, supplies, machinery, equipment, tools, superintendence, labor, services, insurance, and all water, light, power, fuel, transportation and other facilities necessary for the execution and completion of the Work covered by the contract documents. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of a good quality. The **CONTRACTOR** shall, if required, furnish satisfactory evidence as to the kind and quality of materials. Materials or work described in words which so applied have a well-known technical or trade meaning shall be held to refer to such recognized standards.

16.1.26 Working Day

Any day not including Saturdays, Sundays or any legal holidays as designated by the City of Tyler, in which weather or other conditions, not under the control of the **CONTRACTOR**, will permit construction of the principal units of the Work for a period of not less than seven (7) continuous hours between 7:00 a.m. and 6:00 p.m. A "Principal Unit of Work" is hereby defined as any item of work for which there is a bid item specifically set up for payment in the contract.

16.1.27 Working Hours

All Work shall be done between 7:00 a.m. and 6:00 p.m., Monday through Friday excluding holidays, unless authorized by the Project Representative. However, emergency Work may be done without prior permission. If night Work is authorized and conditions under **CONTRACTOR'S** control will permit Work for a continuous period of not less than seven (7) hours between 12:00 a.m. and 11:59 p.m. it will be considered a Working Day. Night Work may be revoked at any time by the **CITY** if the **CONTRACTOR** fails to maintain adequate equipment and supervision for the prosecution and control of the night Work.

16.1.28 Written Notice

Written notice shall be deemed to have been duly served if delivered in person to the individual or

to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by mail to the last business address known to the party by whom notice is given.

16.2 RESPONSIBILITIES OF THE CITY

16.2.1 Collateral Contracts

The **CITY** agrees to provide by separate contract or otherwise, all labor and material essential to the completion of the Work specifically excluded from this contract, in such manner as not to delay the progress of the Work, or damage said **CONTRACTOR**, except where such delays are specifically mentioned elsewhere in the contract documents.

16.2.2 Easements and Right-of-Way

Easements and right-of-way, where required, will be provided by the **CITY**.

16.3 RESPONSIBILITIES OF THE CONTRACTOR

16.3.1 Contractor's Understanding

It is understood and agreed that the **CONTRACTOR** is, after careful examination, satisfied as to the nature and location of the Work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the Work, the general and local conditions, and all other matters which can in any way affect the Work under this contract. No verbal agreement or conversation with any officer, agent or employee of the **CITY** or Project Designer either before or after the execution of this contract shall affect or modify any of the terms or obligations herein contained.

16.3.2 Keeping Plans and Specifications Accessible

The Project Designer shall furnish the **CONTRACTOR** with an adequate and reasonable number of copies of all plans and specifications without expense to the **CONTRACTOR**, and the **CONTRACTOR** shall keep a minimum of one copy of the same constantly accessible on the Work, with the latest revisions noted thereon.

16.3.3 Right of Entry

The **CITY** reserves the right to enter the property or location on which the Works herein contracted for are to be constructed or installed, by such agent or agents as the **CITY** may elect, for the purpose of inspecting the Work, or for the purpose of constructing or installing such collateral work as said **CITY** may desire.

16.3.4 Contractor's Duty and Superintendence

The **CONTRACTOR** shall give adequate attention to the faithful prosecution and completion of this contract and shall keep on the Work, during its progress, a competent superintendent and any necessary assistants. The superintendent shall represent the **CONTRACTOR** in the **CONTRACTOR'S** absence and all directions given to the superintendent shall be as binding as if given to the **CONTRACTOR**. In the absence of the superintendent from the job site, an acting-superintendent shall be appointed to be in full charge of the Work.

The **CONTRACTOR** is and at all times shall remain an independent contractor, solely responsible for the manner and method of completing the Work under this contract, with full power and authority to select the means, method and manner of performing such Work, so long as such methods do not adversely affect the completed improvements, with the **CITY** and Project Representative being interested only in the result obtained and conformity of such completed improvements to the plans, specifications and contract.

Likewise, the **CONTRACTOR** shall be solely responsible for the safety all employees and other persons, as well as for the protection of the safety of the improvements being erected and the property of the **CONTRACTOR** or any other person, as a result of the operations hereunder. Engineering and/or supplemental construction drawings and specifications, as well as any additional information concerning the Work to be performed, passing from or through the Project Designer shall not be interpreted as requiring or allowing the **CONTRACTOR** to deviate from the plans and specifications, the intent of such drawings, specifications or any other such instructions being to define with particularity the agreement of the parties as to the Work the **CONTRACTOR** is to perform. The **CONTRACTOR** shall be fully and completely liable, at the **CONTRACTOR'S** own expense, for design, construction, installation and use, or non-use, of all items and methods incident to performance of the contract, and for all loss, damage or injury, including death, incident thereto, either to person or property, including, without limitation, the adequacy of all temporary supports, shoring, bracing, scaffolding, machinery or equipment, safety precautions or devices, and similar items or devices used by the **CONTRACTOR** during construction.

Any review of Work in process, or any visit or observation during construction, or any clarification of plans and specifications, by the **CITY** or Project Designer, or any agent, employee, or representative of them, whether through personal observation on the project site or by means of approval of shop drawings for temporary construction or construction processes, or by other means or method, is agreed by the **CONTRACTOR** to be for the purpose of observing the extent and nature of Work completed or being performed, as measured against the drawings and specifications constituting the contract, or for the purpose of enabling the **CONTRACTOR** to more fully understand the plans and specifications so that the completed construction Work will conform thereto, and shall in no way relieve the **CONTRACTOR** from full and complete responsibility for the proper performance of the Work on the project, including but without limitation the propriety of means and methods of the **CONTRACTOR** in performing said contract, and the adequacy of any designs, plans or other facilities for accomplishing such performance. Deviation by the **CONTRACTOR** from the plans and specifications that may have been in evidence during any such visitation or observation by the **CITY** or Project Designer, or any of their representatives, whether called to the **CONTRACTOR'S** attention or not shall in no way relieve the **CONTRACTOR** from the responsibility to complete all Work in accordance with said plans and specifications.

16.3.5 Character of Workers

The **CONTRACTOR** agrees to employ only orderly and competent workers, skillful in the performance of the type of work required under this contract to do the Work; and agrees that whenever the Project Representative shall inform the **CONTRACTOR** in writing that any worker or workers are, in the Project Representative's opinion, incompetent or disorderly, such worker or workers shall be discharged from the Work and shall not again be employed on the Work without the Project Representative's written consent.

16.3.6 Assignment and Subcontracting

The **CONTRACTOR** may assign or subcontract portions of the Work in accordance with the *Instructions to Bidders*. However, the **CONTRACTOR** shall not employ any subcontractor against whom the **CITY** may have a reasonable objection.

16.3.7 Subsurface Conditions

Unless otherwise noted in the plans or specifications, the **CITY** has made no investigation of subsurface conditions within the project limits and makes no representation regarding the presence or absence of groundwater, unstable soils, or any other unfavorable hydrologic or geologic conditions within the project area. It shall be the **CONTRACTOR'S** sole responsibility to perform any investigations the **CONTRACTOR** deems necessary and to provide all equipment, labor, and materials needed to complete the project including, but not limited to, sheeting, shoring, bracing, pumps, and/or well pointing. The provision of all labor, equipment, and materials necessary to alleviate unfavorable subsurface conditions shall be subsidiary to the various pay items established in the proposal for furnishing and installing the Work. The **CONTRACTOR** shall be due no additional compensation relative to subsurface conditions.

16.3.8 Protection of Materials, Equipment and Work

The **CONTRACTOR** shall be responsible for the care, preservation, conservation, and protection of all materials, supplies, machinery, equipment, tools, apparatus, accessories, facilities, all means of construction, and any and all parts of the Work, whether the **CONTRACTOR** has been paid, partially paid, or not paid for such Work, until the entire Work is completed and accepted.

The **CONTRACTOR** shall arrange for storage of materials on or near the job site. Materials shall be stored at a place which shall not inconvenience the public or interfere with job progress and to best preserve the material to the satisfaction of the **CITY**. Materials shall be sorted and stacked neatly for ease of count and observation for compliance with material specifications. Improperly stored materials will not be eligible for inclusion in partial estimates.

16.3.9 Protection Against Accident to Employees and the Public

The **CONTRACTOR** shall at all times exercise reasonable precautions for the safety of employees and others on or near the Work and shall comply with all applicable provisions of Federal, State, and Municipal safety laws and building and construction codes. All machinery and equipment and other physical hazards shall be guarded in accordance with the Manual of Accident Prevention in Construction of the Associated General Contractors of America, except where incompatible with Federal, State, or Municipal laws or regulations. The **CONTRACTOR** shall provide such machinery guards, safe walkways, ladders, bridges, gangplanks, and other safety devices. The safety precautions actually taken and their adequacy shall be the sole responsibility of the **CONTRACTOR**, acting at the **CONTRACTOR'S** discretion as an independent contractor.

The right of the Project Representative to conduct construction review or observation of the **CONTRACTOR'S** performance or Work will not include review or observation of the adequacy of the **CONTRACTOR'S** safety measures in, on, or near the construction site.

16.3.10 Shop Drawings and Other Submittals

The **CONTRACTOR** shall submit to the Project Designer with such promptness as to cause no delay in the Work or in that of any other contractor, five (5) checked copies, unless otherwise specified, of all shop and/or setting drawings and schedules required for the work of the various trades, and the Project Designer shall pass upon them with reasonable promptness, making desired

corrections. The **CONTRACTOR** shall make any corrections required by the Project Designer, file with the Project Designer four (4) corrected copies and furnish such other copies as may be needed. The Project Designer's approval of such drawings or schedules shall not relieve the **CONTRACTOR** from responsibility for deviations from drawings or specifications, unless the **CONTRACTOR** has in writing called the Project Designer's attention to such deviations at the time of submission, nor shall it relieve the **CONTRACTOR** from responsibility for errors of any sort in shop drawings or schedules. It shall be the **CONTRACTOR'S** responsibility to fully and completely review all shop drawings to ascertain their effect on the **CONTRACTOR'S** ability to perform the required contract Work in accordance with the plans and specifications and within the contract time.

Such review by the Project Designer shall be for the sole purpose of determining the sufficiency of said drawings or schedules to result in finished improvements in conformity with the plans and specifications, and shall not relieve the **CONTRACTOR** of the **CONTRACTOR'S** duty as an independent contractor as previously set forth, it being expressly understood and agreed that the Project Designer does not assume any duty to pass upon the propriety or adequacy of such drawings or schedules, or any means or methods reflected thereby, in relation to the safety of either person or property during **CONTRACTOR'S** performance hereunder.

Prior to beginning the Work, the **CONTRACTOR** shall submit to the **CITY**, a list of all valves, hydrants, pumps, and other pieces of major equipment to be installed under this contract that includes the number used, the manufacturer and model, and the location installed of each piece of equipment. If requested by the **CITY**, the **CONTRACTOR** shall also submit manufacturer's product data for each piece of equipment.

16.3.11 Water for Construction

The **CONTRACTOR** must make arrangements for water required for construction and shall furnish tank trucks, pumps, pipe, hose, water storage tanks, or whatever else the **CONTRACTOR** needs to secure the water and store it for use on the Work. If the **CONTRACTOR** desires to use **CITY** water from a fire hydrant, the **CONTRACTOR** must rent a hydrant meter from Tyler Water Utilities. The **CONTRACTOR** shall furnish a proper fire hydrant wrench with a five (5)-sided socket to fit the hydrant operating nuts. Opening and closing of fire hydrants with a pipe or crescent wrench or any tool not made especially for the five (5)-sided hydrant nuts will not be permitted. The **CONTRACTOR** shall replace all fire hydrant caps after the **CONTRACTOR'S** tank truck is loaded with water. The **CONTRACTOR** shall not use any water from the municipal water system until the **CONTRACTOR** obtains a hydrant meter and prior authorization for such use from Tyler Water Utilities.

16.3.12 Contractor's Buildings

The erection of temporary structures for the use of field offices, will be permitted only at such places as approved by the Project Representative and shall at all times be maintained in a manner satisfactory to the Project Representative.

16.3.13 Sanitation

Necessary sanitary conveniences for the use of laborers on the Work, properly secluded from public observation, shall be constructed and maintained by the **CONTRACTOR** in such manner and at such points as shall be approved by the Project Representative, and their use shall be strictly enforced.

16.3.14 Protection Against Claims

The **CONTRACTOR** will indemnify, hold harmless and defend the **CITY** and its Project Designer from and against all claims arising from demand for payment of all lawful sums due based upon the provision of labor or materials in the furtherance of the performance of this contract by sub-contractors, laborers, workmen, mechanics, materialmen and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary. When so desired by the **CITY**, the **CONTRACTOR** shall furnish satisfactory evidence that all obligations of the nature herein above designated have been paid, discharged or waived.

16.3.15 Intellectual Property - Payment of Royalties and License Fees

CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others.

If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of **CITY** or Project Designer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by **CITY** and Project Designer in the Contract Documents.

CONTRACTOR shall indemnify, hold harmless and defend **CITY** and its officers, directors, employees, Project Designer and agents from and against all claims, costs, losses and damages arising out of or resulting from any infringement by **CONTRACTOR** of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents.

16.3.16 Compliance with Laws and Ordinances

The **CONTRACTOR** shall at all times observe and comply with all Federal, State and local laws, ordinances and regulations, which in any manner affect the contract or the Work. **CONTRACTOR SHALL INDEMNIFY, HOLD HARMLESS AND DEFEND CITY AND ITS PROJECT DESIGNER FROM AND AGAINST ALL CLAIMS ARISING FROM THE VIOLATION OF ANY SUCH LAWS, ORDINANCES, AND REGULATIONS BY THE CONTRACTOR OR THE CONTRACTOR'S EMPLOYEES.** If the **CONTRACTOR** observes that the plans and specifications are at variance therewith, the **CONTRACTOR** shall promptly notify the Project Designer in writing, and any necessary changes shall be adjusted as provided in the contract for changes in the Work. If the **CONTRACTOR** performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Project Designer, the **CONTRACTOR** shall bear all costs arising therefrom.

The City of Tyler is a home-rule municipality acting under its Charter adopted by the electorate pursuant to the Texas Constitution, Article 11, Section 5 and the TEX. LOC. GOV'T CODE ANN. Chapter 9. The **CITY** has full power of self-government under TEX. LOC. GOV'T CODE ANN. § 51.072(a). The **CITY** shall retain and exercise all powers, whether express or implied, that now are, or hereafter may be, granted to municipalities by the Texas Constitution or laws of the State of Texas. The laws from which the **CITY** derives its powers shall be considered a part of this Contract, as if embodied herein, to the extent that such laws regulate the manner or conditions under which the **CITY** may enter into a Contract.

16.3.17 OSHA Requirements

The **CONTRACTOR** will be required to adhere to, and all mechanical equipment and construction procedures shall conform to, all of the applicable requirements of the Federal Occupational Safety and Health Act of 1930 (OSHA) which is made a part of this contract by reference. Particular attention should be given to requirements relating to trench safety.

16.3.18 Trench Safety Systems

The **CONTRACTOR** shall retain the sole responsibility for the design, fabrication, erection, and removal of trench safety systems for excavation and construction of all trenches. Trench safety systems shall be designed and installed in accordance with the City of Tyler Standard Specification for Trench Safety Systems. Prior to issuance of the *Notice to Proceed* the **CONTRACTOR** shall submit two (2) copies of a Trench Safety Plan to the **CITY** which shall be written documentation of the **CONTRACTOR'S** proposed trench safety system.

16.4 RESPONSIBILITIES OF THE PROJECT DESIGNER

16.4.1 Project Designer-City Relationship

The duties, responsibilities and limitations of authority of the Project Designer as the **CITY'S** representative during construction are as set forth in the contract documents and shall not be extended or limited without written consent of the **CITY** and Project Designer. Generally, unless otherwise specifically provided in the *Special Conditions*, the Project Designer will perform the following functions:

- A. Design the project and prepare all projects plans and specifications.
- B. Assist in bidding, respond to pre-bid questions and requests for clarifications.
- C. Attend the pre-bid conference.
- D. Issue any necessary addenda.
- E. Attend pre-construction conferences, progress meetings and other job conferences as may be required.
- F. Review **CONTRACTOR'S** initial cost breakdown with schedule of values and/or bid schedule unit price list and recommend approval.
- G. Review construction progress schedule, schedule of shop drawings, and other schedules prepared by the **CONTRACTOR** and determine their acceptability.
- H. Receive and record the date of receipt, and monitor transmission of shop drawings, samples, and test data submitted by the **CONTRACTOR**, review and approve shop drawings, and transmit them back to **CONTRACTOR** as necessary. All such transmittal dates shall be recorded in the submittal log.
- I. Respond to Requests for Information (RFI's) and issue such written clarifications or interpretations of the contract documents which shall be consistent with or reasonably inferable from the overall intent of the contract documents. If **CONTRACTOR** believes that a written clarification or interpretation justifies an increase in the contract price or contract time, **CONTRACTOR** may make a claim therefor as provided in Section 16.14, "Extra Work and Claims".
- J. Verify and approve quantities of Work put in place during the preceding month, verify **CONTRACTOR'S** reimbursable field costs, if any, for authorized overtime, and review the **CONTRACTOR'S** application for payment and certify that the Work has progressed to the point indicated by the **CONTRACTOR**, that to the best of the knowledge, information and belief of Project Designer, based on observations and review, the Work is in accordance with the contract documents, and that the **CONTRACTOR** is entitled to the

- payment of the amount certified.
- K. Correct design defects.
 - L. Prepare all change orders and supplemental agreements in the form and manner approved by the **CITY**, for authorized alterations to the Work as provided for under the contract documents. Recommend to and obtain from the **CITY** approval or denial of changes to the contract times or price.
 - M. In the event of a claim or dispute by **CONTRACTOR**, interpret the requirements of the contract documents and judge the acceptability of the Work thereunder.
 - N. Assist Project Representative in preparation of punch list items.
 - O. Assist Project Representative with final inspection.
 - P. Recommend to **CITY** final completion.

16.4.2 Lines and Grades

Unless otherwise specified in the *Special Conditions*, all lines and grades shall be furnished by the Project Designer or the Project Designer's representative. Whenever necessary, construction Work shall be suspended to permit performance of this work, but such suspension will be as brief as practicable and the **CONTRACTOR** shall be allowed no extra compensation therefore. The **CONTRACTOR** shall give the Project Designer reasonable notice of the time and place where lines and grades will be needed. All stakes, marks, etc. shall be carefully preserved by the **CONTRACTOR**, and in case of careless destruction or removal by the **CONTRACTOR** or the **CONTRACTOR'S** employees, such stakes, marks, etc. shall be replaced at the **CONTRACTOR'S** expense.

16.4.3 Initial Determinations

The Project Designer initially shall determine all claims, disputes and other matters in question between the **CONTRACTOR** and the **CITY** relating to the execution or progress of the Work or the interpretation of the contract documents, and the Project Designer's decision shall be rendered in writing within a reasonable time.

16.4.4 Payments for Work

The Project Designer shall review **CONTRACTOR'S** applications for payment and supporting data, determine the amount owed to the **CONTRACTOR** and approve, in writing, payment to **CONTRACTOR** in such amounts; such approval of payment to **CONTRACTOR** constitutes a representation to the **CITY** of Project Designer's professional judgment that the Work has progressed to the point indicated to the best of the Project Designer's knowledge, information and belief, but such approval of an application for payment to **CONTRACTOR** shall not be deemed as a representation by Project Designer that Project Designer has made any examination to determine how or for what purpose **CONTRACTOR** has used the moneys paid on account of the contract price.

16.4.5 Objections

In the event the Project Designer renders any decision which, in the opinion of either party hereto, is not in accordance with the meaning and intent of this contract, either party may file with the Project Designer within thirty days their written objection to the decision.

16.5 RESPONSIBILITIES OF THE PROJECT REPRESENTATIVES

16.5.1 Project Representative-City Relationship

The term Project Representative refers to the person or firm appointed by the **CITY** to be on the project site daily to oversee the construction on the **CITY'S** behalf. The Project Representative performs those functions of the person sometimes referred to as the "owner's representative," "resident engineer," "resident project representative," "onsite construction manager," or the "construction administrator." Sometimes the Project Representative will be a City employee, sometimes the Project Representative will be the same person or firm that designed the project, i.e., the Project Designer, and sometimes a different architect or engineer, but in any case, the Project Representative will represent the **CITY** and has only the authority granted by **CITY**, whether through an employment relationship or through a contract for professional services. The duties and responsibilities and the limitations of authority of the Project Representative during construction are set forth in the contract documents. Generally, unless otherwise specifically stated in the ***Special Conditions***, the Project Representative may perform the following functions:

- A. Attend pre-construction conferences, progress meetings and other job conferences as may be required.
- B. Provide "on-site" observation regarding conformance of the Work with the contract documents. Observe and document Work and any delays and identify and reject defective or deficient Work. Observe and approve or reject construction materials and equipment to determine their general compliance with the contract documents.
- C. Assist **CONTRACTOR** in acquiring materials testing laboratory and inspection services.
- D. Schedule, assist and accompany other City staff, the Project Designer and inspectors representing other agencies having jurisdiction over the Project that are visiting the Work and record and report the outcome of these inspections.
- E. Prepare and furnish **CITY** with monthly reports of the progress of the Work and of the **CONTRACTOR'S** compliance with the approved progress schedule.
- F. Review the Project Designer's interpretation of the contract documents for subsequent presentation to **CONTRACTOR** and resolve unanticipated field problems by "on-site" inspections.
- G. Respond to general RFI's for general clarification and interpretation and consult, when appropriate, with Project Designer or refer RFI to Project Designer for response.
- H. Issue field orders.
- I. Advise the Project Designer when it is believed Work should be corrected, rejected, uncovered for observations, or requires special tests or inspections.
- J. Furnish to **CITY** information, as required, relating to the **CONTRACTOR'S** claims including documents, calculations and other information relevant to such claims together with recommendations with regard to payment of such claims.
- K. Maintain orderly files for correspondence, reports or job conferences, reproductions of original contract documents including addenda, authorized alterations to the contract documents, change orders, field orders, additional drawings issued subsequent to the execution of the AGREEMENT, clarification letters, and other alterations to the contract documents, interpretations of the contract documents, progress reports, and other project related documents.
- L. Prepare, with assistance from the Project Designer, punch list items.
- M. Recommend to **CITY** substantial completion.
- N. Perform final inspection with assistance from the Project Designer.
- O. Review **CONTRACTOR'S** completion documents.
- P. Recommend to **CITY**, with concurrence of the Project Designer, final completion.

16.5.2 Professional Inspection by Project Representative

The Project Representative shall make periodic visits to the site to become familiar generally with the progress of the executed Work and to determine if such Work generally meets the essential performance and design features and the technical and functional engineering requirements of the contract documents; provided and except, however, that the Project Representative shall not be responsible for making any detailed, exhaustive, comprehensive or continuous on-site inspection of the quality or quantity of the Work or be in any way responsible, directly or indirectly, for the construction means, methods, techniques, sequences, quality, procedures, programs, safety precautions or lack of same incident thereto or in connection therewith. Notwithstanding any other provision of this AGREEMENT or any other contract document, the Project Representative shall not be in any way responsible or liable for any acts, errors, omissions or negligence of the **CONTRACTOR**, any subcontractor or any of the **CONTRACTOR'S** or subcontractor's agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the Work.

16.6 CONTRACT DOCUMENTS

16.6.1 Ownership of Drawings

The **CONTRACTOR**, and any subcontractor or supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with the **CITY**, shall not have or acquire any title to or ownership rights in any of the drawings, specifications, or other documents, or copies of any thereof, prepared by or bearing the seal of the Project Designer or Project Designer's consultant, and the **CONTRACTOR** shall not reuse any of such drawings or specifications, other documents or copies on extensions of the Work or any other project without written consent of the **CITY** and Project Designer and specific verification or adaption by the Project Designer.

16.6.2 Adequacy of Design

It is understood that the **CITY** believes it has employed competent engineers, architects and designers. It is, therefore, agreed that the **CITY** shall be responsible for the adequacy of the design, sufficiency of the contract documents, the safety of the structure and the practicability of the operations of the completed project; provided the **CONTRACTOR** has complied with the requirements of the said contract documents, all approved modifications thereof, and additions and alterations thereto approved in writing by the **CITY**. The burden of proof of such compliance shall be upon the **CONTRACTOR** to show that the **CONTRACTOR** has complied with the said requirements of the contract documents, all approved modifications thereof and all approved additions and alterations thereto.

16.6.3 Specifications

Titles to divisions and paragraphs in the specifications are introduced merely for convenience and are not to be taken as a correct or complete segregation of the several units of material and labor. No responsibility, either direct or implied, is assumed by the Project Designer for omissions or duplications by the **CONTRACTOR** or Subcontractors, due to real or alleged error in arrangement of matter in the specifications.

16.6.4 Discrepancies and Omissions

It is the intent of this contract that all Work must be done and all material must be furnished in

accordance with the generally accepted practice, and in the event of any discrepancies between the separate contract documents, the priority of interpretation defined in the *Standard Form of Agreement* shall govern. In the event that there is still any doubt as to the meaning and intent of any portion of the contract, specifications or drawings, the Project Designer shall define which is intended to apply to the Work.

16.7 BONDS

16.7.1 General

The **CONTRACTOR** is required, pursuant to TEX. GOV'T CODE ANN. § 2253.021, and/or the *Standard Form of Agreement* to execute all bonds before commencing the work. The contract shall not be in effect until **CONTRACTOR** executes the AGREEMENT and files with the **CITY** a good and sufficient *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* in the amount equal to one hundred percent (100%) of the total amount of the contract. Such bonds are furnished by the **CONTRACTOR** and approved by the **CITY**.

Within fifteen (15) calendar days after written notification of the award of the contract, the **CONTRACTOR** shall submit *Statutory Performance and Maintenance Bond and Payment Bonds* (when applicable) or *Payment Bond* to **CITY** on standard forms as required by the *Standard Form of Agreement*.

Sureties may not be accepted who are now in default or delinquent on any bonds or who are interested in any litigation against the **CITY**. All bonds must be made on standard forms and must be executed by an approved surety company authorized to do business in the State of Texas and registered by the State Board of Insurance to conduct business in the State of Texas and acceptable according to the most recent list of the companies holding Certificates of Authority from the Secretary of the Treasury of the United States, shown on the Treasury List. Each bond must be executed by the **CONTRACTOR** and the sureties.

Should any surety on the contract be determined unsatisfactory at any time by the City Council, notice will be given to the **CONTRACTOR** to that effect, and the **CONTRACTOR** must provide a new surety satisfactory to the **CITY** within fifteen (15) calendar days. Payments may be withheld until the new surety or sureties, as required, have qualified and been accepted by the **CITY**.

16.7.2 Performance Bond

The performance bond guarantees the **CITY** that the **CONTRACTOR** will fully and faithfully execute the Work and performance of the AGREEMENT according to its terms including price and time and is solely for the protection of the **CITY** in the amount of the contract and conditioned on the faithful performance of the work in accordance with the plans, specifications, and contract documents. Pursuant to TEX. GOV'T CODE ANN. § 2253.021 and the *Standard Form of Agreement* a performance bond is required when the contract amount is in excess of one hundred thousand dollars (\$100,000).

16.7.3 Maintenance Bond

The maintenance bond guarantees the **CITY** that the **CONTRACTOR** will guarantee the Work against faulty workmanship and/or materials for a specified period of time following completion of the AGREEMENT. Pursuant to **CITY** policy and the *Standard Form of Agreement* a

maintenance bond shall accompany the performance bond for a maintenance period of one (1) year after the date of final acceptance of the Work.

16.7.4 Payment Bond

The payment bond guarantees the **CITY** that the **CONTRACTOR** shall pay all bills for materials and labor for work provided for in said AGREEMENT and is solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the prime contractor or a subcontractor to supply public work, labor or material and in the amount of the contract. Pursuant to TEX. GOV'T CODE ANN. § 2253.021 for contracts in excess of \$25,000 a payment bond is required; however, pursuant to **CITY** Policy and the *Standard Form of Agreement* a payment bond shall be required for ALL projects regardless of value.

16.8 INSURANCE REQUIRED

16.8.1 Contractor Shall Maintain Insurance

CONTRACTOR agrees, at its sole expense, to maintain on a primary basis during the life of this Contract and the performance of Work hereunder, insurance coverage, limits, and endorsements unless otherwise noted herein. Insurance required by this contract for the **CITY** as additional insured shall be primary insurance and not contributing with any other insurance available to **CITY**.

CONTRACTOR agrees to provide evidence of the following coverage's at execution of contract:

- Commercial General Liability,
- Business Auto Liability,
- Contractor's Professional Errors & Omissions Liability if required by City Operation Department,
- Inland Marine Builder's Risk Insurance if required by City Operational Department,
- Contractor's Pollution Liability Insurance if required by a City Operational Department,
- Commercial Umbrella / Excess Liability, and
- Worker's Compensation and Employer's Liability

In the event the **CONTRACTOR** performs any site work, other than testing, then all the insurance required herein will need to be evidenced prior to commencement of said site work.

16.8.2 Insurance Requirements shall not limit Contractor's Liabilities and Obligations

The **CONTRACTOR** agrees the insurance requirements herein as well as **CITY'S** review or acknowledgement, is not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the **CONTRACTOR** under this AGREEMENT.

16.8.3 Commercial General Liability

CONTRACTOR agrees to maintain Commercial General Liability at a limit of liability not less than one million (**\$1,000,000**) **Each Occurrence**, two million (**\$2,000,000**) **General Aggregate per project**. **CONTRACTOR** agrees its coverage will not contain any restrictive endorsement(s) excluding or limiting Products - Completed Operations, Independent Contractors, Broad Form Property Damage, X-C-U Coverage (X = Explosion Hazard; C = Collapse Hazard; U = Underground Damage), Contractual Liability or Cross Liability. The **CONTRACTOR** agrees any Self-Insured-Retention or deductible shall not exceed twenty-five thousand (\$25,000).

16.8.4 Business Automobile Liability

CONTRACTOR agrees to maintain Business Automobile Liability at a limit of liability not less than one million **(\$1,000,000) Each Occurrence**. Coverage shall include bodily injury and property damage liability arising out of the operation, maintenance and use of Any Auto, or All Owned Autos, and Hired Autos, and Non-Owned automobiles. In the event **CONTRACTOR** does not own automobiles, **CONTRACTOR** agrees to maintain coverage for Hired & Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

16.8.5 Contractor's Professional Errors & Omissions Liability

If a City Operational Department requires Professional Errors & Omissions Liability coverage, **CONTRACTOR** agrees to maintain **CONTRACTOR'S** Professional Error's & Omissions Liability at a limit of liability not less than one million **(\$1,000,000) Each Occurrence**, two million **(\$2,000,000) General Aggregate**. The **CONTRACTOR** agrees the policy shall include a minimum three (3) year Discovery (tail) reporting period, and a Retroactive Date that equals or precedes the effective date of the AGREEMENT, or the performance of services hereunder. The **CONTRACTOR** agrees the Self-Insured-Retention shall not exceed twenty-five thousand (\$25,000). This coverage may be provided on a Per-Project Basis.

16.8.6 Inland Marine Builder's Risk Insurance

If a City Operational Department requires Inland Marine Builder's Risk coverage, the **CONTRACTOR**, prior to notice to proceed or commencement of Work, whichever occurs first, agrees to maintain an Inland Marine Builder's Risk insurance coverage form with an amended policy period of no less than twenty-two (22) months or estimated project length whichever is longer, if available, providing coverage to protect the interests of the **CITY, CONTRACTOR**, sub-contractors, including property acquired under a sales tax incentive program, property in transit, and property on or off-premises, which shall become part of the Work.

Coverage shall be written on an All-Risk, Replacement Cost, and Completed Value Form basis in an amount at least equal to one-hundred percent (100%) of the projected completed value of the Work, as well as subsequent modifications of that sum due to Change Orders. This policy shall also include Delay Cost coverage for soft costs, which shall at a minimum include additional expenses for interest, legal, consulting, insurance, architectural and engineering, **CONTRACTOR'S** overhead and general conditions, and equipment rental. The period of indemnity shall not be less than twelve (12) months and the limit of Delay Cost coverage not be less than ten percent (10%) of the projected completed value of the Work and shall be a scheduled limit on the policy in addition to a scheduled limit for the hard cost coverage. The waiting period for Delay Cost coverage may not exceed thirty (30) days. Collectively, the scheduled soft cost limit and hard cost limit may equal one-hundred percent (100%) of the projected value of the Work, unless the builder's risk carrier requires the Delay Cost coverage to be in addition to the one hundred percent (100%) projected value of the Work. **CONTRACTOR** agrees to be responsible for reporting increases in the projected completed value of the Work due to Change Orders to its insurance carrier.

The **CONTRACTOR** further agrees that any flat deductible(s) shall not exceed one hundred thousand (\$100,000), any wind percentage deductible (when applicable) shall not exceed ten-percent (10%); and any flood sublimit shall not be less than twenty-five percent (25%) of the projected completed value of the Work for this policy.

The **CONTRACTOR** agrees to endorse the Inland Marine Builder's Risk insurance with a manuscript endorsement eliminating the automatic termination of coverage in the event the building is occupied in whole or in part, or put to its intended use, or partially accepted by **CITY**. The manuscript endorsement shall amend the automatic termination clause to only terminate coverage if the policy expires, is cancelled, the **CITY'S** interest in the building ceases, or the building is accepted or insured by the **CITY**.

The **CONTRACTOR** agrees to endorse the **CITY** as "Additional Insured" on the Inland Marine Builder's Risk Insurance coverage form.

16.8.7 Contractor's Pollution Liability

If a City Operational Department requires Contractor's Pollution Liability coverage, the **CONTRACTOR** agrees to maintain Contractor's Pollution Liability at a limit of liability not less than one million (**\$1,000,000**) **Each Occurrence**, two million (**\$2,000,000**) **General Aggregate**.

16.8.8 Commercial Umbrella/Excess Liability

CONTRACTOR agrees to maintain either a Commercial Umbrella or Excess Liability at a limit of liability not less than five million (**\$5,000,000**) **Each Occurrence**, five million (**\$5,000,000**) **General Aggregate**. The **CONTRACTOR** agrees to endorse the **CITY** as an "Additional Insured" on the Commercial Umbrella/Excess Liability, unless the Commercial Umbrella/Excess Liability provides coverage on a pure/true follow-form basis, or the **CITY** is automatically defined as an Additional Protected Person. The **CONTRACTOR** agrees any Self-Insured-Retention or deductible shall not exceed twenty-five thousand (\$25,000).

16.8.9 Additional Insured Endorsements

The **CONTRACTOR** agrees to endorse the **CITY** as an "Additional Insured" on the Commercial General Liability. Contractor shall choose one of the three Endorsement Option stated below. All Endorsements shall be in the form required. All pages of the Endorsement(s) shall be attached. The form of the endorsement(s) shall be:

Option 1:

CG 20 10 10 01

Additional Insured - Owners, Lessees, or Contractors – Scheduled Person or Organization

AND, the additional endorsement of

CG 20 37 07 04

Additional Insured – Owners, Lessees, or Contractors – Completed Operations

shall be required to provide back coverage for the **CONTRACTOR'S** "your work" as defined in the policy and liability arising out of the products-completed operations hazard.

Option 2:**CG 20 10 07 04****Additional Insured - Owners, Lessees, or Contractors – Scheduled Person or Organization**

AND, the additional endorsement of

CG 20 37 07 04**Additional Insured – Owners, Lessees, or Contractors – Completed Operations**

shall be required to provide back coverage for the **CONTRACTOR’S** “your work” as defined in the policy and liability arising out of the products-completed operations hazard.

Option 3:**GA 4113 11 99****Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization – Your Work**

AND, the additional endorsement of

GA 233 02 07**Contractors’ Commercial General Liability Broadened – with coverage for Completed Operations in conformance to specific written contract**

CONTRACTOR shall attach actual copies of the endorsements.

Additionally, **CONTRACTOR** agrees to endorse the **CITY** as an “Additional Insured” under the Commercial Umbrella / Excess Liability and the Inland Marine Builders Risk Insurance, if required, as also provided herein.

The name of the organization endorsed as Additional Insured for all endorsements shall read “City of Tyler.”

16.8.10 Deductibles, Coinsurance Penalties & Self-Insured Retention

CONTRACTOR agrees to be fully and solely responsible for any costs or expenses as a result of a coverage deductible, coinsurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, coinsurance penalty, self-insured retention, or coverage exclusion or limitation. For deductible amounts that exceed the amounts stated herein that are acceptable to **CITY**, the **CONTRACTOR** agrees, when requested by **CITY**, to maintain a Commercial Surety Bond in an amount equal to said deductible amount.

16.8.11 Waiver of Subrogation

CONTRACTOR agrees by entering into this written AGREEMENT to a Waiver of Subrogation in favor of the **CITY**, **CONTRACTOR**, sub-contractor, architects, or engineers for each required policy providing coverage during the life of this AGREEMENT. **CONTRACTOR** agrees to notify the insurer and request the policy be endorsed with a Waiver of Transfer of Rights of

Recovery Against Others, or an equivalent endorsement and provide such endorsement to **CITY**. This Waiver of Subrogation requirement shall not apply to any policy, which includes a condition that specifically prohibits such an endorsement, or voids coverage should the **CONTRACTOR** enter into such an agreement on a pre-loss basis.

16.8.12 Right to Revise or Reject

CONTRACTOR agrees the **CITY** reserves the right, but not the obligation, to review or revise any insurance requirement, not limited to limits, coverage and endorsements based on insurance market conditions affecting the availability or affordability of coverage; or changes in the scope of work / specifications affecting the applicability of coverage.

Insurance required herein shall be issued by a company or companies of sound and adequate financial responsibility and authorized to do business in the State of Texas. All policies shall be subject to examination and approval by the City Attorney's Office in the **CITY'S** Legal Department for their adequacy as to form, content, form of protection, and providing company. Additionally, the **CITY** reserves the right, but not the obligation, to review and reject any insurance policies failing to meet the criteria stated herein, or any insurer(s) providing coverage due of its poor financial condition or failure to operate legally in the State of Texas. In such events, **CITY** shall provide **CONTRACTOR** written notice of such revisions or rejections.

16.8.13 No Representation of Coverage Adequacy

The coverage, limits or endorsements required herein protect the primary interests of the **CITY**, and the **CONTRACTOR** agrees in no way should these coverage, limits or endorsements required be relied upon when assessing the extent or determining appropriate types and limits of coverage to protect the **CONTRACTOR** against any loss exposures, whether as a result of the Project or otherwise.

16.8.14 Certificate of Insurance

CONTRACTOR agrees to provide **CITY** with Certificate(s) of Insurance that clearly evidence the **CONTRACTOR'S** insurance contains the minimum coverages, limits, and endorsements set forth herein. A minimum thirty (30) day endeavor to notify due to cancellation or non-renewal of coverage shall be identified on each Certificate(s) of Insurance. In the event the **CITY** is notified that a required insurance coverage will cancel or expire during the period of this AGREEMENT, the **CONTRACTOR** agrees to furnish **CITY** prior to the expiration of such insurance, a new Certificate of Insurance evidencing replacement coverage. When notified by **CITY**, the **CONTRACTOR** agrees to not continue Work pursuant to this AGREEMENT, unless all required insurance remains in effect.

The **CITY** shall have the right, but not the obligation, of prohibiting **CONTRACTOR** from entering the Work site until a new Certificate of Insurance is provided to the **CITY** evidencing the replacement coverage. The **CONTRACTOR** agrees the **CITY** reserves the right to withhold payment to **CONTRACTOR** until evidence of reinstated or replacement coverage is provided to the **CITY**. If the **CONTRACTOR** fails to maintain the insurance as set forth herein, the **CONTRACTOR** agrees the **CITY** shall have the right, but not the obligation, to purchase replacement insurance, which the **CONTRACTOR** agrees to reimburse any premiums or expenses incurred by the **CITY**.

16.8.15 Workers' Compensation & Employer's Liability

- A. The **CONTRACTOR** agrees to maintain its own Workers' Compensation Insurance pursuant to statutory limits. *See* TEX. LAB. CODE ANN. Title 5, Subtitle A, Chapter 401; TEX. ADMIN CODE, Title 28, Part 2. (NOTE: Elective exemptions or coverage through an employee leasing arrangement will NOT satisfy this requirement).
- B. The **CONTRACTOR** agrees to maintain its own Employer's Liability Insurance at a limit of liability not less than one million **\$1,000,000 Bodily Injury by Accident**, one million **\$1,000,000 Bodily Injury by Disease Each Occurrence**, one million **\$1,000,000 Bodily Injury by Disease Aggregate Limit**.
- C. Definitions:
- (1) **Certificate of coverage (certificate)** - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a workers' compensation coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.
 - (2) **Duration of the project** - includes the time from the beginning of work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.
 - (3) **Persons providing services on the project ('subcontractor' in § TEX. LAB. CODE ANN. § 406.096)** - includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes without limitation independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.
- D. The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements which meets the statutory requirements of TEX. LAB. CODE ANN. § 401.011(44).
- E. The contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.
- F. If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.
- G. The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:
- (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for

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- all persons providing services on the project; and
- (2) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- H. The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.
- I. The contractor shall notify the **CITY** in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- J. The contractor shall post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30 point bold type and text in at least 19 point normal type, and shall be in both English and Spanish and any other language common to the worker population. The text for the notices shall be in the text, form and manner prescribed by the Texas Workers' Compensation Commission, as shown in Exhibit 1, without any additional words or changes.
- K. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:
- (1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of TEX. LAB. CODE ANN. § 401.011(44) for all of its employees providing services on the project, for the duration of the project;
 - (2) provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
 - (3) include in all contracts to provide services on the project the language in subsection J of this section;
 - (4) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (5) obtain from each other person with whom it contracts, and provide to the contractor:
 - (a) a certificate of coverage, prior to the other person beginning work on the project; and
 - (b) prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (6) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (7) notify the **CITY** in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
 - (8) contractually require each person with whom it contracts, to perform as required by

paragraphs (1) - (8) of this subsection, with the certificates of coverage to be provided to the person for whom they are providing services.

- L. By signing this contract or providing or causing to be provided a certificate of coverage, the contractor and the person signing this contract is representing to the **CITY** that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- M. The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the **CITY** to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the **CITY**.

EXHIBIT 1
REQUIRED WORKERS' COMPENSATION COVERAGE

"The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes persons providing, hauling, or delivering equipment or materials, or providing labor or transportation or other service related to the project, regardless of the identity of their employer or status as an employee."

"Call the Texas Workers' Compensation Commission at 512-440-3789 to receive information on the legal requirement for coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage."

- N. A person providing services on a project, other than a contractor, shall:
- (1) provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements which meets the statutory requirements of TEX. LAB. CODE ANN. § 401.011(44);
 - (2) provide a certificate of coverage as required by its contract to provide services on the project, prior to beginning work on the project;
 - (3) have the following language in its contract to provide services on the project: 'By signing this contract or providing or causing to be provided a certificate of coverage, the person signing this contract is representing to the **CITY** that all employees of the person signing this contract who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.'

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- (4) provide the person for whom it is providing services on the project, prior to the end of the coverage period shown on its current certificate of coverage, a new certificate showing extension of coverage, if the coverage period shown on the certificate of coverage ends during the duration of the project;
 - (5) obtain from each person providing services on a project under contract to it, and provide as required by its contract:
 - (a) a certificate of coverage, prior to the other person beginning work on the project; and
 - (b) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (6) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (7) notify the **CITY** in writing by certified mail or personal delivery, of any change that materially affects the provision of coverage of any person providing services on the project and send the notice within ten days after the person knew or should have known of the change; and
 - (8) contractually require each other person with whom it contracts to:
 - (a) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;
 - (b) provide a certificate of coverage to it prior to that other person beginning work on the project;
 - (c) include in all contracts to provide services on the project the language in paragraph (3) of this subsection;
 - (d) provide, prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (e) obtain from each other person under contract to it to provide services on the project, and provide as required by its contract:
 - (i) a certificate of coverage, prior to the other person beginning work on the project; and
 - (ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the contract;
 - (f) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (g) notify the **CITY** in writing by certified mail or personal delivery, within ten days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
 - (h) contractually require each person with whom it contracts, to perform as required by this subparagraph and subparagraphs (a)-(g) of this paragraph, with the certificate of coverage to be provided to the person for whom they are providing services.
- O. The failure of a person providing services on a project to comply with any of these provisions is a breach of contract by the person providing services on a project which

entitles the **CITY** to declare the contract void if the person providing services on a project does not remedy the breach within ten (10) days after receipt of notice of breach from the **CITY**.

16.9 QUALITY OF MATERIALS AND WORKMANSHIP

16.9.1 Materials Approved for Work

No materials which have been used by the **CONTRACTOR** for any temporary purpose whatsoever are to be incorporated in the permanent structure without written consent of the Project Designer. All materials to be used shall be new.

Unless otherwise stated, where materials or equipment are specified by a trade or brand name, it is not the intention of the **CITY** to discriminate against an equal product of another manufacturer, but rather to set a definite standard of quality or performance, and to establish an equal basis for the evaluation of bids. Where the words "or approved equal", "or accepted equal" or other such expressions are used, they shall be understood to mean that the thing referred to shall be the equivalent of or equal to some other thing, in the opinion or judgment of the Project Designer. Unless otherwise specified, all materials shall be the best of their respective kinds and shall be in all cases fully equal to approved samples. Notwithstanding that the words "or approved equal", "or accepted equal" or other such expressions may be used in the specifications in connection with a material, manufactured article or process, the material, article or process specifically designated shall be used, unless a substitute shall be approved in writing by the Project Designer, and the Project Designer shall have the right to require the use of such specifically designated material, article, or process.

16.9.2 Testing of Materials

Testing of all materials to be incorporated into the project will be made as directed by the Project Designer or **CITY** at the expense of the **CITY**. All retesting will be at the expense of the **CONTRACTOR**. The testing laboratory will be designated by the **CITY** and all materials must meet the specification requirements. For materials furnished by a manufacturer such as reinforcing steel, expansion joint materials, concrete, pipe, miscellaneous steel, cast iron materials, etc., the **CONTRACTOR** may be required to furnish a manufacturer's certificate that the material meets the requirements specified for this project.

All testing performed by the **CITY** shall be for quality assurance purposes only and shall not constitute any part of the **CONTRACTOR'S** quality control program.

16.9.3 Defects and Their Remedies

The Project Representative shall not have the power to waive the obligations of this contract for the furnishing by the **CONTRACTOR** of good material, and of the **CONTRACTOR** performing good Work as herein described, and in full accordance with the plans and specifications. If the Work or any part thereof, or any material brought on the site of the Work for use in the Work or selected for the same, shall be deemed by the Project Representative as unsuitable or not in conformity with the specifications, the **CONTRACTOR** shall, after receipt of written notice thereof from the Project Representative, forthwith remove such material and rebuild or otherwise remedy such Work so that it shall be in full accordance with this contract.

No failure or omission of the Project Representative to discover, object to or condemn any

defective Work or material shall release the **CONTRACTOR** from the obligations to fully and properly perform the contract, including without limitations, the obligation to at once tear out, remove and properly replace the same at any time prior to final acceptance upon the discovery of said defective Work or material; provided, however, that the Project Representative shall, upon request of the **CONTRACTOR**, inspect and accept or reject any material furnished.

Any questioned Work may be ordered taken up or removed for re-examination by the Project Representative prior to final acceptance, and if found not in accordance with the specifications for said Work, all expense of removing, re-examination and replacement shall be borne by the **CONTRACTOR**, otherwise the expense thus incurred shall be allowed as provided for in Section 16.14, “Extra Work and Claims”, and shall be paid for by the **CITY**; provided that, where inspection or approval is specifically required by the specifications prior to performance of certain Work, should the **CONTRACTOR** proceed with such Work without requesting prior inspection or approval, the **CONTRACTOR** shall bear all expense of taking up, removing, and replacing this Work if so directed by the Project Representative.

16.9.4 Guarantee

The **CONTRACTOR** shall guarantee the materials furnished and the installation performed for a period of one (1) year of operation after the date of final acceptance by the **CITY**.

In the event a defect is found during the guarantee period, the **CONTRACTOR** will be notified and shall immediately repair the defect, furnishing and installing all materials necessary. The repair shall be executed in a manner satisfactory to the **CITY**. Should the **CONTRACTOR** proceed with such repairs without requesting prior inspection or approval, the **CONTRACTOR** shall bear all expense of taking up, removing, and replacing this Work if so directed by the Project Representative.

The **CONTRACTOR** is to perform any repair immediately when notified by the **CITY** without question or delay because of any doubt as to the probable cause of the defect, regardless of whether the repair is covered by the guarantee. In the event that the defect corrected by the **CONTRACTOR** should be found to be caused by some event or disturbance which occurred after the date of the final acceptance, the responsible party will pay the **CONTRACTOR** for the time and materials used in the repair in accordance with the terms of Section 16.14 “Extra Work and Claims”. If the defect necessitating the repair was not found to be caused by a disturbance occurring after the date of the final acceptance, the **CONTRACTOR** shall furnish all labor, equipment, tools, and materials necessary for the repair without any additional payment.

In the event the defect creates an emergency, or if the **CONTRACTOR** fails to begin repair work within a reasonable length of time according to the nature of the defect, the **CITY** reserves the right to perform the repair work by other means. In this event, if the defect is found to be covered by the guarantee, the **CONTRACTOR** shall then pay the **CITY** for the equipment, time, labor, and materials used in accordance with the method of calculating payment for Extra Work as set out in Section 16.14, “Extra Work and Claims”.

The period of the guarantee shall be one (1) year of satisfactory service from the date of final acceptance of the Work by the **CITY**. In the event it is necessary to take the improvements out of service because of defective materials or workmanship, the period of guarantee shall be extended until the improvements have been in continuous service for a period of one (1) year.

16.10 MAINTENANCE OF SITE

16.10.1 Protection of Adjoining Property

The **CONTRACTOR** shall take proper means to protect the adjacent or adjoining property or properties in any way encountered, which might be injured or seriously affected by any process of construction to be undertaken under this AGREEMENT, from any damage or injury by reason of said process of construction; and the **CONTRACTOR** shall be liable for any and all claims for such damage on account of the **CONTRACTOR'S** failure to fully protect all adjoining property. The **CONTRACTOR** agrees to indemnify, hold harmless and defend the **CITY** and Project Designer from and against all claims for property damages to any adjacent or adjoining real property arising or growing out of the performance of the contract, to the extent that such damage was caused by the negligent or intentional acts or omissions of **CONTRACTOR**.

The **CONTRACTOR** shall repair all fences, concrete walls, concrete sidewalks, concrete curbs, gravel, asphalt and concrete driveways, signs, culverts, and all other miscellaneous improvements, unless otherwise specified by bid item in the *Proposal* or *Special Conditions*, at no additional expense to the **CITY**, damaged by the **CONTRACTOR** due to the Work on the project, to a condition equal to or better than their condition before construction.

16.10.2 Driveways and Property Access

The **CONTRACTOR** shall keep all driveways and parking areas to properties adjacent to the site of Work open at all times except for the minimum practical time required to install the Work. The timing for pavement cuts shall be coordinated with the Project Representative in advance of pavement cuts in order to assure that property owners and persons using public roadways are inconvenienced as little as possible and that access to private property is maintained at all times. In addition to other methods for maintaining property access as described elsewhere in the specifications, the **CONTRACTOR** shall either backfill all trenches at the end of the day and place a temporary oil sand surface over streets or driveways, or provide a steel traffic plate of sufficient size and thickness to safely bridge open trenches and allow vehicular access on streets or driveways.

The provision of this equipment and its subsequent maintenance and use shall be subsidiary to the various pay items established in the *Proposal* for furnishing and installing the Work. The provision and use of the steel traffic plate shall not relieve the **CONTRACTOR** from the obligation to backfill the trench and provide temporary gravel patching in paved areas as quickly as practical per the requirements in the *Technical Specifications*.

16.10.3 Traffic Control

The safety of the public and the convenience of traffic shall be regarded as of prime importance. The **CONTRACTOR** shall submit a traffic control plan along with the sequence of construction at the scheduled Pre-Construction Conference, if requested by the **CITY**. Unless otherwise directed, all portions of the streets in this project shall be kept open to traffic. It shall be the responsibility of the **CONTRACTOR** to ensure that two-way traffic (minimum 22' wide) on an all-weather surface may safely bypass the construction site and that access is provided to abutting private property. An all-weather surface shall be of a material and depth as defined in the City of Tyler Unified Development Code and approved by the Project Representative.

The **CONTRACTOR** shall plan and execute all Work in a manner that will cause the minimum interference with traffic. The **CONTRACTOR** shall place, and maintain in good condition,

standard barricades at each end of the project and at other locations where traffic is rerouted or blocked from using regular traffic lanes. Where the work on this project creates a safety hazard to the general public, the **CONTRACTOR** shall furnish and erect sufficient barricades and warning signs to warn the public of the danger. The **CONTRACTOR** shall also provide sufficient flares or other emergency lighting to warn the public at night. Barricades, signs, and traffic handling shall be in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), the latest edition in effect at time of bidding, as adopted by the Texas Department of Transportation (TxDOT).

It shall be the responsibility of the **CONTRACTOR** to furnish, install, and maintain barricades, traffic control devices, signs, and flashers of the size and type specified at locations as shown in the approved traffic control plan throughout the limits of this project from the date of notice to proceed until final acceptance. When directed by the **CITY**, the **CONTRACTOR** shall do the necessary cleanup and finishing immediately after all or a portion of the pavement has been placed, as to allow the **CITY** to provide adequate traffic control to those portions of the completed roadway which will be open to traffic.

Unless specifically provided for under a bid item, barricades, signs and traffic handling shall be furnished, installed, and maintained at the **CONTRACTOR'S** expense.

In case the **CONTRACTOR** fails to provide ingress and egress to private property and/or maintain the proper barricades, signs, and flashers, the **CITY** may provide these services and deduct the cost thereof, including overtime and administrative expenses, from all payments thereafter due the **CONTRACTOR**.

The **CONTRACTOR** shall notify the Project Representative and Traffic Engineer, at least four (4) days (excluding Saturdays, Sundays, and holidays) in advance of beginning the proposed Work, of the **CONTRACTOR'S** intention to close or partially block the street or any part thereof, or of any construction affecting the free flow of traffic.

Should the **CONTRACTOR**, during the Work, reduce an existing two-way roadway to less than twenty-two (22) feet, the **CONTRACTOR** shall provide flagmen and route traffic through the construction area one lane at a time.

A flagman will be required at any time it is necessary for the **CONTRACTOR'S** equipment to move into or across an open traffic lane or at other such times as directed by the Project Representative. A flagman shall be utilized to aid the exit of hauling equipment from open traffic lanes to the work area, and the entry of hauling equipment from the work area to open traffic lanes.

The **CONTRACTOR** shall not remove and/or relocate any regulatory traffic control devices. The Traffic Engineer will be responsible for the removal and/or relocation of all regulatory traffic control devices. Detour routes, as required, will be approved by the Traffic Engineer. The Traffic Engineer will be responsible for the installation of any regulatory traffic control devices that may be required due to the construction of detour routes, excluding warning signs and required warning lights attached thereto.

16.10.4 Erosion Control Plan

Unless otherwise stated in the *Special Conditions*, the **CONTRACTOR** will sequence construction and proceed in a manner that will minimize erosion. The **CONTRACTOR** will be responsible for installing and maintaining adequate erosion control mechanisms. The

CONTRACTOR shall submit an erosion control plan at the scheduled Pre-Construction Conference, if requested by the **CITY**. Erosion control measures shall be in place prior to beginning earthwork activities. Unless otherwise noted, there will be no bid item for the payment of this Work.

16.10.5 Protection of Survey Monuments

The **CONTRACTOR** shall exercise care to preserve and not disturb existing survey monuments and property corner markers.

16.10.6 Manhole, Clean-Out, and Water Valve Locations

When a **CONTRACTOR** installs or lowers existing manholes, clean-outs, and water valves, it is the **CONTRACTOR'S** responsibility to establish the correct location of these appurtenances for future raising to grade. Any additional work needed to locate these appurtenances will be at the **CONTRACTOR'S** expense.

16.10.7 Water Sprinklers

All lawn water sprinkler systems damaged by the **CONTRACTOR**, whether on private property or in the public right of way, shall be repaired at the **CONTRACTOR'S** expense.

16.10.8 Existing Mailboxes

Unless otherwise noted in the plans and specifications, existing mailboxes along the project site will be removed and relocated as necessary by the **CONTRACTOR**. The **CONTRACTOR** must provide daily access to the mailboxes for the delivery of mail by letter carriers. Unless otherwise noted, there will be no bid item for the payment of this Work.

16.11 GENERAL PROVISIONS

16.11.1 Damages

In the event the **CITY** is damaged in the course of the Work by the act, negligence, omission, mistake or default of the **CONTRACTOR**, or should the **CONTRACTOR** unreasonably delay the progress of the work being done by others on the job so as to cause loss for which the **CITY** becomes liable, then the **CONTRACTOR** shall reimburse the **CITY** for such loss.

16.11.2 Losses From Natural Causes

Unless otherwise specified, all loss or damage to the **CONTRACTOR** arising out of the nature of the Work to be done, or from the action of the elements, or from any unforeseen circumstance in the prosecution of the same, or from unusual obstructions or difficulties which may be encountered in the prosecution of the Work, shall be sustained and borne by the **CONTRACTOR** at the **CONTRACTOR'S** own cost and expense.

16.11.3 Public Utilities

All utility adjustments necessary for the completion of the Work in this contract will be made by the owners of the affected utilities, provided said utilities are not made a part of the scope of this project and incorporated within the limits of this project as may be designated by bid items within the *Proposal*. The **CONTRACTOR** shall use the utmost care to preserve and prevent damage to existing utilities. If at any time the **CONTRACTOR** damages the utilities in place through negligence or carelessness, the **CONTRACTOR** shall pay for the full cost of repairing such

damages. Underground utilities shown on these plans are drawn based on records, surface evidence, excavations at certain locations, and best recollection. The **CONTRACTOR** is responsible for carefully locating each underground utility prior to start of construction.

16.11.4 Ozone Action Day

The City of Tyler has adopted Ozone Action Day guidelines to be used on days designated as Ozone Actions Days. All outside **CONTRACTORS** will be required to adhere to these guidelines. Local television stations will advise of an “Ozone Action Day” and the **CITY** will announce the action day over the local government access channel the day prior to an action day. In addition, the **CONTRACTOR** may also be notified of an Ozone Action Day by the Project Representative.

On Ozone Action Days, the Project Representative will work with the **CONTRACTOR** to reduce ozone producing precursors by implementing the **CITY’S** Ozone Action Plan. This plan shall include, but not be limited to:

- A. Consider work schedules that will reduce equipment and vehicle usage in the morning hours during the normal ozone producing season of May through September.
- B. Delay fueling of vehicles until the advisory is over. If fueling is necessary, do so in the late afternoon or early evening. Avoid overfilling the tank and allowing fuel to spill onto the ground. Limit vehicle trips as much as possible. Coordinate activities to avoid duplication of trips. If possible, schedule trips for afternoons.
- C. Avoid idling vehicles unnecessarily. Limit use of weed eaters, tractors, lawnmowers, and power tools. Ensure that all vehicles and equipment are tuned and maintained according to manufacturer’s tune-up and emissions control standards.
- D. Schedule the use of heavy equipment for non-ozone action days. Turn off lights and equipment to reduce power load when vehicles are not in use.
- E. Eliminate the use of oil based paints requiring hydrocarbon based solvents on all action days.

16.12 PROSECUTION AND PROGRESS

16.12.1 Time and Order of Completion

It is the meaning and intent of this contract, unless otherwise herein specifically provided, that the **CONTRACTOR** shall be allowed to prosecute the Work at such times and seasons, in such order of precedence, and in such manner as shall be most conducive to economy of construction: provided, however, that the order and the time of prosecution shall be such that the Work shall be completed in full, in accordance with this contract, the plans and specifications, and within the time of completion designated in the *Standard Form of Agreement*; provided, also, that when the **CITY** is having other work done, either by contract or by its own force, the **CITY** may direct the time and manner of constructing the Work done under this contract, so that conflict will be avoided and the construction of the various works being done for the **CITY** shall be harmonized.

Upon request, the **CONTRACTOR** must, within seven (7) calendar days thereafter, submit a proposed sequence of construction to the Project Designer for review and approval. The **CONTRACTOR** shall also submit, upon request, a construction progress schedule which shall show the order in which the **CONTRACTOR** proposes to carry on the Work, with dates at which the **CONTRACTOR** will start the various parts of the Work, and estimated dates of completion of the various parts. During the course of the Work, the **CONTRACTOR** shall make updates to the construction progress schedule and shall submit the updates to the Project Designer upon

request.

16.12.2 Computation of Contract Time for Completion

The **CONTRACTOR** shall complete the Work in full within the number of working/calendar days, or by the mandatory completion date, stated in the *Standard Form of Agreement*. For the purpose of computation, working/calendar days will be considered as starting on the tenth (10th) day after the date of the written *Notice to Proceed*.

16.12.3 Liquidated Damages

The time set forth in the *Standard Form of Agreement* for the completion of the Work is an essential element of the contract. For each working/calendar day that any Work shall remain uncompleted after the expiration of the working/calendar days specified in the contract, together with any additional working/calendar days allowed, the amount per day given in the following schedule will be deducted from the money due, or to become due, the **CONTRACTOR**, not as a penalty, but as liquidated damages:

Amount of Contract Total Awarded Construction Amount	Amount of Liquidated Damages to be deducted per Working or Calendar Day
Less than \$ 50,000	\$ 50
\$ 50,001 to \$ 100,000	\$ 100
\$ 100,001 to \$ 500,000	\$ 200
\$ 500,001 to \$ 1 million	\$ 400
\$ 1,000,001 to \$ 5 million	\$ 1,000
Over \$ 5,000,000 (5 million)	0.02%

16.12.4 Extension of Time

Should the **CONTRACTOR** be delayed in the completion of the Work by any act or neglect of the **CITY** or Project Designer, or any employee of either, or by other contractors employed by the **CITY**, or by changes ordered in the Work, or by strikes, lockouts, fires, and unusual delays by common carriers, or unavoidable cause or causes beyond the **CONTRACTOR'S** control, or by any cause which the Project Designer shall decide justifies the delay, then an extension of time shall be allowed for completing the Work, sufficient to compensate for the delay, the amount of the extension to be determined by the Project Designer, provided, however, that the **CONTRACTOR** shall give the Project Designer prompt notice in writing of the cause of such delay.

16.12.5 Inclement Weather

"Unusual Inclement Weather" is defined as a rain event beyond that which is defined as "normal rainfall" or other weather related event which occurs at the site and is of sufficient magnitude to prevent the **CONTRACTOR** from performing units of Work critical to maintaining the progress schedule.

Under a calendar day contract, the **CONTRACTOR** may be granted an extension of time because of unusual inclement weather, including but not limited to unusual rainfall events, which are

beyond the normal rainfall recorded and expected for Tyler, Texas. However, the **CONTRACTOR** will not be granted an extension of time for “normal rainfall”, as described below.

“Normal rainfall” compiled by the National Climatic Data Center for Tyler, Texas is considered a part of the calendar day contract, and is not a justification for an extension of time. Listed below are the number of days in each month for which no compensatory days for rainfall events (“Rain Days”) in such months may be claimed:

<u>Month</u>	<u>No. Days</u>
January	3
February	4
March	4
April	5
May	4
June	4
July	4
August	2
September	3
October	3
November	4
December	5

Rain days in addition to the baseline rain day determination described above will be measured with the Project Representative’s approval at the nearest operational public weather data collection facility to the site, including but not limited to the **CITY’S** early warning flood gauge system.

The **CONTRACTOR** may receive credit in any month for unusual inclement weather, and specifically for any rain days in that month which exceed the number of rain days allocated to that month, if a claim is made and the weather event meets the definition for unusual inclement weather, and as applicable, such claimed day is a day on which Work critical to maintaining the progress schedule is scheduled to be performed and is otherwise capable of being performed.

16.12.6 Hindrances and Delays

No claims shall be made by the **CONTRACTOR** for damages resulting from hindrances or delays from any cause, except where the Work is stopped by order of the **CITY** or their representatives during the progress of any portion of the Work embraced in this contract. In case said Work shall be stopped by the act of the **CITY** or their representatives, then such expense, in the judgment of the Project Designer, as caused by such stoppage of said Work shall be paid by the **CITY** to the **CONTRACTOR**.

16.13 MEASUREMENT AND PAYMENT

16.13.1 Quantities and Measurements

No extra or custom measurements of any kind will be allowed, but the actual measured and/or computed length, area, solid contents, number and weight only shall be considered, unless otherwise specifically provided.

16.13.2 Estimated Quantities

This AGREEMENT, including the specifications, plans and *Proposal* is intended to show clearly all Work to be done and material to be furnished hereunder. Where the estimated quantities are shown for the various classes of Work to be done and material to be furnished under this contract, they are approximate and are to be used only as a basis for estimating the probable cost of the Work and for comparing the proposals offered for the Work. It is understood and agreed that the actual amount of Work to be done and material to be furnished under this contract may differ somewhat from these estimates, and that where the basis for payment under this contract is the unit price method, payment shall be for the actual amount of such Work done and the material furnished.

Where payment is based on the unit price method, the **CONTRACTOR** will make no claim for damages, anticipated profits or otherwise on account of any differences which may be found between the quantities of Work actually done, the material actually furnished under this contract and the estimated quantities contemplated and contained in the *Proposal*; provided, however, that in case the actual quantity of any major item should become as much as twenty percent (20%) more than, or twenty percent (20%) less than the estimated or contemplated quantity for such items, then either party to this AGREEMENT, upon demand, shall be entitled to a revised consideration upon the portion of the Work above or below twenty percent (20%) of the estimated quantity.

A "Major Item" shall be construed to be any individual bid item incurred in the *Proposal* that has a total cost equal to or greater than five percent (5%) of the total contract cost, computed on the basis of the *Proposal* quantities and the contract unit prices.

When "plan quantity" is indicated for a bid item, **CONTRACTOR** shall be paid the amount specified in the contract documents without any measurement.

Any revised consideration is to be determined by agreement between the parties, otherwise by the terms of this AGREEMENT, as provided in Section 16.14, "Extra Work and Claims".

16.13.3 Price of Work

In consideration of the furnishing of all the necessary labor, equipment and material, and the completion of all Work by the **CONTRACTOR**, and on the completion of all Work and of the delivery of all material embraced in this contract in full conformity with the specifications and stipulations herein contained, the **CITY** agrees to pay the **CONTRACTOR** the prices set forth in the *Proposal* hereto attached, which has been made a part of this contract. The **CONTRACTOR** hereby agrees to receive such prices in full for furnishing all material and all labor required for the aforesaid Work, also for all expenses incurred, and for well and truly performing the same and the whole thereof in the manner and according to this AGREEMENT.

Where alternate methods of payment are allowed, the method of payment shall be as shown in the *Proposal*.

16.13.4 Arrears

No money shall be paid by the **CITY**, upon any claims, debt, demand, or account whatsoever, to any person, firm, or corporation who is in arrears to the City of Tyler for taxes; and the **CITY** shall be entitled to counterclaim and offset against any such debt, claim, demand, or account in the amount of taxes so in arrears, and no assignment or transfers of such debt, claim, demand, or

account after the said taxes are due, shall affect the right of the **CITY** to do so offset the said taxes against the same.

16.13.5 Payments Withheld

The **CITY** may, on account of subsequently discovered evidence, withhold or nullify the whole or part of any certificate to such extent as may be necessary to be protected from loss on account of:

- A. Defective Work not remedied.
- B. Claims filed or reasonable evidence indicating probable filing of claims.
- C. Failure of the **CONTRACTOR** to make payments properly to sub-contractors or for material or labor.
- D. Damage to the **CITY** or another contractor.
- E. Reasonable doubt that the Work can be completed for the unpaid balance of the contract amount.
- F. Reasonable indication that the Work will not be completed within the contract time.
- G. Failure to submit a construction progress schedule or to submit updates to the construction progress schedule upon request of the **CITY**.

When the above grounds are removed or the **CONTRACTOR** provides a Surety Bond satisfactory to the **CITY**, which will protect the **CITY** in the amount withheld, payment shall be made for amounts withheld because of them.

16.13.6 Partial Payments

On or before the tenth (10th) day of each month, the **CONTRACTOR** shall prepare and submit to the Project Designer for review and approval a statement showing as completely as practicable the total value of the Work done by the **CONTRACTOR** up to and including the last day of the preceding month; said statement shall also include the value of all sound materials delivered on the site of the Work that are to be fabricated into the Work.

The **CITY** shall then pay the **CONTRACTOR** the total amount of the approved statement, less five percent (5%) or ten percent (10%) of the amount thereof, which five percent (5%) or ten percent (10%) shall be retained until final payment, and further less all previous payments and all further sums that may be retained by the **CITY** under the terms of this AGREEMENT. If the contract amount is less than four-hundred thousand (\$400,000), ten percent (10%) of the approved statement will be retained. If the contract amount is four-hundred thousand (\$400,000) or greater, five percent (5%) of the approved statement will be retained. It is understood, however, that in case the whole Work be near to completion and some unexpected and unusual delay occurs due to no fault or neglect on the part of the **CONTRACTOR**, the **CITY** may, upon written recommendation of the Project Designer, pay a reasonable and equitable portion of the retained percentage to the **CONTRACTOR**, or the **CONTRACTOR** at the **CITY'S** option, may be relieved of the obligation to fully complete the Work and, thereupon, the **CONTRACTOR** shall receive payment of the balance due under the contract subject only to the conditions stated under Section 16.13.11, "Final Payment".

16.13.7 Records of Materials Purchased

On or before the tenth (10th) day of each month, the **CONTRACTOR** shall furnish to the Project Designer, one copy of all invoices for materials furnished to be incorporated into the Work, plus a statement of all materials previously included on monthly estimates and incorporated into the Work during the preceding month. This information is to be used to determine the value of

materials on hand to be included in the monthly estimate for periodic payments.

If the **CONTRACTOR** fails to furnish this information, no materials shall be included on the monthly estimates until they are permanently incorporated into the Work.

16.13.8 Use of Completed Portions

The **CITY** shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the time for completing the entire Work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the contract documents. If such prior use increases the cost of or delays the Work, the **CONTRACTOR** shall be entitled to such extra compensation, or extension of time, or both, as the Project Designer may determine.

16.13.9 Substantial Completion

The **CONTRACTOR** shall notify the Project Representative when, in the **CONTRACTOR'S** opinion, the Work is substantially complete and when so notifying the Project Representative, the **CONTRACTOR** shall furnish to the Project Representative in writing a detailed list of unfinished Work. The Project Representative will review the **CONTRACTOR'S** list of unfinished Work and will add thereto such items as the **CONTRACTOR** has failed to include. The "substantial completion" of the structure or facility shall not excuse the **CONTRACTOR** from performing all of the Work undertaken, whether of a minor or major nature, and thereby completing the structure or facility in accordance with the contract documents.

16.13.10 Final Completion and Acceptance

When all Work has been completed on this contract:

- A. The **CONTRACTOR** shall clean and remove from the site of the Work, all surplus and discarded material, temporary structures and debris of every kind. The **CONTRACTOR** shall leave the site of the Work in a neat and orderly condition equal to or better than that which originally existed.
- B. The **CONTRACTOR** shall furnish to the Project Designer a notification stating that all Work has been completed in accordance with the plans and specifications.
- C. Final inspection will be made. If the Work is found to be incomplete or defective, the **CONTRACTOR** shall take whatever measures as are necessary to complete such Work or remedy such deficiencies.
- D. The **CONTRACTOR** shall pay all bills for materials and labor which were incurred in performance of this contract and shall file with the **CITY** a notarized **Contractor's Affidavit of Bills Paid**. In the event the **CONTRACTOR** is unable to pay all bills before receiving final payment, the **CONTRACTOR** shall furnish to the **CITY** an affidavit that all bills are paid except those listed in the affidavit. The list of unpaid bills in the affidavit shall include the amount owed and what the bill is for. This affidavit shall further certify that the **CITY** has the **CONTRACTOR'S** permission to make out separate checks jointly to the **CONTRACTOR** and the company or person to whom each bill is owed. The **CONTRACTOR** shall also provide the **CITY** with applicable Waiver and Release forms (*conditional/unconditional*) covering all labor, services, equipment, or materials furnished to property covered under this Agreement or to persons with whom **CONTRACTOR** contracted with in the performance of this Agreement. A waiver and release given by a **CONTRACTOR** shall substantially comply with the applicable form described in Tex. Prop. Code § 53.284, subsections (d) - (e).
- E. The **CONTRACTOR** shall provide consent of surety, if any, to final payment. If surety is

not provided, the **CONTRACTOR** shall provide complete and legally effective releases or waivers (satisfactory to **CITY**) of all claims arising out of or filed in connection with the Work.

- F. The **CONTRACTOR** shall furnish to the **CITY** a one (1) year maintenance bond for one hundred percent (100%) of the total contract, in favor of the **CITY**.

If the Work is found to be complete in accordance with the contract documents and the **Contractor's Affidavit of Bills Paid** and applicable **Waiver and Release forms** have been filed with the **CITY**, written notice of final acceptance will be made by the **CITY** and final payment will be made in accordance with the terms of the contract documents.

16.13.11 Final Payment

Upon receipt of the notification of final acceptance, the Project Designer shall proceed to make final measurements and prepare a final statement of the value of all Work performed and materials furnished under the terms of the AGREEMENT and shall certify same to the **CITY**. The **CITY** shall pay to the **CONTRACTOR** the balance due the **CONTRACTOR** under the terms of this AGREEMENT, provided the **CONTRACTOR** has fully performed all contractual obligations under the terms of this contract; and said payment shall become due in any event upon said performance by the **CONTRACTOR**. Neither the written notice of final acceptance nor the final payment, nor any provision in the contract documents, shall relieve the **CONTRACTOR** of the obligation for fulfillment of any warranty which may be required.

16.14 EXTRA WORK AND CLAIMS

16.14.1 Changes and Alterations

The **CITY** may make such additions, deletions or revisions as the **CITY** may see fit, in the line, grade, form, dimensions, plans or materials for the Work herein contemplated, or any part thereof, either before or after the beginning of the construction, without affecting the validity of this contract and the accompanying **Statutory Performance and Maintenance Bond** and **Payment Bonds**.

If such changes or alterations diminish the quantity of the Work to be done, they shall not constitute the basis for a claim for damages, or anticipated profits on the Work that may be dispensed with, except as provided for unit price items under Section 16.13, "Measurement and Payment." If the amount of Work is increased, and the Work can fairly be classified under the specifications, such increase shall be paid for according to the quantity actually done and at the unit price, if any, established for such Work under this contract, except as provided for unit price items under Section 16.13, "Measurement and Payment"; otherwise, such additional Work shall be paid for as provided under Section 16.14, "Extra Work and Claims". In case the **CITY** shall make such changes or alterations as shall make useless any Work already done or material already furnished or used in said Work, then the **CITY** shall recompense the **CONTRACTOR** for any material or labor so used, and for any actual loss occasioned by such change, due to actual expenses incurred in preparation for the Work as originally planned.

16.14.2 Change Orders

Without invalidating this AGREEMENT, the **CITY** may, at any time or from time to time, order additions, deletions or revisions to the Work; such changes will be authorized by change order to be prepared by the Project Designer for execution by the **CITY** and the **CONTRACTOR**. The

change order shall set forth the basis for any change in contract price, as hereinafter set forth for Extra Work, and any change in contract time which may result from the change.

In the event the **CONTRACTOR** shall refuse to execute a change order which has been prepared by the Project Designer and executed by the **CITY**, the Project Designer may in writing instruct the **CONTRACTOR** to proceed with the Work as set forth in the change order and the **CONTRACTOR** may make claim against the **CITY** for Extra Work involved therein, as hereinafter provided.

16.14.3 Minor Changes

The Project Representative may authorize minor changes in the Work not inconsistent with the overall intent of the contract documents and not involving an increase in contract price by field order. If the **CONTRACTOR** believes that any minor change or alteration authorized by the Project Representative involves Extra Work and entitles the **CONTRACTOR** to an increase in the contract price, the **CONTRACTOR** shall make written request to the Project Designer for a written change order.

In such case, the **CONTRACTOR**, by copy of the **CONTRACTOR'S** communication to the Project Designer or otherwise in writing, shall advise the **CITY** of the **CONTRACTOR'S** request to the Project Designer for a written change order and that the Work involved may result in an increase in the contract price.

Any request by the **CONTRACTOR** for a change in contract price shall be made prior to beginning the Work covered by the proposed change.

16.14.4 Extra Work

It is agreed that the basis of compensation to the **CONTRACTOR** for Work either added or deleted by a change order or for which a claim for Extra Work is made shall be determined by one or more of the following methods:

Method (A) - By agreed unit prices; or

Method (B) - By agreed lump sum; or

Method (C) - If neither Method (A) nor Method (B) be agreed upon before the Extra Work is commenced, then the **CONTRACTOR** shall be paid the "actual field cost" of the Work, plus fifteen percent (15%).

In the event said Extra Work be performed and paid for under Method (C), then the provisions of this paragraph shall apply and the "actual field cost" is hereby defined to include the cost to the **CONTRACTOR** of all workers, such as foreman, timekeepers, mechanics and laborers, and materials, supplies, trucks, rentals on machinery and equipment, for the time actually employed or used on such Extra Work, plus actual transportation charges necessarily incurred, together with all power, fuel, lubricants, water and similar operating expenses, also all necessary incidental expenses incurred directly on account of such Extra Work, including Social Security, payroll taxes and other benefits, and, a rateable proportion of premiums on **Performance and Maintenance Bond** and **Payment Bonds**, Public Liability and Property Damage and Worker's Compensation, and all other insurance as may be required by any law or ordinance, or directed by the **CITY**, or by them agreed to. The Project Designer may direct the form in which accounts of the "actual field cost" shall be kept and the records of these accounts shall be made available to the Project Designer.

The Project Designer or **CITY** may also specify in writing, before the Work commences, the method of doing the work and the type and kind of machinery and equipment to be used; otherwise these matters shall be determined by the **CONTRACTOR**. Unless otherwise agreed or specified, the prices for the use of machinery and equipment shall be determined by using one hundred percent (100%) of the latest schedule of Equipment Ownership Expense adopted by the Associated General Contractors of America. Where practicable the terms and prices for the use of machinery and equipment shall be incorporated in the written Extra Work order. The fifteen percent (15%) of the "actual field cost" to be paid the **CONTRACTOR** shall cover and compensate the **CONTRACTOR** for profit, overhead, general superintendence and field office expense, and all other elements of cost and expense not embraced within the "actual field cost" as herein defined, except where the **CONTRACTOR'S** camp or field office must be maintained primarily on account of such Extra Work; then the cost to maintain and operate the same shall be included in the "actual field cost".

No claim for Extra Work of any kind will be allowed unless ordered in writing by the Project Designer. In case any orders or instructions, either oral or written, appear to the **CONTRACTOR** to involve Extra Work for which the **CONTRACTOR** should receive compensation or an adjustment in the construction time, the **CONTRACTOR** shall make written request to the Project Designer for written order authorizing such Extra Work. Should a difference of opinion arise as to what does or does not constitute Extra Work, or as to the payment therefore, and the Project Designer insists upon its performance, the **CONTRACTOR** shall proceed with the Work after making written request for written order and shall keep an accurate account of the "actual field cost" thereof, as provided under Method (C).

16.14.5 Time of Filing Claims

All questions of dispute or adjustment presented by the **CONTRACTOR** shall be in writing and filed with the Project Designer within thirty (30) calendar days after the Project Designer has given any directions, order or instruction to which the **CONTRACTOR** desires to take exception. The Project Designer shall reply within thirty (30) calendar days to such written exceptions by the **CONTRACTOR** and render the final decision in writing. It is further agreed that final acceptance of the Work by the **CITY** and the acceptance by the **CONTRACTOR** of the final payment shall be a bar to any claims by either party, except where noted otherwise in the contract documents.

16.15 ABANDONMENT OF CONTRACT

16.15.1 Abandonment by Contractor

Absence of the **CONTRACTOR** from the project for more than fourteen (14) consecutive calendar days, without written consent from the **CITY**, or if the **CONTRACTOR** fails to perform the Work in accordance with the contract documents, including but not limited to, failure to supply sufficient skilled workmen or suitable materials or equipment or failure to adhere to the progress schedule, will constitute abandonment of the project. In case the **CONTRACTOR** should abandon and fail or refuse to resume work within ten (10) calendar days after written notification from the **CITY**, or if the **CONTRACTOR** fails to comply with the orders of the Project Representative, when such orders are consistent with the contract documents, then, and in that case, where performance and payment bonds exist, the Sureties on these bonds shall be notified in writing and directed to complete the Work, and a copy of said notice shall be delivered to the **CONTRACTOR**.

After receiving said notice of abandonment the **CONTRACTOR** shall not remove from the Work any machinery, equipment, tools, materials or supplies then on the job, but the same, together with any materials and equipment under contract for the Work, may be held for use on the Work by the **CITY** or the Surety on the performance bond, or another **CONTRACTOR** in completion of the Work; and the **CONTRACTOR** shall not receive any rental or credit (except when used in connection with Extra Work, where credit shall be allowed as provided for under Section 16.14, “Extra Work and Claims”), it being understood that the use of such equipment and materials will ultimately reduce the cost to complete the Work and be reflected in the final settlement.

Where there is no performance bond provided or in case the Surety should fail to commence compliance with the notice for completion herein before provided for, within ten (10) calendar days after service of such notice, then the **CITY** may provide for completion of the Work in either of the following elective manners:

- A. The **CITY** may thereupon employ such force of men and use such machinery, equipment, tools, materials and supplies as said **CITY** may deem necessary to complete the Work and charge the expense of such labor, machinery, equipment, tools, materials and supplies to said **CONTRACTOR**, and expense so charged shall be deducted and paid by the **CITY** out of such moneys as may be due, or that may thereafter at any time become due to the **CONTRACTOR** under and by virtue of this AGREEMENT. In case such expense is less than the sum which would have been payable under this contract, if the same had been completed by the **CONTRACTOR**, then said **CONTRACTOR** shall not receive the difference. In case such expense is greater than the sum which would have been payable under this contract, if the same had been completed by said **CONTRACTOR**, then the **CONTRACTOR** and/or the **CONTRACTOR’S** Surety shall pay the amount of such excess to the **CITY**; or
- B. The **CITY**, under sealed bids, may let the contract for the completion of the Work under substantially the same terms and conditions which are provided in this contract. In case any increase in cost to the **CITY** under the new contract as compared to what would have been the cost under this contract, such increase shall be charged to the **CONTRACTOR** and the Surety shall be and remain bound therefor. However, should the cost to complete any such new contract prove to be less than what would have been the cost to complete under this contract, the **CONTRACTOR** and/or the **CONTRACTOR’S** Surety shall not be credited therewith.

When the Work shall have been substantially completed the **CONTRACTOR** and the **CONTRACTOR’S** Surety shall be so notified and notifications of completion and final acceptance, as provided herein above, shall be issued. A complete itemized statement of the contract accounts, certified to by the Project Designer as being correct, shall then be prepared and delivered to the **CONTRACTOR** and the **CONTRACTOR’S** Surety, whereupon the **CONTRACTOR** and/or the **CONTRACTOR’S** Surety, shall pay the balance due as reflected by said statement, within fifteen (15) calendar days after the date of such notification of completion.

In the event the statement of accounts shows that the cost to complete the Work is less than that which would have been the cost to the **CITY** had the Work been completed by the **CONTRACTOR** under the terms of this contract; or when the **CONTRACTOR** and/or the **CONTRACTOR’S** Surety shall pay the balance shown to be due by them to the **CITY**, then all machinery, equipment, tools, materials or supplies left on the site of the Work shall be turned over to the **CONTRACTOR** and/or the **CONTRACTOR’S** Surety. Should the cost to complete the Work exceed the contract price, and the **CONTRACTOR** and/or the **CONTRACTOR’S** Surety fail to pay the amount due the **CITY** within the time designated herein above, and there remains

any machinery, equipment, tools, materials or supplies on the site of the Work, notice thereof, together with an itemized list of such equipment and materials, shall be mailed to the **CONTRACTOR** and the **CONTRACTOR'S** Surety at the respective addresses designated in this contract, provided, however, that actual written notice given in any manner will satisfy this condition. After mailing, or other giving of such notice, such property shall be held at the risk of the **CONTRACTOR** and the **CONTRACTOR'S** Surety subject only to the duty of the **CITY** to exercise ordinary care to protect such property. After fifteen (15) calendar days from the date of said notice, the **CITY** may sell such machinery, equipment, tools, materials or supplies and apply the net sum derived from such sale to the credit of the **CONTRACTOR** and the **CONTRACTOR'S** Surety. Such sale may be made at either public or private sale, with or without notice, as the **CITY** may elect. The **CITY** shall release any machinery, equipment, tools, materials, or supplies, which remain on the Work, and belong to persons other than the **CONTRACTOR** or the **CONTRACTOR'S** Surety, to their proper owners. The books on all operations provided herein shall be open to the **CONTRACTOR** and the **CONTRACTOR'S** Surety.

Section 17 SPECIAL CONDITIONS

Special Conditions of Agreement for Tyler Capital Improvement Project (CIP) Contracts

Check Here if this Section is NOT Used ☐

[Insert Special Conditions Here]

**Section 18 TECHNICAL AND/OR SPECIAL
SPECIFICATIONS; PLANS AND OTHER DRAWINGS;
OTHER DOCUMENTS AS NEEDED**

Check Here if this Section is NOT Used ☐



DOCUMENT 000101 - PROJECT TITLE PAGE

1.1 PROJECT MANUAL VOLUME 1.

- A. Project Name: W.E. Winters Park
- B. Owner: City of Tyler, TX.
- C. Tyler, Texas.
- D. Firm Project No. 24-012
- E. MHS Planning and Design, TBPE # F-14571
- F. Tyler-TX.
- G. Phone: 903 597 6606
- H. Website: www.mhsplanning.com

END OF DOCUMENT 000101



THE SEAL APPEARING ON THIS DOCUMENT
WAS AUTHORIZED BY DAVID B. SHIPP,
PLA #2121 ON APRIL 15, 2024.

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DOCUMENT 003119 - EXISTING CONDITION INFORMATION

1.2 EXISTING CONDITION INFORMATION

- A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of the Bidders' own investigations. They are made available for Bidders' convenience and information, but are not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.
- B. Existing drawings that include information on existing conditions including previous construction at Project site can be provided if requested to the City or MHS Planning and Design.
- C. Survey information that includes information on existing conditions provided by by Freeman Surveying, is available for viewing at the office of Engineer.
- D. Photographic report of existing conditions that includes photographic documentation on existing conditions, prepared by MHS Planning and Design, is available at the office of Engineer.
- E. Related Requirements:

END OF DOCUMENT 003119

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
 - 2. Unit-cost allowances.
 - 3. Quantity allowances.
 - 4. Contingency allowances.
- C. Related Requirements:
 - 1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.

1.2 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.3 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.4 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.6 UNIT-COST ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.7 QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.8 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.9 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
 - 3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
 - 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

END OF SECTION 012100

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

1.2 DEFINITIONS

- A. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- B. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.

1.3 PREINSTALLATION MEETINGS

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

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones.
- C. Samples: For each type of the following:
 - 1. Organic Mulch: Sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
 - 2. Protection-Zone Fencing: Assembled Samples.
 - 3. Protection-Zone Signage: Full-size Samples.
- D. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.

1.5 INFORMATIONAL SUBMITTALS

- A. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

- B. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- C. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1.6 QUALITY ASSURANCE

- A. Arborist Qualifications: Certified Arborist as certified by ISA, licensed arborist in jurisdiction where Project is located, current member of ASCA, or registered Consulting Arborist as designated by ASCA.

1.7 FIELD CONDITIONS

- A. The following practices are prohibited within protection zones:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Moving or parking vehicles or equipment.
 - 3. Foot traffic.
 - 4. Erection of sheds or structures.
 - 5. Impoundment of water.
 - 6. Excavation or other digging unless otherwise indicated.
 - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- B. Do not direct vehicle or equipment exhaust toward protection zones.
- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PRODUCTS

1.8 MATERIALS

- A. Backfill Soil: Stockpiled soil of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.
 - 1. Mixture: Well-blended mix of two parts stockpiled soil to one part planting soil.
- B. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:
 - 1. Type: Shredded hardwood, Ground or shredded bark or Wood and bark chips].

- C. Protection-Zone Fencing: Fencing fixed in position and meeting one of the following requirements: Previously used materials may be used when approved by Engineer.
1. Chain-Link Protection-Zone Fencing: Galvanized-steel fencing fabricated from minimum 2-inch opening, 0.148-inch- diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch- OD line posts, and 2-7/8-inch- OD corner and pull posts; with 1-5/8-inch- OD top rails and 0.177-inch- diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.
 - a. Height: 72 inches.
 2. Plywood Protection-Zone Fencing: Plywood framed with four 2-by-4-inch rails, with 4-by-4-inch preservative-treated wood posts spaced not more than 96 inches apart.
 - a. Height: 72 inches.
 3. Wood Protection-Zone Fencing: Constructed of two 2-by-4-inch horizontal rails, with 4-by-4-inch preservative-treated wood posts spaced not more than 96 inches apart, and lower rail set halfway between top rail and ground.
 - a. Height: 72 inches.
 4. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and supported by tubular or T-shape galvanized-steel posts spaced not more than 96 inches apart. High-visibility orange color.
 - a. Height: 72 inches.
 5. Gates: Swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones.
- D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering.

EXECUTION

1.9 EXAMINATION

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

1.10 PREPARATION

- A. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

- B. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated. Do not exceed indicated thickness of mulch.
 - 1. Apply 2-inch uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches of tree trunks.

1.11 PROTECTION ZONES

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones in a manner that will prevent people from easily entering protected areas except by entrance gates.
 - 1. Chain-Link Fencing: Install to comply with ASTM F567 and with manufacturer's written instructions.
 - 2. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Architect.
 - 3. Access Gates: Install where indicated.
- B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Architect.
- C. Maintain protection zones free of weeds and trash.
- D. Maintain protection-zone fencing and signage in good condition as acceptable to Architect and remove when construction operations are complete and equipment has been removed from the site.

1.12 EXCAVATION

- A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312000 "Earth Moving" unless otherwise indicated.
- B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.
- C. Do not allow exposed roots to dry out before placing permanent backfill.

1.13 ROOT PRUNING

- A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as follows:
 - 1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.

2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
 3. Cover exposed roots with burlap and water regularly.
 4. Backfill as soon as possible according to requirements in Section 312000 "Earth Moving."
- B. Root Pruning at Edge of Protection Zone: Prune tree roots by cleanly cutting all roots to the depth of the required excavation.
- C. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by hand, use narrow-tine spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

1.14 CROWN PRUNING

- A. Prune branches that are affected by temporary and permanent construction. Prune branches as directed by arborist.
1. Prune to remove only broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.
 2. Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.
 3. Pruning Standards: Prune trees according to ANSI A300 (Part 1).
- B. Cut branches with sharp pruning instruments; do not break or chop.
- C. Do not paint or apply sealants to wounds.
- D. Chip removed branches and [spread over areas identified by Engineer.

1.15 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- C. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with backfill soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

1.16 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

1.17 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Architect.
 - 1. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.
 - 2. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.
- B. Excess Mulch: Rake mulched area within protection zones, being careful not to injure roots. Rake to loosen and remove mulch that exceeds a 2-inch uniform thickness to remain.

1.18 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 015639

SECTION 015723 - TEMPORARY STORM WATER POLLUTION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Temporary stormwater pollution controls.

1.2 STORMWATER POLLUTION PREVENTION PLAN

- ##### **A.**
- The Stormwater Pollution Prevention Plan (SWPPP) is part of the Contract Documents and is bound into this Project Manual.

1.3 PREINSTALLATION MEETINGS

- ##### **A.**
- Preinstallation Conference: Conduct conference at Project Site.

1.4 INFORMATIONAL SUBMITTALS

- ##### **A.**
- Stormwater Pollution Prevention Plan (SWPP): Within 15 days of date established for commencement of the Work, submit completed SWPPP.
- ##### **B.**
- EPA authorization under the EPA's "2017 Construction General Permit (CGP)."
- ##### **C.**
- Stormwater Pollution Prevention (SWPP) Training Log: For each individual performing Work under the SWPPP.
- ##### **D.**
- Inspection reports.

1.5 QUALITY ASSURANCE

- ##### **A.**
- Stormwater Pollution Prevention Plan (SWPPP) Coordinator: Experienced individual or firm with a record of successful water pollution control management coordination of projects with similar requirements.
1. SWPPP Coordinator shall complete and finalize the SWPPP form.
 2. SWPPP Coordinator shall be responsible for inspections and maintaining of all requirements of the SWPPP.
- ##### **B.**
- Installers: Trained as indicated in the SWPPP.

PRODUCTS

1.6 TEMPORARY STORMWATER POLLUTION CONTROLS

- A. Provide temporary stormwater pollution controls as required by the SWPPP.

EXECUTION

1.7 INSTALLATION

- A. Comply with all best management practices, general requirements, performance requirements, reporting requirements, and all other requirements included in the SWPPP.
- B. Locate stormwater pollution controls in accordance with the SWPPP.
- C. Conduct construction as required to comply with the SWPPP and that minimize possible contamination or pollution or other undesirable effects.
 - 1. Inspect, repair, and maintain SWPPP controls during construction.
 - a. Inspect all SWPPP controls not less than every seven days, and after each occurrence of a storm event, as outlined in the SWPPP.
- D. Remove SWPPP controls at completion of construction and restore and stabilize areas disturbed during construction.

END OF SECTION 015723

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved by Architect through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify basis-of-design product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a comparable product request. Engineer will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Architect's Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
 1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

- a. Sole product may be indicated by the phrase: "Subject to compliance with requirements, provide the following: ..."
2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole manufacturer/source may be indicated by the phrase: "Subject to compliance with requirements, provide products by the following: ..."
3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements.
 - a. Limited list of products may be indicated by the phrase: "Subject to compliance with requirements, provide one of the following: ..."
4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, which complies with requirements.
 - a. Non-limited list of products is indicated by the phrase: "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following: ..."
5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
 - a. Limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, provide products by one of the following: ..."
6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, which complies with requirements.
 - a. Non-limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following: ..."
7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.

- C. Visual Matching Specification: Where Specifications require "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 - 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 - 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 - 2. Evidence that proposed product provides specified warranty.
 - 3. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 - 4. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for limits on use of Project site.
 - 2. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.

1.2 INFORMATIONAL SUBMITTALS

- A. Certificates: Submit certificate signed by land surveyor or professional engineer certifying that location and elevation of improvements comply with requirements.
- B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- C. Certified Surveys: Submit two copies signed by land surveyor or professional engineer.
- D. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

1.3 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and

- patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services; and other utilities.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Engineer and Construction Manager promptly.
- B. General: Engage a land surveyor or professional engineer to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.

3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 4. Inform installers of lines and levels to which they must comply.
 5. Check the location, level and plumb, of every major element as the Work progresses.
 6. Notify Engineer and Construction Manager when deviations from required lines and levels exceed allowable tolerances.
 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Engineer and Construction Manager.

3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
- D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
- E. Final Property Survey: Engage a land surveyor or professional engineer to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor or professional engineer, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
1. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Remove and replace damaged, defective, or non-conforming Work.

3.6 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition and construction waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
 - 1. Section 011200 "Multiple Contract Summary" for coordination of responsibilities for waste management.
 - 2. Section 042000 "Unit Masonry" for disposal requirements for masonry waste.
 - 3. Section 044313.13 "Anchored Stone Masonry Veneer" for disposal requirements for excess stone and stone waste.
 - 4. Section 044313.16 "Adhered Stone Masonry Veneer" for disposal requirements for excess stone and stone waste.
 - 5. Section 311000 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.2 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 7 days of date established for commencement of the Work.

1.4 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Include the following information:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste salvaged, both estimated and actual in tons.
 - 5. Quantity of waste recycled, both estimated and actual in tons.
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.5 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements.
- B. Waste Management Conference(s): Conduct conference(s) at Project site to comply with requirements in Section 013100 "Project Management and Coordination."

1.6 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate

quantities by weight or volume, but use same units of measure throughout waste management plan.

- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 - 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 - 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 - 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 - 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

PRODUCTS

EXECUTION

1.7 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
 - 1. Distribute waste management plan to everyone concerned within three days of submittal return.
 - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
 2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.
- E. Waste Management in Historic Zones or Areas: Transportation equipment and other materials shall be of sizes that clear surfaces within historic spaces, areas, rooms, and openings, by 12 inches or more.

1.8 SALVAGING DEMOLITION WASTE

- A. Comply with requirements in Section 024119 "Selective Demolition" for salvaging demolition waste.
- B. Salvaged Items for Reuse in the Work:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 3. Store items in a secure area until installation.
 4. Protect items from damage during transport and storage.
 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- C. Salvaged Items for Owner's Use:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area [on-site] [off-site] [designated by Owner].
 5. Protect items from damage during transport and storage.

1.9 RECYCLING WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall be shared equally by Owner and Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

1.10 RECYCLING DEMOLITION WASTE

- A. Asphalt Paving: Grind asphalt to maximum 4-inch size.
- B. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.
- C. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 1. Pulverize concrete to maximum 4-inch size.
- D. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 1. Pulverize masonry to maximum 1-1/2-inch size.
 2. Clean and stack undamaged, whole masonry units on wood pallets.
- E. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- F. Metals: Separate metals by type.
 1. Structural Steel: Stack members according to size, type of member, and length.
 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- G. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.
- H. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.
- I. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.
- J. Metal Suspension System: Separate metal members, including trim and other metals from acoustical panels and tile, and sort with other metals.

- K. Carpet: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
 - 1. Store clean, dry carpet in a closed container or trailer provided by carpet reclamation agency or carpet recycler.
- L. Carpet Tile: Remove debris, trash, and adhesive.
 - 1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by carpet reclamation agency or carpet recycler.
- M. Piping: Reduce piping to straight lengths and store by material and size. Separate supports, hangers, valves, sprinklers, and other components by material and size.
- N. Conduit: Reduce conduit to straight lengths and store by material and size.
- O. Lamps: Separate lamps by type and store according to requirements in 40 CFR 273.

1.11 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 - 2. Polystyrene Packaging: Separate and bag materials.
 - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Wood Materials:
 - 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 - 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.
 - 1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.
- D. Paint: Seal containers and store by type.

1.12 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.
- C. Burning: Do not burn waste materials.
- D. Burning: Burning of waste materials is permitted only at designated areas on Owner's property, provided required permits are obtained. Provide full-time monitoring for burning materials until fires are extinguished.

1.13 ATTACHMENTS

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 2. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 3. Section 017900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at final completion.

1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest control inspection.

1.4 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Engineer or Construction Manager. Label with manufacturer's name and model number.
 5. Submit testing, adjusting, and balancing records.
 6. Submit sustainable design submittals not previously submitted.
 7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
 6. Advise Owner of changeover in utility services.
 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 9. Complete final cleaning requirements.
 10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1.5 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
 - 1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 - 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 4. Submit pest-control final inspection report.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1.6 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Submit list of incomplete items in the following format:
 - a. PDF electronic file. Engineer will return annotated file.

1.7 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
 - 1. Submit via PDF to the Engineer.

D. Warranties in Paper Form:

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

E. Provide additional copies of each warranty to include in operation and maintenance manuals.

PRODUCTS

1.8 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

EXECUTION

1.9 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - c. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - d. Sweep concrete floors broom clean in unoccupied spaces.
 - e. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - f. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - g. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - h. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.

- i. Leave Project clean and ready for occupancy.
- C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.
- D. Construction Waste Disposal: Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

1.10 REPAIR OF THE WORK

- A. Complete repair and restoration operations, before requesting inspection for determination of Substantial Completion.
- B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

END OF SECTION 017700

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for final property survey.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up record prints.
 - 2. Number of Copies: Submit copies of record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit one paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and one of file prints.
 - 3) Submit record digital data files and one set(s) of plots.
 - 4) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit three paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and three set(s) of prints.
 - 3) Print each drawing, whether or not changes and additional information were recorded.
 - c. Final Submittal:
 - 1) Submit one paper-copy set(s) of marked-up record prints.
 - 2) Submit record digital data files and three set(s) of record digital data file plots.
 - 3) Plot each drawing file, whether or not changes and additional information were recorded.

- B. Record Specifications: Submit one paper copy of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

1.3 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 - 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 - 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Engineer. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
 2. Format: DWG.
 3. Format: Annotated PDF electronic file.
 4. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 5. Refer instances of uncertainty to Engineer for resolution.
 6. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 013100 "Project Management and Coordination" for requirements related to use of Architect's digital data files.
 - b. Architect will provide data file layer information. Record markups in separate layers.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file.
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Engineer.
 - e. Name of Contractor.

1.4 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.

5. Note related Change Orders and record Drawings where applicable.

B. Format: Submit record Specifications as annotated PDF electronic file.

1.5 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, and record Drawings where applicable.

C. Format: Submit record Product Data as annotated PDF electronic file.

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

1.6 MAINTENANCE OF RECORD DOCUMENTS

A. Maintenance of Record Documents: Store record documents in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Engineer's reference during normal working hours.

END OF SECTION 017839

SECTION 024116 - STRUCTURE DEMOLITION

GENERAL

1.7 SUMMARY

A. Section Includes:

1. Demolition and removal of buildings.
2. Removing below-grade construction.
3. Disconnecting, capping or sealing, abandoning in-place and removing site utilities.
4. Salvaging items for reuse by Owner.

1.8 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.9 PREINSTALLATION MEETINGS

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

1.10 INFORMATIONAL SUBMITTALS

- A. Engineering Survey: Submit engineering survey of condition of building.
- B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.
 1. Adjacent Buildings: Detail special measures proposed to protect adjacent buildings to remain.
- C. Schedule of building demolition activities with starting and ending dates for each activity.
- D. Predemolition photographs or video.
- E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician.

1.11 CLOSEOUT SUBMITTALS

- A. Inventory of items that have been removed and salvaged.

1.12 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

1.13 FIELD CONDITIONS

- A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.
- B. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.
 - 1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
 - 2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.
 - a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.
- C. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Owner will notify the contractor about the removal of any items prior to building demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. On-site storage or sale of removed items or materials is not permitted.
- F. Arrange demolition schedule so as not to interfere with Owner's on-site operations or operations of adjacent occupied buildings.

PRODUCTS

1.14 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

1.15 SOIL MATERIALS

- A. Satisfactory Soils: Comply with requirements in Section 312000 "Earth Moving."

EXECUTION

1.16 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting demolition operations.
- B. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.
- C. Inventory and record the condition of items to be removed and salvaged.

1.17 PREPARATION

- A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.
- B. Salvaged Items: Comply with the following:
 - 1. Clean salvaged items of dirt and demolition debris.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to storage area designated by Owner or indicated on Drawings.
 - 5. Protect items from damage during transport and storage.

1.18 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Utilities to be Disconnected: Locate, identify, disconnect, and seal or cap off utilities serving buildings and structures to be demolished.
 - 1. Owner will arrange to shut off utilities when requested by Contractor.
 - 2. Arrange to shut off utilities with utility companies.
 - 3. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
 - 4. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.
 - 5. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

1.19 PROTECTION

- A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.
- B. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.
- C. Existing Utilities to Remain: Maintain utility services to remain and protect from damage during demolition operations. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
- D. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated. Comply with requirements in Section 015000 "Temporary Facilities and Controls."
 - 1. Protect adjacent buildings and facilities from damage due to demolition activities.
 - 2. Protect existing site improvements, appurtenances, and landscaping to remain.
 - 3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
 - 4. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 5. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
 - 6. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
 - 7. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.
- E. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

1.20 DEMOLITION

- A. General: Demolish indicated buildings completely. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
 - 2. Maintain fire watch during and for at least 1 hour after flame-cutting operations.
 - 3. Maintain adequate ventilation when using cutting torches.
 - 4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- B. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.
 2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations.
- C. Explosives: Use of explosives is not permitted.
- D. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.
- E. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- F. Salvage: Items to be removed and salvaged are indicated on Drawings.
- G. Demolish foundation walls and other below-grade construction [that are within footprint of new construction and extending 5 feet outside footprint indicated for new construction.
1. Remove below-grade construction, including basements, foundation walls, and footings, completely to at least 6 inches below grade.
- H. Existing Utilities: Demolish existing utilities and below-grade utility structures that are within 5 feet outside footprint indicated for new construction. Abandon utilities outside this area.
- I. Hydraulic Elevator Systems: Demolish and remove elevator system, including cylinder, plunger, well assembly, steel well casing and liner, oil supply lines, and tanks.
- J. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials according to backfill requirements in Section 312000 "Earth Moving."
- K. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.
- L. Promptly repair damage to adjacent buildings caused by demolition operations.

1.21 CLEANING

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
- B. Do not burn demolished materials.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

END OF SECTION 024116

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

1.2 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.3 PREINSTALLATION MEETINGS

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

1.4 INFORMATIONAL SUBMITTALS

- A. Engineering Survey: Submit engineering survey of condition of building.
- B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.
- C. Schedule of selective demolition activities with starting and ending dates for each activity.
- D. Predemolition photographs or video.
- E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician.

1.5 CLOSEOUT SUBMITTALS

- A. Inventory of items that have been removed and salvaged.

1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Owner will notify the contractor about the removal of any items prior to building demolition.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
- G. Arrange selective demolition schedule so as not to interfere with Owner's operations.

1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

PRODUCTS

1.9 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

- B. Standards: Comply with ASSE A10.6 and NFPA 241.

EXECUTION

1.10 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
- C. Inventory and record the condition of items to be removed and salvaged.

1.11 PREPARATION

- A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

1.12 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. Arrange to shut off utilities with utility companies.
 - 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

- f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

1.13 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
- C. Remove temporary barricades and protections where hazards no longer exist.

1.14 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 4. Maintain fire watch during and for at least 1 hour after flame-cutting operations.
 - 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 6. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner or indicated on Drawings.
 - 5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition[**and cleaned**] and reinstalled in their original locations after selective demolition operations are complete.

1.15 CLEANING

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 030130 - MAINTENANCE OF CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Removal of deteriorated concrete and subsequent patching.
2. Floor joint repair.
3. Epoxy crack injection.
4. Corrosion-inhibiting treatment.
5. Polymer sealers.

1.2 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."
- B. General: Unit prices include the cost of preparing existing construction to receive the work indicated.

1.3 PREINSTALLATION MEETINGS

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

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: Cured Samples for each exposed product and for each color and texture specified.

1.5 INFORMATIONAL SUBMITTALS

- A. Material certificates.
- B. Product test reports.
- C. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Concrete-Maintenance Specialist Qualifications: Engage an experienced concrete-maintenance firm that employs installers and supervisors who are trained and approved by manufacturer to apply packaged patching-mortar, crack-injection adhesive, corrosion-inhibiting treatments and polymer sealers to perform work of this Section. Firm shall have completed work similar in

material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience in only installing or patching new concrete is insufficient experience for concrete-maintenance work.

- B. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.
 - 1. Concrete removal and patching.
 - 2. Floor joint repair.
 - 3. Epoxy crack injection.
 - 4. Polymer sealer.

PRODUCTS

1.7 MANUFACTURERS

- A. Source Limitations: For repair products, obtain each color, grade, finish, type, and variety of product from single source and from single manufacturer with resources to provide products of consistent quality in appearance and physical properties.

1.8 BONDING AGENTS

- A. Epoxy-Modified, Cementitious Bonding and Anticorrosion Agent: Manufactured product that consists of water-insensitive epoxy adhesive, portland cement, and water-based solution of corrosion-inhibiting chemicals that forms a protective film on steel reinforcement.
- B. Epoxy Bonding Agent: ASTM C881/C881M, bonding system [**Type II**] [**Type V**] and free of VOCs.
- C. Latex Bonding Agent, Redispersible: ASTM C1059/C1059M, Type I for use at nonstructural and interior locations unless otherwise indicated.
- D. Latex Bonding Agent, Non-Redispersible: ASTM C1059/C1059M, Type II for use at structural and exterior locations and where indicated.

1.9 PATCHING MORTAR

- A. Patching Mortar Requirements:
 - 1. Only use patching mortars that are recommended by manufacturer for each applicable horizontal, vertical, or overhead use orientation.
 - 2. Color and Aggregate Texture: Provide patching mortar and aggregates of colors and sizes necessary to produce patching mortar that matches existing, adjacent, exposed concrete. Blend several aggregates if necessary to achieve suitable matches.
 - 3. Coarse Aggregate for Patching Mortar: ASTM C33/C33M, washed aggregate, Size No. 8, Class 5S. Add to patching-mortar mix only as permitted by patching-mortar manufacturer.
- B. Cementitious Patching Mortar : Packaged, dry mix for repair of concrete.

1. Compressive Strength: Not less than 4000 psi at 28 days when tested according to ASTM C109/C109M.
- C. Rapid-Strengthening, Cementitious Patching Mortar: Packaged, dry mix, ASTM C928/C928M for repair of concrete.
 1. Compressive Strength: Not less than 2000 psi within three hours when tested according to ASTM C109/C109M.
- D. Polymer-Modified, Cementitious Patching Mortar: Packaged, dry mix for repair of concrete and that contains a non-redispersible latex additive as either a dry powder or a separate liquid that is added during mixing.
 1. Compressive Strength: Not less than 4000 psi at 28 days when tested according to ASTM C109/C109M.
- E. Polymer-Modified, Silica-Fume-Enhanced, Cementitious Patching Mortar: Packaged, dry mix for repair of concrete and that contains silica fume complying with ASTM C1240 and a non-redispersible latex additive as either a dry powder or a separate liquid that is added during mixing. Retain "Compressive Strength" Subparagraph below if required. Insert subparagraphs for other required characteristics to suit Project.
 1. Compressive Strength: Not less than 4000 psi at 28 days when tested according to ASTM C109/C109M.

1.10 JOINT FILLER

- A. Epoxy Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A Shore durometer hardness of at least 80 according to ASTM D2240.
- B. Polyurea Joint Filler: Two-component, semirigid, 100 percent solids, polyurea resin with a Type A Shore durometer hardness of at least 80 according to ASTM D2240.
- C. Color: As selected by Architect/Owner from full range of industry colors.

1.11 EPOXY CRACK-INJECTION MATERIALS

- A. Epoxy Crack-Injection Adhesive: ASTM C881/C881M, bonding system **Type I, Type IV, Type IV at structural locations and where indicated, Type I at other locations**; free of VOCs.
 1. Capping Adhesive: Product manufactured for use with crack-injection adhesive by same manufacturer.

1.12 CORROSION-INHIBITING MATERIALS

- A. Corrosion-Inhibiting Treatment: Waterborne solution of alkaline corrosion-inhibiting chemicals for concrete-surface application that penetrates concrete by diffusion and forms a protective film on steel reinforcement.

1.13 POLYMER-SEALER MATERIALS

- A. Epoxy Polymer Sealer: Low-viscosity epoxy, penetrating sealer and crack filler recommended by manufacturer for penetrating and sealing cracks in exterior concrete traffic surfaces; free of VOCs.
 - 1. Color: As selected by Architect/Owner from full range of industry colors.
- B. Methacrylate Polymer Sealer: Low-viscosity, high-molecular-weight methacrylate, penetrating sealer and crack filler recommended by manufacturer for penetrating and sealing cracks in exterior concrete traffic surfaces; free of VOCs.
 - 1. Color: As selected by Architect/Owner from full range of industry colors.

1.14 MISCELLANEOUS MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I, II, or III unless otherwise indicated.
- B. Water: Potable.

1.15 MIXES

- A. General: Mix products, in clean containers, according to manufacturer's written instructions.
- B. Dry-Pack Mortar: Mix required type(s) of patching-mortar dry ingredients with just enough liquid to form damp cohesive mixture that can be squeezed by hand into a ball but is not plastic.

EXECUTION

1.16 CONCRETE MAINTENANCE

- A. Have concrete-maintenance work performed only by qualified concrete-maintenance specialist.
- B. Comply with manufacturers' written instructions for surface preparation and product application.

1.17 EXAMINATION

- A. Notify Architect seven days in advance of dates when areas of deteriorated or delaminated concrete and deteriorated reinforcing bars will be located.
- B. Locate areas of deteriorated or delaminated concrete using hammer or chain-drag sounding and mark boundaries. Mark areas for removal by simplifying and squaring off boundaries. At columns and walls make boundaries level and plumb unless otherwise indicated.
- C. Pachometer Testing: Locate at least three reinforcing bars using a pachometer, and drill test holes to determine depth of cover. Calibrate pachometer using depth of cover measurements, and verify depth of cover in removal areas using pachometer.

- D. Perform surveys as the Work progresses to detect hazards resulting from concrete-maintenance work.

1.18 PREPARATION

- A. Ensure that supervisory personnel are on-site and on duty when concrete maintenance work begins and during its progress.
- B. Protect persons, motor vehicles, surrounding surfaces of building being repaired, building site, plants, and surrounding buildings from harm resulting from concrete maintenance work.
 - 1. Comply with each product manufacturer's written instructions for protections and precautions.
 - 2. Contain dust and debris generated by concrete maintenance work and prevent it from reaching the public or adjacent surfaces.
 - 3. Protect floors and other surfaces along haul routes from damage, wear, and staining.
 - 4. Provide supplemental sound-control treatment to isolate removal and dismantling work from other areas of the building.
 - 5. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
- C. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is in working order.
 - 1. Prevent solids such as aggregate or mortar residue from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from concrete maintenance work.
 - 2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.
- D. Preparation for Concrete Removal: Make explorations, probes, and inquiries as necessary to determine condition of construction to be removed in the course of repair.
 - 1. Verify that affected utilities have been disconnected and capped.
 - 2. Provide and maintain shoring, bracing, and temporary structural supports as required to preserve stability and prevent unexpected or uncontrolled movement, settlement, or collapse of construction being demolished and construction and finishes to remain. Strengthen or add new supports when required during progress of removal work.
- E. Reinforcing-Bar Preparation: Remove loose and flaking rust from exposed reinforcing bars by high-pressure water cleaning, abrasive blast cleaning, needle scaling or wire brushing until only tightly adhered light rust remains.
 - 1. Where section loss of reinforcing bar is more than 25 percent, or 20 percent in two or more adjacent bars, cut bars and remove and replace as indicated on Drawings.
 - 2. Remove additional concrete as necessary to provide at least 3/4-inch clearance at existing and replacement bars.
 - 3. Splice replacement bars to existing bars according to ACI 318 by lapping, welding, or using mechanical couplings.

- F. Preparation of Floor Joints for Repair: Saw-cut joints full width to edges and depth of spalls, but not less than 1 inch deep. Clean out debris and loose concrete; vacuum or blow clear with compressed air.

1.19 REMOVAL OF CONCRETE

- A. Do not overload structural elements with debris.
- B. Saw-cut perimeter of areas indicated for removal to a depth of at least 1/2 inch. Make cuts perpendicular to concrete surfaces and no deeper than cover on reinforcement.
- C. Remove deteriorated and delaminated concrete by breaking up and dislodging from reinforcement.
- D. Remove additional concrete if necessary to provide a depth of removal of at least 1/2 inch over entire removal area.
- E. Where half or more of the perimeter of reinforcing bar is exposed, bond between reinforcing bar and surrounding concrete is broken, or reinforcing bar is corroded, remove concrete from entire perimeter of bar and to provide at least 3/4-inch clearance around bar.
- F. Test areas where concrete has been removed by tapping with hammer, and remove additional concrete until unsound and disbonded concrete is completely removed.
- G. Provide surfaces with a fractured profile of at least 1/8 inch that are approximately perpendicular or parallel to original concrete surfaces. At columns and walls, make top and bottom surfaces level unless otherwise directed.
- H. Thoroughly clean removal areas of loose concrete, dust, and debris.

1.20 APPLICATION OF BONDING AGENT

- A. Epoxy-Modified, Cementitious Bonding and Anticorrosion Agent: Apply to reinforcing bars. Apply to reinforcing bars in two coats, allowing first coat to dry two to three hours before applying second coat. Allow to dry before placing patching mortar.
- B. Epoxy Bonding Agent: Apply to reinforcing bars, leaving no pinholes or other uncoated areas. Place patching mortar while epoxy is still tacky. If epoxy dries, recoat before placing patching mortar.
- C. Latex Bonding Agent, Type I: Apply to concrete by brush roller or spray. Allow to dry before placing patching mortar.
- D. Latex Bonding Agent, Type II: Mix with portland cement and scrub into concrete surface. Place patching mortar while bonding agent is still wet. If bonding agent dries, recoat before placing patching mortar.

- E. Slurry Coat for Cementitious Patching Mortar: Wet substrate thoroughly and then remove standing water. Scrub a slurry of neat patching mortar mixed with latex bonding agent into substrate, filling pores and voids.

1.21 INSTALLATION OF PATCHING MORTAR

- A. Place patching mortar as specified in this article unless otherwise recommended in writing by manufacturer or where dry-pack mortar is indicated.
 - 1. Provide forms where necessary to confine patch to required shape.
 - 2. Wet substrate and forms thoroughly and then remove standing water.
- B. Pretreatment: Apply specified bonding agent.
- C. General Placement: Place patching mortar by troweling toward edges of patch to force intimate contact with edge surfaces. For large patches, fill edges first and then work toward center, always troweling toward edges of patch. At fully exposed reinforcing bars, force patching mortar to fill space behind bars by compacting with trowel from sides of bars.
- D. Vertical Patching: Place material in lifts of not more than thickness recommended by manufacturer. Do not feather edge.
- E. Overhead Patching: Place material in lifts of not more than thickness recommended by manufacturer. Do not feather edge.
- F. Consolidation: After each lift is placed, consolidate material and screed surface.
- G. Multiple Lifts: Where multiple lifts are used, score surface of lifts to provide a rough surface for placing subsequent lifts. Allow each lift to reach final set before placing subsequent lifts.
- H. Finishing: Allow surfaces of lifts that are to remain exposed to become firm and then finish to a surface matching adjacent concrete.
- I. Curing: Wet-cure cementitious patching materials, including polymer-modified cementitious patching materials, for not less than seven days by water-fog spray or water-saturated absorptive cover.

1.22 INSTALLATION OF DRY-PACK-MORTAR

- A. Use dry-pack mortar for deep cavities and where indicated. Place as specified in this article unless otherwise recommended in writing by manufacturer.
 - 1. Provide forms where necessary to confine patch to required shape.
 - 2. Wet substrate and forms thoroughly and then remove standing water.
- B. Pretreatment: Apply specified bonding agent.

- C. Place dry-pack mortar into cavity by hand, and compact tightly into place. Do not place more material at a time than can be properly compacted. Continue placing and compacting until patch is approximately level with surrounding surface.
- D. After cavity is filled and patch is compacted, trowel surface to match profile and finish of surrounding concrete.
- E. Wet-cure patch for not less than seven days by water-fog spray or water-saturated absorptive cover.

1.23 FLOOR-JOINT REPAIR

- A. Cut out deteriorated concrete [**and reconstruct sides of joint with patching mortar**] **<Insert requirement>** as indicated on Drawings. Install joint filler in nonmoving floor joints where indicated and as specified in this article.
- B. Depth: Install joint filler to a depth of at least 1 inch. Use fine silica sand no more than 1/4 inch deep to close base of joint. Do not use sealant backer rods or compressible fillers below joint filler.
- C. Top Surface: Install joint filler so that when cured, it is flush at top surface of adjacent concrete. If necessary, overfill joint and remove excess when filler has cured.

1.24 EPOXY CRACK INJECTION

- A. Clean cracks with oil-free compressed air or low-pressure water to remove loose particles.
- B. Clean areas to receive capping adhesive of oil, dirt, and other substances that would interfere with bond.
- C. Place injection ports as recommended by epoxy manufacturer, spacing no farther apart than thickness of member being injected. Seal injection ports in place with capping adhesive.
- D. Seal cracks at exposed surfaces with a ribbon of capping adhesive at least 1/4 inch thick by 1 inch wider than crack.
- E. Inject cracks wider than 0.003 inch to a depth of 8 inches.
- F. Inject epoxy adhesive, beginning at widest part of crack and working toward narrower parts. Inject adhesive into ports to refusal, capping adjacent ports when they extrude epoxy. Cap injected ports and inject through adjacent ports until crack is filled.
- G. After epoxy adhesive has set, remove injection ports and grind surfaces smooth.

1.25 APPLICATION OF CORROSION-INHIBITING-TREATMENT

- A. Apply corrosion-inhibiting treatment to surfaces indicated on Drawings, from wall-to-wall or curb-to-curb and from joint-to-joint in the perpendicular direction.

- B. Apply by brush, roller, or airless spray in two coats at manufacturer's recommended application rate. Remove film of excess treatment before patching treated concrete or applying a sealer.

1.26 APPLICATION OF POLYMER SEALER

- A. Apply polymer sealer by brush, roller, or airless spray at manufacturer's recommended application rate.
- B. Apply to traffic-bearing surfaces, including parking areas and walks.

1.27 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Perform the following tests and inspections:
 - 1. Packaged, Cementitious Patching Mortar: Engineer to determine the amount of randomly selected sets of samples for each type of mortar required, tested according to ASTM C928/C928M.
 - 2. Joint Filler: Core-drilled samples to verify proper installation.
 - a. Testing Frequency: One sample for each 100 feet of joint filled.
 - b. Where samples are taken, refill holes with joint filler.
 - 3. Epoxy Crack Injection: Core-drilled samples to verify proper installation.
 - a. Testing Frequency: Three samples from mockup and one sample for each 100 feet of crack injected.
 - b. Where samples are taken, refill holes with epoxy mortar.
- C. Product will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION 030130

SECTION 033053 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Sustainable Design Submittals:
 - 1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
 - 2. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each regional material.
 - 3. Laboratory Test Reports: For curing and sealing compounds, indicating compliance with requirements for low-emitting materials.
- C. Design Mixtures: For each concrete mixture.

1.3 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.

PRODUCTS

1.4 CONCRETE, GENERAL

- A. Comply with ACI 301.
- B. Comply with ACI 117.

1.5 STEEL REINFORCEMENT

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- B. Reinforcing Bars: ASTM A615/A615M, Grade 60, deformed.

- C. Plain-Steel Welded-Wire Reinforcement: ASTM A1064/A1064M, plain, fabricated from as-drawn steel wire into flat sheets.

1.6 WATER

- A. Water for use in concrete mixtures shall conform to the provisions of AASHTO Test Method T-26 for quality of water.

1.7 CONCRETE MATERIALS

- A. Regional Materials: Concrete shall be manufactured within 500 miles of Project site from aggregates and cementitious materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
- B. Regional Materials: Concrete shall be manufactured within 500 miles of Project site.
- C. Cementitious Materials:
 - 1. Portland Cement: ASTM C150/C150M, Type I or Type III.
 - 2. Fly Ash: ASTM C618, Class C or F.
 - 3. Slag Cement: ASTM C989/C989M, Grade 100 or 120.
 - 4. Blended Hydraulic Cement: ASTM C595/C595M, Type IS, portland blast-furnace slag or Type IP, portland-pozzolan or Type IL, portland-limestone or Type IT, ternary blended cement.
- D. Normal-Weight Aggregate: ASTM C33/C33M, 1-1/2-inch nominal maximum aggregate size.
- E. Air-Entraining Admixture: ASTM C260/C260M.
- F. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C494/C494M, Type A.
 - 2. Retarding Admixture: ASTM C494/C494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C494/C494M, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
 - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C494/C494M, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C1017/C1017M, Type II.
- G. Water: ASTM C94/C94M.

1.8 FIBER REINFORCEMENT

- A. Synthetic Micro-Fiber: Monofilament or fibrillated polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C1116/C1116M, Type III, 1/2 to 1-1/2 inches long.

1.9 RELATED MATERIALS

- A. Vapor Retarder: Plastic sheet, ASTM E1745, Class A or B.
- B. Vapor Retarder: Polyethylene sheet, ASTM D4397, not less than 10 mils thick; or plastic sheet, ASTM E1745, Class C.
- C. Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber, or ASTM D1752, cork or self-expanding cork.

1.10 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.
- C. Moisture-Retaining Cover: ASTM C171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C309, Type 1, Class B.
- F. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C1315, Type 1, Class A.
 - 1. Products shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

1.11 CONCRETE MIXTURES

- A. Normal-Weight Concrete:
 - 1. Minimum Compressive Strength: 4000 psi (unless otherwise indicated in the plans) at 28 days.
 - 2. Maximum W/C Ratio: 0.50.
 - 3. Cementitious Materials: Use fly ash, pozzolan, slag cement, and blended hydraulic cement as needed to reduce the total amount of Portland cement, which would otherwise be used, by not less than 40 percent.
 - a. Slump Limit: maximum 4 inches for slabs on grade, grade beams, structural slabs & beams, driveways and walks, and retaining walls. Maximum 3 inches for walls, columns, curb and gutter. Maximum 5 inches for drilled shafts and underreamed foundations. This applies to concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture.
 - 4. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of trowel-finished floor slabs to exceed 3 percent.

- B. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than a rate of 1.0 lb/cu. yd.

1.12 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C94/C94M, and furnish batch ticket information.
 - 1. When air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

EXECUTION

1.13 FORMWORK INSTALLATION

- A. Design, construct, erect, brace, and maintain formwork according to ACI 301.

1.14 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1.15 VAPOR-RETARDER INSTALLATION

- A. Install, protect, and repair vapor retarders according to ASTM E1643; place sheets in position with longest dimension parallel with direction of pour.
 - 1. Lap joints 6 inches and seal with manufacturer's recommended adhesive or joint tape.

1.16 STEEL REINFORCEMENT INSTALLATION

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
 - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

1.17 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness

- C. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.

1.18 CONCRETE PLACEMENT

- A. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
- B. Do not add water to concrete during delivery, at Project site, or during placement.
- C. Consolidate concrete with mechanical vibrating equipment according to ACI 301.

1.19 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections exceeding 1/2 inch.
 - 1. Apply to concrete surfaces not exposed to public view.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8 inch.
 - 1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.
- C. Rubbed Finish: Apply the following rubbed finish, defined in ACI 301, to smooth-formed-finished as-cast concrete where indicated:
 - 1. Smooth-rubbed finish.
 - 2. Grout-cleaned finish.
 - 3. Cork-floated finish.
- D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

1.20 FINISHING UNFORMED SURFACES

- A. General: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

- B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on surface.
 - 1. Do not further disturb surfaces before starting finishing operations.
- C. Scratch Finish: Apply scratch finish to surfaces indicated and surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, portland cement terrazzo, and other bonded cementitious floor finishes unless otherwise indicated.
- D. Float Finish: Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, fluid-applied or direct-to-deck-applied membrane roofing, or sand-bed terrazzo.
- E. Trowel Finish: Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.
- F. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thinset methods. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.
- G. Slip-Resistive Broom Finish: Apply a slip-resistive finish to surfaces indicated and to exterior concrete platforms, steps, and ramps. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.

1.21 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 305.1 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- D. Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.

- c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
- 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
- 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
- 4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

1.22 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Tests: Perform according to ACI 301.
 - 1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
 - 2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.

END OF SECTION 033053

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Protecting existing vegetation to remain.
2. Removing existing vegetation.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Disconnecting, capping, or sealing site utilities.
7. Temporary erosion and sedimentation control.

1.2 PREINSTALLATION MEETINGS

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

1.3 MATERIAL OWNERSHIP

- A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.4 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.
- B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.
- E. Tree- and Plant-Protection Zones: Protect according to requirements in Section 015639 "Temporary Tree and Plant Protection."

PRODUCTS

1.5 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."
 - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

EXECUTION

1.6 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- C. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

1.7 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

1.8 TREE AND PLANT PROTECTION

- A. Protect trees and plants remaining on-site according to requirements in Section 015639 "Temporary Tree and Plant Protection."

- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations according to requirements in Section 015639 "Temporary Tree and Plant Protection."

1.9 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
 - 1. Arrange with utility companies to shut off indicated utilities.
- B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's written permission.
- C. Removal of underground utilities is included in earthwork sections; in applicable fire suppression, plumbing, HVAC, electrical, communications, electronic safety and security, and utilities sections; and in Section 024116 "Structure Demolition" and Section 024119 "Selective Demolition."

1.10 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - 1. Grind down stumps and remove roots larger than 3 inches in diameter, obstructions, and debris to a depth of 24 inches below exposed subgrade.
 - 2. Use only hand methods or air spade for grubbing within protection zones.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.
- C. Areas scheduled for clearing shall be cleared of stumps, brush, logs, rubbish, trees and shrubs, except such trees and shrubs and certain areas designated by the Consultant for preservation. Those trees, shrubs and other landscape features specifically designated by the Consultant for preservation shall be carefully protected from abuse, marring or damage during construction operations. Continual parking and/or servicing of equipment under the branches of trees designated for preservation will not be permitted. Trees and shrubs designated for preservation that must be pruned shall be trimmed as directed and all exposed cuts over 2 inches in diameter shall be treated with an approved material.
- D. Areas required for embankment construction; for roadway, trails, channel and structural excavation; and for borrow sites and material sources shall be cleared and grubbed. On areas

required for roadway, trail, channel, or structural excavation, all stumps, roots, etc., (except for designated trees and brush) shall be removed to a depth of at least 2 feet below the lower elevation of the excavation. On areas required for embankment construction, all stumps, roots, etc., (except for designated trees and brush) shall be removed to a depth of at least 2 feet below the existing ground surface. All holes remaining after clearing and grubbing shall be backfilled and tamped as directed by the Consultant and the entire area bladed to prevent ponding of water and to provide drainage, except, in areas to be immediately excavated, the Consultant may direct that the holes not be backfilled. When permitted by the plans, trees and stumps may be cut off as close to natural ground as practicable on areas which are to be covered by at least three feet of embankment. On areas required for borrow sites and material sources, stumps, roots, etc., (except for designated trees and shrubs) shall be removed to the complete extent necessary to prevent such objectionable matter becoming mixed with the material to be used in construction.

- E. All cleared and grubbed material shall be disposed of in a manner satisfactory to the Consultant. Unless otherwise provided, all merchantable timber removed as required above shall become the property of the Contractor.
- F. Cleared material shall be shredded, chipped, burned (if allowed by local ordinances), or hauled off site. Shredded or chipped material may be disposed of on the site as directed by the Consultant.
- G. No timber shall be cut or defaced outside of the right of way lines, clearing limits, or material pit limits as indicated on the plans or by the Consultant.
- H. "Clearing and Grubbing" will be measured by the "Acre" or by the 100-Foot Station" regardless of the width of the established right of way. Measurement for payment will be made only on areas indicated and classified on plans as "Clearing and Grubbing", except that required work on additional areas (such as additional right of way, additional borrow and material sources, additional cut and embankment areas, etc.) Not originally proposed by plans but found necessary during construction, and which comes within the purview of "Clearing and Grubbing" as established on plans for the contract shall be measured accordingly. Areas other than those set forth above will not be measured for payment.
- I. All work performed and measured as provided under "Measurement" will be paid for at the unit price bid for "Clearing and Grubbing", which price shall be full compensation for furnishing all labor, equipment, tools, supplies, arranging for and providing disposal sites if disposed of by hauling off the project, and incidentals necessary to complete the work. All work performed in clearing and grubbing areas not so designated on plans, except "additional areas" as defined under "Measurement", will not be paid for directly but shall be considered as subsidiary work pertaining to the various bid items.

1.11 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to depth indicated on drawings in a manner to prevent intermingling with underlying subsoil or other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

1.12 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

1.13 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials, and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating and filling for rough grading the Site.
2. Preparing subgrades for slabs-on-grade, walks, pavements, turf and grasses, and plants.
3. Excavating and backfilling for buildings and structures.
4. Drainage course for concrete slabs-on-grade.
5. Subbase course for concrete walks and pavements.
6. Subbase course and base course for asphalt paving.
7. Excavating and backfilling trenches for utilities and pits for buried utility structures.

1.2 DEFINITIONS

A. Backfill: Soil material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.

- H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct preexcavation conference at Project Site.

1.4 INFORMATIONAL SUBMITTALS

- A. Material test reports.

1.5 FIELD CONDITIONS

- A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.
- B. Do not commence earth-moving operations until plant-protection measures specified in Section 015639 "Temporary Tree and Plant Protection" are in place.

PRODUCTS

1.6 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D2487 or Groups A-1, A-2-4, A-2-5, and A-3 according to AASHTO M 145, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification [Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D2487 or Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145, or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and zero to 5 percent passing a No. 8 sieve.

1.7 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored to comply with local practice or requirements of authorities having jurisdiction.
- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored to comply with local practice or requirements of authorities having jurisdiction.

EXECUTION

1.8 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

1.9 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
- B. The Contractor shall perform excavation of every type of material encountered within the limits of the project and extend a sufficient distance to allow for placing and removing of forms, installation of piping and other work required for construction. Satisfactory excavation material free from waste, rubbish, trash, organic material, large rocks, waste concrete or other unsuitable material, shall be stored at the site for use as backfill. Any unsatisfactory material from excavation shall be transported from the site and disposed of as directed by the Consultant. Material required for fill or embankment in excess of that produced by excavation within grading limits shall be excavated from approved borrow areas.
- C. The bottom of excavation shall be firm and capable of supporting the loads imposed on the soil. All excavation for major foundations shall be carried to solid ground regardless of depth specified on any drawing. No backfill shall be allowed on any major foundation excavation to meet required elevation except as specifically recommended in soil study, if a soils study has been conducted. Compacted fill shall be used for matching required elevations only where a small amount of settlement is not a major consideration.
- D. Walls of excavations in earth not capable of self-support shall be adequately shored or the excavation shall be enlarged so that loose earth does not infiltrate into space required for concrete, or produce a pressure on forms for concrete.
- E. Provisions shall be made for controlling water seepage into excavated areas by pumping, sheet piling, concrete seal coat or other suitable means depending on local field conditions.
- F. Planning of foundation work shall be such as to minimize or eliminate the need for excavation adjacent to an already poured major foundation.
- G. Excavation for concrete foundations, service pits, and other work shall be of ample dimensions to allow for forming of the concrete work if required.
- H. Where excavation is required for many footings in a general area, the entire area may be excavated.
- I. If underground obstructions are encountered which are not shown on the drawings, the Contractor shall request instructions from the Consultant before proceeding with the work.
- J. Excavated material in excess of requirements for backfill shall be spoiled in the area and leveled for proper drainage as directed by the Consultant, Disposal of such materials shall be on the Owner's property.

- K. Such deleterious materials, encountered during excavation, which may be deemed as unsuitable for surface soil shall be disposed of "off-site" at the Contractor's expense and as the Contractor's responsibility.
- L. Existing fences, buildings, and structures and/or utilities of any character, where so shown or noted on the drawings or designated by the Consultant, shall not be removed or disturbed by the Contractor, unless approved by the Consultant.

1.10 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch . If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
 - 2. Pile Foundations: Stop excavations 6 to 12 inches above bottom of pile cap before piles are placed. After piles have been driven, remove loose and displaced material. Excavate to final grade, leaving solid base to receive concrete pile caps.
 - 3. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.
- B. Excavations at Edges of Tree- and Plant-Protection Zones:
 - 1. Excavate by hand or with an air spade to indicated lines, cross sections, elevations, and subgrades. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
 - 2. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

1.11 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

1.12 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Unless otherwise specified on the Plans or permitted by the Consultant, all utility lines shall be constructed in open cut trenches with vertical sides. Trenches shall be sheathed and braced to the extent necessary to maintain the sides of the trench in vertical position throughout the construction period. Adequacy of the sheathing and bracing shall be the responsibility of the Contractor but will be subject to the approval of the Consultant. Trench safety systems are to be used as required by law.

- C. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 - 1. Clearance: 12 inches each side of pipe or conduit or as indicated in the plans.
- D. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - 1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- E. Trenches in Tree- and Plant-Protection Zones:
 - 1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
 - 2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.
 - 3. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

1.13 SUBGRADE INSPECTION

- A. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

1.14 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 3000 psi, may be used when approved by Engineer.
 - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Engineer.

1.15 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

1.16 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Section 033000 "Cast-in-Place Concrete."
- D. Trenches under Roadways: Provide 4-inch thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course. Concrete is specified in Section 033000 "Cast-in-Place Concrete."
- E. Initial Backfill: Place and compact initial backfill of subbase material or satisfactory soil approved by the Engineer, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit or as indicated in the plans.
 - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- F. Final Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.
- G. Warning Tape: Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

1.17 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use satisfactory soil material.
 - 3. Under steps and ramps, use engineered fill.
 - 4. Under building slabs, use engineered fill.
 - 5. Under footings and foundations, use engineered fill.

1.18 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.

2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

1.19 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to [ASTM D698] or [ASTM D1557]:
 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent, or as shown in plans.
 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent or as shown in plans.
 3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at **85** percent or as shown in plans.
 4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent or as shown in plans.
- D. Density testing shall be performed by a commercial testing laboratory selected by the Consultant. The Owner shall pay for initial testing of compacted backfill for proper density as necessary. However, should the backfill fail to meet the minimum requirements of the specifications all subsequent testing for density shall be at the Contractor's expense. Tests performed for the convenience of the Contractor shall be at his own expense.

1.20 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 2. Walks: Plus or minus 1 inch.
 3. Pavements: Plus or minus 1/2 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

- D. Excavation shall be performed in such a manner that the area of the site and area immediately surrounding, including slopes and ditches, will be continually and effectively drained. All excavations shall be kept dry by means of pumping or draining, where necessary. The Contractor shall be responsible for any and all damage resulting from dewatering, flushing, or draining of structures or excavations.
- E. The slope and shape of drainage ditches shall be such as to minimize erosion and sedimentation.
- F. Where natural topography of the area creates excessive slopes, ditches may be cascaded or lined.
- G. Uniformly smooth grading of all areas on drawings in which finished contours and elevations are indicated, including excavated and filled sections, shall be accomplished. The finished surface shall be compacted, free from irregular surface changes, and reasonably smooth. The degree of finish shall be that ordinarily obtained from a machine graded operation except for sports fields and areas within 20 ft. of structures, which shall each be hand raked. Grading shall be such as to assure drainage away from the structures. Spread topsoil (salvaged and stockpiled at start of earthwork) to a depth of not less than four (4) inches over all bare earth, subsoil, and rock. Before completion and final acceptance, the Contractor shall refill and dress any area which has settled or washed away.

1.21 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

- A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
 - 1. Shape subbase course and base course to required crown elevations and cross-slope grades.
 - 2. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
 - 3. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D698 or ASTM D1557.

1.22 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
 - 1. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
 - 2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D698.

1.23 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform inspections:
- B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

1.24 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

1.25 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.
- B. Salvageable materials exposed during excavation shall be disposed of as directed by the Consultant. In all events, the Consultant shall determine which material shall be classed as salvageable and which shall be classed as debris.

- 1.26 Separate payment for work performed under this section of the specifications is provided only if a separate pay item is shown in the proposal. Otherwise it is considered subsidiary to other bid items and payment shall be made under the bid item to which it pertains.

END OF SECTION 312000

SECTION 312313 – SUBGRADE PREPARATION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section shall govern the scarifying, blading and rolling of the subgrade to obtain uniform texture and density throughout the required depth as shown on the Plans.

PART 2 - EXECUTION

2.1 CONSTRUCTION METHODS

- A. the subgrade, under any structure to be constructed under this contract shall be excavated and shaped in conformity with the typical sections shown on the Plans and to the lines and grades established by the Consultant. All unstable or otherwise objectionable material shall be removed or broken off to a depth of not less than six inches below the surface of the subgrade. Holes or depressions resulting from the removal of such material shall be backfilled with suitable material compacted in layers not to exceed six inches. All soft and unstable material and other portions of the subgrade which will not compact readily or serve the intended purpose shall be removed as directed.
- B. The subgrade shall be scarified, bladed and compacted in the manner directed in the paragraph on "Finishing and Compaction." The surface of the subgrade shall be finished to line and grade as established, and be in conformity with the typical sections shown on the Plans. Any deviation in excess of one-half inch in cross section and in a length of sixteen feet measured longitudinally shall be corrected by loosening, adding or removing material, reshaping and compacting by sprinkling and rolling. Material excavated in the preparation of the subgrade shall be disposed of as directed by the Engineer.

2.2 FINISHING AND COMPACTION

- A. The subgrade course, including an area one foot back of the proposed construction line, shall be sprinkled as required and rolled until a uniform compaction and the required density is obtained. Compaction of the subgrade may be done using any suitable rolling equipment. However, required densities must be met. Should the Consultant feel that too much time is being required to obtain those densities he can require that a heavy pneumatic roller be applied. Rolling shall continue until the subgrade has been compacted to ninety-five percent of the Modified A.A.S.H.O. Density (A.S.T.M. Method D-1557) within three percent of optimum moisture content unless otherwise shown on the plans. Failing density tests will be retested at Contractor's expense.
- B. Rolling shall progress gradually from the sides of the center of the lane under construction by lapping uniformly each proceeding track by at least twelve inches. After rolling and watering, the subgrade shall be checked by the use of string line or instrument and all portions that do no

conform to the lines and grades as shown on the Plans shall be scarified for at least six inches, corrected and re-compacted to correct elevation.

- C. Until the subgrade is covered, the subgrade shall be maintained free from cuts and depressions, in a smooth and compacted condition true to lines and grade and to the density requirements contained herein. All of the Contractor's hauling and other equipment used in such a way as to cause rutting and raveling of the subgrade shall either be removed from the work or suitable runways or other equivalent means shall be provided to prevent rutting.
- D. The Contractor shall be responsible for maintaining and protecting the subgrade for the entire length of the project.
- E. During construction grading of the subgrade shall be conducted so that berms of earth or other material do not prevent immediate drainage of water away from the work. Ditches and drains along the subgrade shall be maintained so as to drain effectively.

PART 3 - BASIS OF PAYMENT

3.1 PAYMENT

- A. Subgrade preparation and compaction will not be paid for directly, but will be considered subsidiary to the project bid, which price will be full compensation for removing excess material, shaping, fine grading and compacting the subgrade; for furnishing and hauling all materials, blading, shaping, rolling and finishing, and all labor, tools and incidentals necessary to complete the work. Payment will not be made for unauthorized work.

END OF SECTION 312313

SECTION 315000 - EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes temporary excavation support and protection systems.

1.2 PREINSTALLATION MEETINGS

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

1.3 ACTION SUBMITTALS

- A. Shop Drawings: For excavation support and protection system, prepared by or under the supervision of a qualified professional engineer.
- B. Delegated-Design Submittal: For excavation support and protection systems, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For the following:
 - 1. Professional Engineer: Experience with providing delegated-design engineering services of the type indicated, including documentation that engineer is licensed in the jurisdiction and state in which Project is located.
- B. Contractor Calculations: For excavation support and protection system. Include analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Existing Conditions: Using photographs or video recordings, show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by inadequate performance of excavation support and protection systems. Submit before Work begins.

1.5 CLOSEOUT SUBMITTALS

- A. Record Drawings: Identify locations and depths of capped utilities, abandoned-in-place support and protection systems, and other subsurface structural, electrical, or mechanical conditions.

1.6 FIELD CONDITIONS

- A. Interruption of Existing Utilities: Do not interrupt any utility-serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:

1. Notify Engineer, Construction Manager and Owner no fewer than two days in advance of proposed interruption of utility.
 2. Do not proceed with interruption of utility without Engineer's, Construction Manager's and Owner's written permission.
- B. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks, and record existing elevations.

PRODUCTS

1.7 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design excavation support and protection systems to resist all lateral loading and surcharge, including but not limited to, retained soil, groundwater pressure, adjacent building loads, adjacent traffic loads, construction traffic loads, material stockpile loads, and seismic loads, based on the following:
1. Compliance with OSHA Standards and interpretations, 29 CFR 1926, Subpart P.
 2. Compliance with AASHTO Standard Specification for Highway Bridges or AASHTO LRFD Bridge Design Specification, Customary U.S. Units.
 3. Compliance with requirements of authorities having jurisdiction.
 4. Compliance with utility company requirements.
 5. Compliance with railroad requirements.

1.8 MATERIALS

- A. Provide materials that are either new or in serviceable condition.
- B. Structural Steel: ASTM A36/A36M, ASTM A690/A690M, or ASTM A992/A992M.
- C. Steel Sheet Piling: ASTM A328/A328M, ASTM A572/A572M, or ASTM A690/A690M; with continuous interlocks.
1. Corners: Site-fabricated mechanical interlock or Roll-formed corner shape with continuous interlock.
- D. Wood Lagging: Lumber, mixed hardwood, nominal rough thickness of 4 inches.
- E. Shotcrete: Comply with Section 033713 "Shotcrete" for shotcrete materials and mixes, reinforcement, and shotcrete application.
- F. Cast-in-Place Concrete: ACI 301, of compressive strength required for application.
- G. Reinforcing Bars: ASTM A615/A615M, Grade 60, deformed.
- H. Tiebacks: Steel bars, ASTM A722/A722M.

- I. Tiebacks: Steel strand, ASTM A416/A416M.

EXECUTION

1.9 INSTALLATION - GENERAL

- A. Locate excavation support and protection systems clear of permanent construction, so that construction and finishing of other work is not impeded.
- B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- C. Install excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to excavation.

1.10 SOLDIER PILES AND LAGGING

- A. Install steel soldier piles before starting excavation.
 - 1. Extend soldier piles below excavation grade level to depths adequate to prevent lateral movement.
 - 2. Space soldier piles at regular intervals not to exceed allowable flexural strength of wood lagging.
 - 3. Accurately align exposed faces of flanges to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.
- B. Install wood lagging within flanges of soldier piles as excavation proceeds.
 - 1. Trim excavation as required to install lagging.
 - 2. Fill voids behind lagging with soil, and compact.
- C. Install wales horizontally at locations indicated on Drawings and secure to soldier piles.

1.11 SHEET PILING

- A. Before starting excavation, install one-piece sheet piling lengths and tightly interlock vertical edges to form a continuous barrier.
- B. Accurately place the piling using templates and guide frames unless otherwise recommended in writing by the sheet piling manufacturer.
 - 1. Limit vertical offset of adjacent sheet piling to 60 inches.

2. Accurately align exposed faces of sheet piling to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.
- C. Cut tops of sheet piling to uniform elevation at top of excavation.

1.12 TIEBACKS

- A. Drill, install, grout, and tension tiebacks.
- B. Test load-carrying capacity of each tieback, and replace and retest deficient tiebacks.
 1. Have test loading observed by a qualified professional engineer responsible for design of excavation support and protection system.
- C. Maintain tiebacks in place until permanent construction is able to withstand lateral earth and hydrostatic pressures.

1.13 BRACING

- A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move brace, install new bracing before removing original brace.
 1. Do not place bracing where it will be cast into or included in permanent concrete work unless otherwise approved by Architect.
 2. Install internal bracing if required to prevent spreading or distortion of braced frames.
 3. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

1.14 MAINTENANCE

- A. Monitor and maintain excavation support and protection system.
- B. Prevent surface water from entering excavations by grading, dikes, or other means.
- C. Continuously monitor vibrations, settlements, and movements to ensure stability of excavations and constructed slopes and to ensure that damage to permanent structures is prevented.

1.15 FIELD QUALITY CONTROL

- A. Survey-Work Benchmarks: Resurvey benchmarks regularly during installation of excavation support and protection systems, excavation progress, and for as long as excavation remains open.
 1. Maintain an accurate log of surveyed elevations and positions for comparison with original elevations and positions.
 2. Promptly notify Architect if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.

- B. Promptly correct detected bulges, breakage, or other evidence of movement to ensure that excavation support and protection system remains stable.
- C. Promptly repair damages to adjacent facilities caused by installation or faulty performance of excavation support and protection systems.

1.16 REMOVAL AND REPAIRS

- A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and earth and hydrostatic pressures.
 - 1. Remove in stages to avoid disturbing underlying soils and rock or damaging structures, pavements, facilities, and utilities.
 - 2. Remove excavation support and protection systems to a minimum depth of 48 inches below overlying construction, and abandon remainder.
 - 3. Fill voids immediately with approved backfill compacted to density specified in Section 312000 "Earth Moving."
 - 4. Repair or replace, as approved by Engineer, adjacent work damaged or displaced by removing excavation support and protection systems.
- B. Leave excavation support and protection systems permanently in place.

END OF SECTION 315000

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Cold-applied joint sealants.
 - 2. Hot-applied joint sealants.
 - 3. Joint-sealant backer materials.
 - 4. Primers.

1.2 PREINSTALLATION MEETINGS

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

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each kind and color of joint sealant required.
- C. Paving-Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

- A. Product certificates.

PRODUCTS

1.5 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

1.6 COLD-APPLIED JOINT SEALANTS

- A. Single-Component, Nonsag, Silicone Joint Sealant: ASTM D5893/D5893M, Type NS.
- B. Single-Component, Self-Leveling, Silicone Joint Sealant: ASTM D5893/D5893M, Type SL.
- C. Multicomponent, Nonsag, Urethane, Elastomeric Joint Sealant: ASTM C920, Type M, Grade NS, Class 25, for Use T.
- D. Single Component, Pourable, Urethane, Elastomeric Joint Sealant: ASTM C920, Type S, Grade P, Class 25, for Use T.
- E. Multicomponent, Pourable, Urethane, Elastomeric Joint Sealant: ASTM C920, Type M, Grade P, Class 25, for Use T.

1.7 HOT-APPLIED JOINT SEALANTS

- A. Hot-Applied, Single-Component Joint Sealant: ASTM D6690, Type I.
- B. Hot-Applied, Single-Component Joint Sealant: ASTM D6690, Type I or Type II.
- C. Hot-Applied, Single-Component Joint Sealant: ASTM D6690, Type I, II, or III.
- D. Hot-Applied, Single-Component Joint Sealant: ASTM D6690, Type IV.

1.8 JOINT-SEALANT BACKER MATERIALS

- A. Round Backer Rods for Cold- and Hot-Applied Joint Sealants: ASTM D5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.
- B. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.
- C. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

1.9 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

EXECUTION

1.10 INSTALLATION OF JOINT SEALANTS

- A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Cleaning of Joints: Clean out joints immediately to comply with joint-sealant manufacturer's written instructions.
- C. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer.
- D. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions.
- E. Install joint-sealant backings to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of joint-sealant backings.
 - 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
 - 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- F. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:
 - 1. Place joint sealants so they fully contact joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- G. Tooling of Nonsag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:
 - 1. Remove excess joint sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- H. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.
- I. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.

END OF SECTION 321373

SECTION 329113 - SOIL PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes planting soils specified by composition of the mixes.
- B. Related Requirements:
 - 1. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.

1.2 DEFINITIONS

- A. Duff Layer: A surface layer of soil, typical of forested areas, that is composed of mostly decayed leaves, twigs, and detritus.
- B. Imported Soil: Soil that is transported to Project site for use.
- C. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.
- D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- E. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- F. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- G. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- H. USCC: U.S. Composting Council.

1.3 PREINSTALLATION MEETINGS

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

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Samples: For each bulk-supplied material in sealed containers labeled with content, source, and date obtained; providing an accurate representation of composition, color, and texture.

1.5 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

PRODUCTS

1.7 PLANTING SOILS SPECIFIED BY COMPOSITION

- A. Planting-Soil Type: Existing, on-site surface soil, with the duff layer, if any, retained; modified to produce viable planting soil. Blend existing, on-site surface soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:

Planting Backfill Mix: Professional bedding solid by LETCO (Living Earth Technologies) or approved equal at a 2:1 ratio by volume.

Lime and Fertilizers: These materials shall consist of commercial quality ground limestone and commercial chemical fertilizer containing stated ratios of nitrogen, phosphorous and potash. The latter shall be transported and stored in containers to insure proper protection and handling. Ratio of nitrogen, phosphorous, and potash nutrients shall be 1:1:1 per Consultant's instructions and applied at a rate of one half (0.5) pounds of nitrogen per one thousand (1000) square feet. The fertilizer shall be dry and in good physical condition. Fertilizer that is powdered or caked will be rejected. Distribution of the fertilizer for the particular item of work will shall meet the approval of the Consultant. Additionally, add pelletized lime at the rate of 800 pounds per acre.

1.8 GENERAL

- A. Place planting soil and fertilizers according to requirements in other Specification Sections.
- B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.

1.9 PREPARATION OF UNAMENDED, ON-SITE SOIL BEFORE AMENDING

- A. Excavation: Excavate soil from designated area(s) to a depth of 6 inches and stockpile until amended.

- B. Unacceptable Materials: Clean soil of concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
- C. Unsuitable Materials: Clean soil to contain a maximum of 8 percent by dry weight of stones, roots, plants, sod, clay lumps, and pockets of coarse sand.
- D. Screening: Pass unamended soil through a 3-inch sieve to remove large materials.

1.10 PROTECTION AND CLEANING

- A. Protection Zone: Identify protection zones according to Section 015639 "Temporary Tree and Plant Protection."
- B. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Vehicle traffic.
 - 4. Foot traffic.
 - 5. Erection of sheds or structures.
 - 6. Impoundment of water.
 - 7. Excavation or other digging unless otherwise indicated.
- C. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.
 - 1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owner.

END OF SECTION 329113

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Seeding.
 - 2. Sodding.
 - 3. Hydromulching

1.2 DEFINITIONS

- A. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- B. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- C. PREINSTALLATION MEETINGS
- D. Preinstallation Conference: Conduct conference at Project site.

1.3 INFORMATIONAL SUBMITTALS

- A. Certification of grass seed.
 - 1. Certification of each seed mixture for turfgrass sod.
- B. Product certificates.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.
 - 1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 - 2. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the National Association of Landscape Professionals:
 - a. Landscape Industry Certified Technician - Exterior.
 - b. Landscape Industry Certified Lawn Care Manager.
 - c. Landscape Industry Certified Lawn Care Technician.

3. Pesticide Applicator: State licensed, commercial.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.

PRODUCTS

1.6 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species:
 1. Quality: State-certified seed of grass species as listed below for solar exposure.
 2. Quality: Seed of grass species as listed below for solar exposure, with not less than 85 percent germination, not less than **95** percent pure seed, and not more than **0.5** percent weed seed:

1.7 TURFGRASS SOD

- A. Turfgrass Sod: Approved, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.

1.8 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
- B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

1.9 HYDROMULCHING

- A. Turf grass seed shall be appropriate to season. The seed shall be harvested within 1 year prior to Planting, free of Johnson grass, field bind weed, dodder seed, and free of other weed seed to the limits allowable under the Federal Seed Act and applicable seed laws. The seed shall be extra fancy grade, treated with fungicide, and shall have a germination and purity that will produce, after allowance for Federal Seed Act tolerances, a pure live seed content of not less than 85 percent, using the formula: purity percent times (germination percent times plus hard or sound seed percent). Seed shall be labeled in accordance with U.S. Department of Agriculture rules and regulations.
- B.
- | Item | Rate Per 1000 Sq. Ft. |
|------------------|----------------------------|
| Seed | As per season, see below |
| Fertilizer | 12 lbs. |
| Water | As needed |
| Real Virgin | Minimum 50 lbs. to achieve |
| Wood Fiber Mulch | covering of seeded area |
- C. Spring/Summer Planting (April 15 to Sept. 15)
- | | |
|----------------|----------------------|
| Hulled Bermuda | 2 lbs./1,000 Sq. Ft. |
|----------------|----------------------|
- D. Fall/Winter Planting (September 15 to April 15)
- | | |
|------------------|-----------------------------|
| Unhulled Bermuda | 1 1/2 lbs./1,000 Sq. Ft. KY |
|------------------|-----------------------------|
- E. Fertilize as per paragraph B.

1.10 TOPSOIL

- A. Topsoil shall be friable clay loam surface soil reasonably free of clay lumps, stones, weeds, roots and other objectionable material, a product of on site operations.

1.11 SOIL RETENTION BLANKETS

- A. A. Soil retention blankets where shown on the plans shall be photodegradable or biodegradable excelsior blankets or woven paper mats commercially manufactured for installation on bare soils to protect construction areas from washing. Blankets shall be installed snugly over the area to be protected using six inch long "U" shaped wire staples on 2'-0" centers along edges and at staggered 4'-0" spacing on the mat face. No gaps shall be left between adjoining mats. Blankets shall be equal to AMXCO "Curlex" or Gulf States Paper Company's "Hold-Gro" woven paper mesh.

1.12 FIRE ANT INSECTICIDE

- A. Spot treat fire ant insecticide in the entire area of seeding.

1.13 FERTILIZER FOR FERTILIZING

- A. (Tank Mix) shall be 13-13-13 grade, pelleted, uniform in composition, free flowing, and suitable for application with approved equipment. The fertilizer shall be delivered to the site in bags or other convenient containers, each fully labeled, conforming to the applicable state fertilizer laws, and bearing the name or trademark and warranty of the producer.

1.14 WOOD CELLULOSE FIBER MULCH

- A. Wood cellulose fiber mulch, for use with the hydraulic application of grass seed and fertilizer, shall consist of specially prepared wood cellulose fiber. It shall be processed in such a manner that it will not contain germination or growth inhibiting factors. It shall be dyed an appropriate color to allow visual metering of its application. The wood cellulose fibers shall have the property of becoming evenly dispersed and suspended when agitated in water. When sprayed uniformly on the surface of the soil, the fibers shall form a blotter-like groundcover which readily absorbs water and allows infiltration to the underlying soil. Weight specifications from suppliers for all applications shall refer only to air dry weight of the fiber, a standard equivalent to 19 percent moisture. The mulch material shall be supplied in packages having a gross weight not in excess of 100 pounds and be marked by the manufacturer to show the dry weight content. Suppliers shall be prepared to certify that laboratory and field testing of their product has been accomplished and that it meets all of the foregoing requirements.

1.15 SLURRY MIX COMPONENTS PER ACRE

- A. Wood Cellulose Fiber Mulch – 2,200 lbs
- B. Grass Seed – As specified
- C. Fertilizer (13-13-13) – As specified

1.16 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Sphagnum Peat Mulch: Partially decomposed sphagnum peat moss, finely divided or of granular texture, and with a pH range of 3.4 to 4.8.
- C. Muck Peat Mulch: Partially decomposed moss peat, native peat, or reed-sedge peat, finely divided or of granular texture, with a pH range of 6 to 7.5, and having a water-absorbing capacity of 1100 to 2000 percent, and containing no sand.
- D. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble

salt content of **2 to 5**decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1.17 PESTICIDES

- A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

EXECUTION

1.18 TURF AREA PREPARATION

- A. General: Prepare planting area for soil placement and mix planting soil according to the plans.
- B. Reduce elevation of planting soil to allow for soil thickness of sod.
- C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- D. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

1.19 SEEDING

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph.
 - 1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 - 2. Do not use wet seed or seed that is moldy or otherwise damaged.
 - 3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate of 3 to 4 lb/1000 sq. ft.
- C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket **1-1/2** in loose thickness over seeded areas.
 - 1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.
- E. Protect seeded areas from hot, dry weather or drying winds by applying compost mulch within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch, and roll surface smooth.

1.20 SODDING

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

1.21 HYDROMULCHING

- A. Preparation: All areas to receive seed shall be stripped and/or treated with a contact herbicide prior to seeding as necessary to remove weeds, unless otherwise noted on drawings.
- B. Lime: These materials shall consist of commercial quality ground limestone and shall be added at the rate of two (2) tons per acre.
- C. Areas to receive seeding shall be loosened by manual or mechanical means to a depth of 1 1/2 inches, leveled and fine graded by hand raking. All stone (1" in diameter and larger in the top 2" of soil) are to be removed, tree stumps, brush, roots, vegetation, rubbish and other foreign matter shall be removed from the site. No foreign matter may be buried on the site. All tree stumps must be removed to a depth of two (2) feet below finish subgrade.
- D. Grade site for even and consistent slopes.

1.22 HYDROMULCH APPLICATION

- A. Special Mulching Equipment and Procedures: Hydraulic equipment used for the application of fertilizer, seed, and slurry of prepared wood fiber mulch shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry containing up to forty (40) pounds of fiber plus a combined total of seventy (70) pounds of fertilizer solids for each one hundred (100) gallons of water. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with a set of hydraulic spray nozzles which provide even distribution of the slurry on the slopes to be seeded. The slurry tank shall have a minimum capacity of eight hundred (800) gallons and shall be mounted on a traveling unit which may be either self-propelled or drawn with a separate unit which will place the slurry tank and spray nozzles within sufficient proximity to the areas to be seeded so as to provide uniform distribution without waste. The Owner's Representative may authorize

equipment with smaller tank capacity provided that the equipment has the necessary agitation system and sufficient pump capacity to spray the slurry in a uniform coat.

- B. Mixing: Care shall be taken that the slurry preparation takes place on the site of the work. Spraying shall commence immediately when the tank is full.
- C. Operators of hydromulching equipment shall be thoroughly experienced in this type of application. Apply specified slurry mix in a motion to form a uniform mat at specified rate. The operator shall spray the area with a uniform, visible coat by using the green color of the wood pulp as a guide. Keep hydromulch within areas designated and keep from contact with other plant material. Slurry mixture which has not been applied within four (4) hours of mixing shall not be used and shall be removed from the site.
- D. After installation, the Contractor shall not operate any equipment over the covered area. Immediately after application, thoroughly wash off any plant material, planting areas, or paved areas not intended to receive slurry mix. Keep all paved and planting areas clean during maintenance operations.
- E. After a stand of grass has been established and in the fall (September 15 through November 15), wildflower seed shall be broadcast in designated area. Area shall be worked slightly to achieve acceptable seed / soil contact.
- F. Seeded Areas: If, in the opinion of the Consultant, unplanted skips and areas are noted after hydromulching, the Contractor shall be required to seed the planted areas with the grasses that were to have been planted at no additional cost to the Owner.

1.23 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
- B. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings.

1.24 MAINTENANCE OF HYDROSEEDING AREAS

- A. After installation, hydroseeded areas shall be watered in an amount and as often as necessary to keep seed beds moistened to their full depth for a period of 2 weeks.
- B. After initial 2 weeks of watering, seeded areas shall be watered and maintained to insure a healthy, vigorous growth throughout the installation period and the landscape maintenance period.

1.25 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:

1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding [90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.
 2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
- B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

END OF SECTION 329200

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Plants.
 - 2. Tree-watering devices.
 - 3. Landscape edgings.

1.2 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.
- C. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- D. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.

1.3 PREINSTALLATION MEETINGS

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

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples of each type of mulch.

1.5 INFORMATIONAL SUBMITTALS

- A. Product certificates.
- B. Sample warranty.

1.6 CLOSEOUT SUBMITTALS

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

1.7 QUALITY ASSURANCE

- A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 - 1. Pesticide Applicator: State licensed, commercial.
- B. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver bare-root stock plants within 24 hours of digging. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting. Transport in covered, temperature-controlled vehicles, and keep plants cool and protected from sun and wind at all times.
- B. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- C. Handle planting stock by root ball.
- D. Store bulbs, corms, and tubers in a dry place at 60 to 65 deg F until planting.
- E. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

1.9 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.
 - b. Structural failures including plantings falling or blowing over.
 - 2. Warranty Periods: From date of Substantial Completion.

- a. Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.
- b. Ground Covers, Biennials, Perennials, and Other Plants: 12 months.
- c. Annuals: Three months.

PRODUCTS

1.10 PLANT MATERIAL

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
- B. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- C. Annuals and Biennials: Provide healthy, disease-free plants of species and variety shown or listed, with well-established root systems reaching to sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery.

1.11 FERTILIZERS

- A. Planting Tablets: Tightly compressed chip-type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.
 - 1. Size: 10 gram tablets, unless otherwise specified on plans.
 - 2. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

1.12 MULCHES

- A. Organic Mulch: Shredded cedarmulch, Ground or shredded bark, Wood and bark chips, Pine straw, Salt hay or threshed straw, Pine needles or Peanut, pecan, and cocoa-bean shells.
- B. Mineral Mulch: Rounded riverbed gravel or smooth-faced stone, Crushed stone or gravel, Marble chips or Granite chips.
 - 1. Size Range: 1-1/2 inches maximum, 3/4 inch minimum.
 - 2. Color: to be selected by owner

1.13 WEED-CONTROL BARRIERS

- A. Nonwoven Geotextile Filter Fabric: Polypropylene or polyester fabric, 3 oz./sq. yd. minimum, composed of fibers formed into a stable network so that fibers retain their relative position. Fabric shall be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids.
- B. Composite Fabric: Woven, needle-punched polypropylene substrate bonded to a nonwoven polypropylene fabric, 4.8 oz./sq. yd.

1.14 PESTICIDES

- A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

1.15 TREE-WATERING DEVICES

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

EXECUTION

1.16 PLANTING AREA ESTABLISHMENT

- A. General: Prepare planting area for soil placement and mix planting soil according to Section 329113 "Soil Preparation."
- B. Placing Planting Soil: Place and mix planting soil in-place over exposed subgrade.
- C. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

1.17 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits.
 - 1. Excavate planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
 - 2. Excavate approximately three times as wide as ball diameter.
 - 3. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.

4. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
- B. Backfill Soil: Subsoil and topsoil removed from excavations may be used as backfill soil unless otherwise indicated.

1.18 TREE, SHRUB, AND VINE PLANTING

- A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Set each plant plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
1. Backfill: Planting soil approved by Engineer.
 2. Balled and Burlapped Stock: After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
 3. Balled and Potted and Container-Grown Stock: Carefully remove root ball from container without damaging root ball or plant.
 4. Fabric Bag-Grown Stock: Carefully remove root ball from fabric bag without damaging root ball or plant. Do not use planting stock if root ball is cracked or broken before or during planting operation.
 5. Bare-Root Stock: Support stem of each plant and spread roots without tangling or turning toward surface. Plumb before backfilling, and maintain plumb while working. Carefully work backfill around roots by hand. Bring roots into close contact with the soil.
 6. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 7. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
 - a. Bare-Root Stock: Place tablets beside soil-covered roots; do not place tablets touching the roots.
 - b. Quantity: As indicated on Drawings.
 8. Continue backfilling process. Water again after placing and tamping final layer of soil.
- D. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

1.19 TREE, SHRUB, AND VINE PRUNING

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

1.20 GROUND COVER AND PLANT PLANTING

- A. Set out and space ground cover and plants other than trees, shrubs, and vines 12 inches apart unless otherwise indicated on Drawings in even rows with triangular spacing.
- B. Use approved planting soil for backfill.
- C. Dig holes large enough to allow spreading of roots.
- D. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- E. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
- F. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

1.21 PLANTING AREA MULCHING

- A. Install weed-control barriers before mulching according to manufacturer's written instructions. Completely cover area to be mulched, overlapping edges a minimum of 6 inches and secure seams with galvanized pins.
- B. Mulch backfilled surfaces of planting areas and other areas indicated.
 - 1. Trees and Treelike Shrubs in Turf Areas: Apply organic or mineral mulch ring of 3-inch average thickness, with 12-inch radius around trunks or stems. Do not place mulch within 6 inches of trunks or stems.
 - 2. Organic Mulch and Mineral Mulch in Planting Areas: Apply 2-inch average thickness of organic mulch extending 12 inches beyond edge of individual planting pit or trench and over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 6 inches of trunks or stems.

1.22 EDGING INSTALLATION

- A. Wood Edging: Install edging where indicated. Fasten each cut joint or connection with two galvanized nails. Anchor with wood stakes spaced up to 36 inches apart, driven at least 1 inch below top elevation of edging. Use two galvanized nails per stake to fasten edging, of length as needed to penetrate both edging and stake and provide 1/2-inch clinch at point. Predrill stakes if needed to avoid splitting. Replace stakes that crack or split during installation process.
- B. Steel Edging: Install steel edging where indicated according to manufacturer's written instructions. Anchor with steel stakes spaced approximately 30 inches apart, driven below top elevation of edging.
- C. Aluminum Edging: Install aluminum edging where indicated according to manufacturer's written instructions. Anchor with aluminum stakes spaced approximately 36 inches apart, driven below top elevation of edging.
- D. Plastic Edging: Install plastic edging where indicated according to manufacturer's written instructions. Anchor with steel stakes spaced approximately 36 inches apart, driven through upper base grooves or V-lip of edging.
- E. Shovel-Cut Edging: Separate mulched areas from turf areas, curbs, and paving with a 45-degree, 4- to 6-inch- deep, shovel-cut edge.

1.23 INSTALLING SLOW-RELEASE WATERING DEVICE

- A. Provide one device for each tree.

1.24 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.
- B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.
- D. Apply pesticides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- E. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

- F. At time of Substantial Completion, verify that tree-watering devices are in good working order and leave them in place. Replace improperly functioning devices.

1.25 MAINTENANCE SERVICE

- A. Maintenance Service: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established.

END OF SECTION 329300

SPECIAL PROVISIONS

1. Site furniture has been purchased by the City of Tyler and will be installed by the Contractor on site. The items purchased are as follows:
 - a. 5 – Victor Stanley Picnic Tables FBF-56
 - b. 2 – Victor Stanley Benches NRB-6
 - c. 2 – Victor Stanley Trash Receptacles S-535
2. The playground will be purchased from Cunningham Recreation through BuyBoard by the City of Tyler. It will be the responsibility of the Contractor to coordinate with the playground provider for all equipment and material delivery, and with the playground installer while they are on site.
3. The Surveyor will provide a benchmark and elevation only. It will be the Contractors responsibility to provide all necessary construction stakes for controlling alignment and grade.
4. The Consultant or an authorized representative of the City of Tyler shall approve each stage of construction.
5. Each bidder shall become fully acquainted with the characteristics of the site and any anticipated special construction techniques shall be reflected in the bid.
6. It is the Contractor's responsibility to take **all precautions necessary** to not disturb trees existing on the site.
7. The Contractor shall cooperatively work with the Owner to maintain safe access through the job site.

Section 19 CERTIFICATE OF INTERESTED PARTIES

(Form 1295)

Check Here if this Section is NOT Used ☐

[CONTRACTOR - Insert Certificate of Interested Parties (Form 1295) Here]
[CITY – Insert Acknowledged Certificate of Interested Parties (Form 1295) Here]

In accordance with House Bill 1295, for certain contracts entered into on or after January 1, 2016, **CONTRACTORS** must submit a *Certificate of Interested Parties* form at the time the **CONTRACTOR** submits the signed contract to the **CITY**. This applies only to contracts with a value greater than \$25,000.

The *Certificate of Interested Parties* (Form 1295) must be filed electronically with the Texas Ethics Commission using the online filing application located at https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm.

First time users need to create an account to register and receive a password. Click on the “Log In” button and then click on “Form 1295 Filings”. In the next screen, click the link that says “Click here if you don’t have a user ID”. Enter the requested information, select the “User Type” of “Business Entity” and click on the “Create Account” button. An email will be sent to the email address you provided with a link to finish setting up your account. Follow the link provided in the email to complete the process of setting up your account. Enter all of the requested information and hit the “Save” button. A screen will appear with the information you have provided. Please verify this information and, if it is correct, click on “Accept”. If it is not correct, click on “Update” and make the needed corrections.

Once an account is established, **CONTRACTORS** must log in to create a new *Certificate of Interested Parties* (Form 1295). Hand-written copies are not acceptable. Go to https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm. Click the “Log In” button and then click on “Form 1295 Filings”. Enter your email address and password, select the “User Type” of “Business Entity” and click on the “Login” button. A screen with your user information will appear. If it is correct, click on “Accept”. Click on the “Manage My 1295 Forms” button and then “Start a New Certificate”. When the blank form comes up, enter the requested information into the appropriate boxes. Also enter the following information:

- Who is the Contract With?: Select “Other Governmental Agency”
- Agency/Entity Name: Enter “City of Tyler”
- Contract ID Number: Enter the City of Tyler Bid Number, located on the cover of the contract
- Description of Goods and Services to be provided: Enter the Project Name, located on the cover of the contract

For the purpose of this requirement, the following definitions apply:

- **Interested party** means: (1) a person who has a controlling interest in a business entity with whom a governmental entity or state agency contracts; or (2) a person who actively

participates in facilitating a contract or negotiating the terms of a contract with a governmental entity or state agency, including a broker, intermediary, adviser, or attorney for the business entity.

- **Controlling interest** means: (1) an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock, or otherwise that exceeds 10 percent; (2) membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or (3) service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers.
- **Intermediary** means: a person who actively participates in the facilitation of the contract or negotiating the contract, including a broker, adviser, attorney, or representative of or agent for the business entity who:
 - 1) receives compensation from the business entity for the person's participation;
 - 2) communicates directly with the governmental entity or state agency on behalf of the business entity regarding the contract; and
 - 3) is not an employee of the business entity.

If there are no interested parties, check the box indicating that there are none and then hit the "Next" button. If there are interested parties, click the "Add More" button located under the "List of Interested Parties" section of the form. Enter the requested information about the interested party. Click the "Add More" button for each additional interested party. When all interested parties have been entered, hit the "Next" button.

At the next screen, check the box indicating that you affirm that the information provided is correct. Also, enter the requested information and then hit "Submit". At the next screen, hit the "Print" button, then click "Open with Adobe Acrobat Reader" to create a pdf of the ***Certificate of Interested Parties*** (Form 1295). When the pdf opens, make sure to verify that all of the information is correct. *You cannot change information in the form once it has been entered.* If you find that information has been entered incorrectly, you will need to start a new form and re-enter all of the information.

If the form is correct, print out one (1) copy of the ***Certificate of Interested Parties*** (Form 1295) and sign and notarize it. Make as many additional photocopies as necessary and attach the original form in Section 19, "Certificate of Interested Parties" in one contract book and the photocopies in Section 19, "Certificate of Interested Parties" in the remaining contract books.

Upon receipt of the executed contracts from the **CONTRACTOR**, the **CITY** will acknowledge the ***Certificate of Interested Parties*** (Form 1295) and file the acknowledged form with the original form in the **CITY'S** files.